



May 29, 2019

#5E27950-BG15

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

SUBJECT: Remediation Closure Report for the Black River 15 10 State Com X 4H Release ( 2RP-5104), Malaga, New Mexico

Mr. Hamlet:

On behalf of Marathon Oil Permian LLC (Marathon), Souder, Miller & Associates (SMA) has prepared this Remediation Closure Report that describes remediation of a release of liquids related to oil and gas production activities at the Black River 15 10 State Com X 4H site. The site is in Unit A, Section 22, Township 24S, Range 27E, Eddy County, New Mexico, on State land. Figure 1 illustrates the vicinity and site location on an USGS 7.5 minute quadrangle map.

Table 1 summarizes information regarding the release.

Table 1: Release Information and Closure Criteria			
Name	Black River 15 10 State Com X 4H	Company	Marathon Oil Permian LLC
API Number	30-015-43959	Location	32.210579, -104.170769
Incident Number	2RP-5104		
Estimated Date of Release	November 23, 2018	Date Reported to NMOCD	11/23/2019
Landowner	State	Reported To	NMOCD
Source of Release	Tank overflow		
Released Volume	80 bbls	Released Material	Produced water
Recovered Volume	80 bbls	Net Release	0 bbls
NMOCD Closure Criteria	<50 feet to groundwater (as determined by NMOCD)		
SMA Response Dates	5/13/2019		

## **1.0 Background**

On November 23, 2018, a release was discovered at the Black River 15 10 State Com X 4H site due to a failure on the tank level transmitter, which caused the tank to overflow into the lined containment area. Initial response activities were conducted by Marathon, and included source elimination and the recovery of approximately 80 barrels of fluid that was disposed of at an NMOCD approved facility. Figures 1 and 2 illustrate the vicinity and site location, Figure 3 illustrates the release location. The C-141 form is included in Appendix A.

## **2.0 Site Information and Closure Criteria**

The Black River 15 10 State Com X 4H is located approximately 6 miles west of Malaga, New Mexico on State land at an elevation of approximately 3230 feet above mean sea level (amsl).

Based upon NMOSE (Appendix B), depth to groundwater in the area is estimated to be 60 feet below grade surface (bgs). There are no 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/](https://gis.ose.state.nm.us/gisapps/ose_pod_locations/); accessed 1/8/2019). The nearest significant watercourse is an unnamed drainage feature, located approximately one mile to the north. Figure 2 illustrates the site with 1000-foot radius to indicate that it does not lie within a sensitive area as described in 19.15.29.12.C(4) NMAC.

Based on the information presented herein, SMA determined that the applicable NMOCD Closure Criteria for this site is for groundwater depth of between 51-100 feet bgs. However, based on the lack of well or groundwater data within a half-mile radius from the site, NMOCD has requested that groundwater be considered to be less than 50 feet bgs. Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

## **3.0 Release Characterization and Remediation Activities**

On May 13, 2019, SMA personnel arrived on site in response to the release associated with Black River 15 10 State Com X 4H. SMA performed a liner inspection and observed that there were failures in the containment. SMA then conducted site delineation activities by collecting soil samples from within the liner failures (seen in photo log; Appendix C) before the liner was repaired and the integrity restored.

A total of five sample locations (L1-L5) were investigated using a hand-auger, to depths up to 0.5 feet bgs. A total of five 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.

Figure 3 shows the lined containment areas and sample locations. All laboratory results are summarized in Table 3. Laboratory reports are included in Appendix D. Results show that soil beneath the liner has been impacted by chloride above the Closure Criteria, but no hydrocarbon impacts were detected.

In accordance with 19.15.29.12.B(2), a deferral is being requested for this release impacted soils are around production equipment such as production tanks and pipelines, as remediation in this area could cause safety issues or cause a major facility deconstruction. As described above, the contamination has been documented and liner integrity restored and does not cause an imminent risk to human health, the environment, or groundwater. The release will be remediated if the equipment is ever removed, or upon plugging and abandonment of the wellsite, whichever occurs first.

## **4.0 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 575-200-5343 or Shawna Chubbuck at 505-325-7535.

Submitted by:  
SOUDER, MILLER & ASSOCIATES



Ashley Maxwell  
Project Scientist

Reviewed by:



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:**

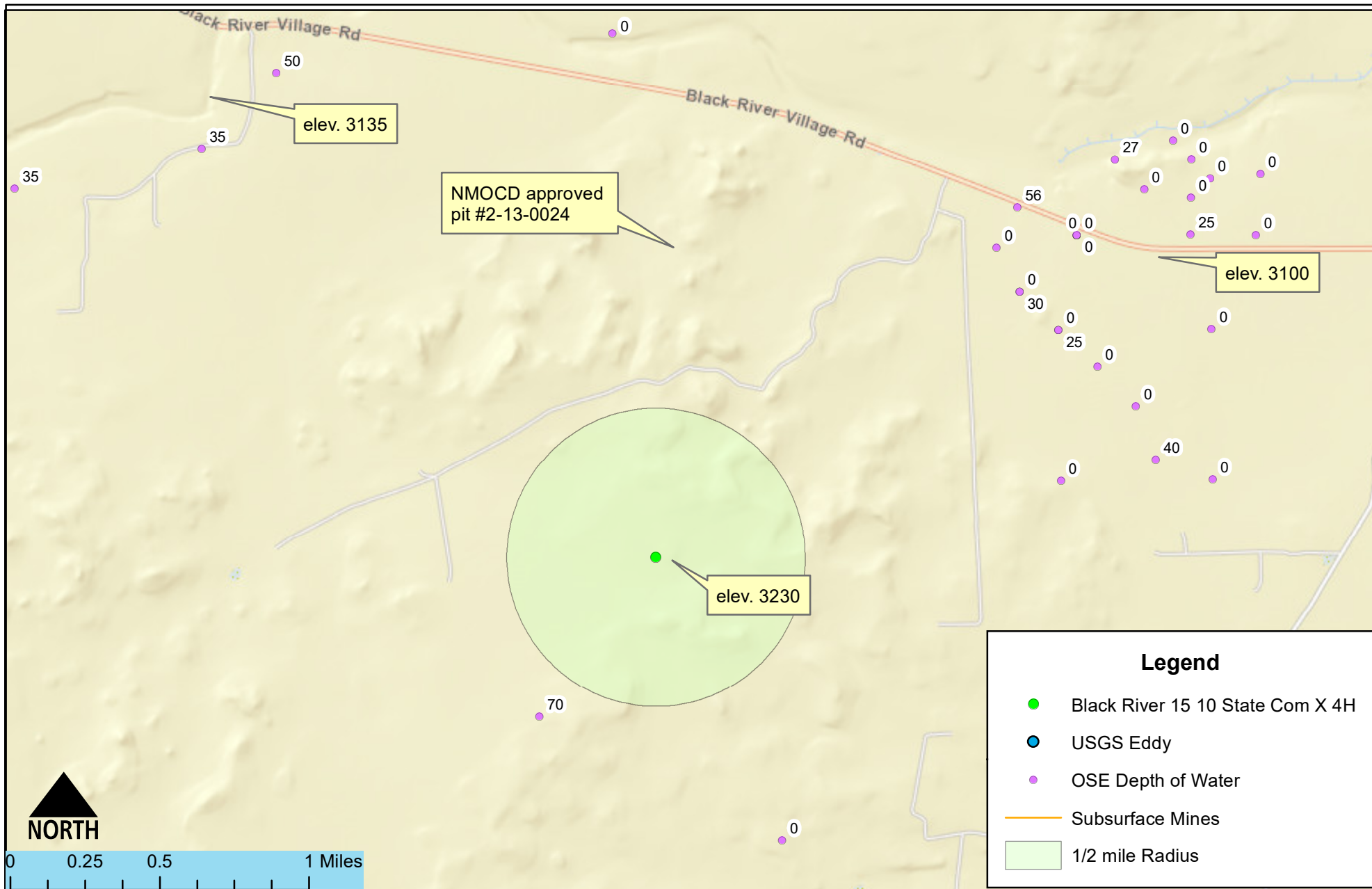
Appendix A: Form C141

Appendix B: NMOSE Wells Report

Appendix C: Photo Log

Appendix D: Laboratory Analytical Reports

# FIGURES



Vicinity and Well Head Protection Map  
 Black River 15 10 State Com X 4H - Marathon Oil  
 S 15-T24S-R27E, New Mexico

Figure 1

Date Saved:  
 11/8/2018

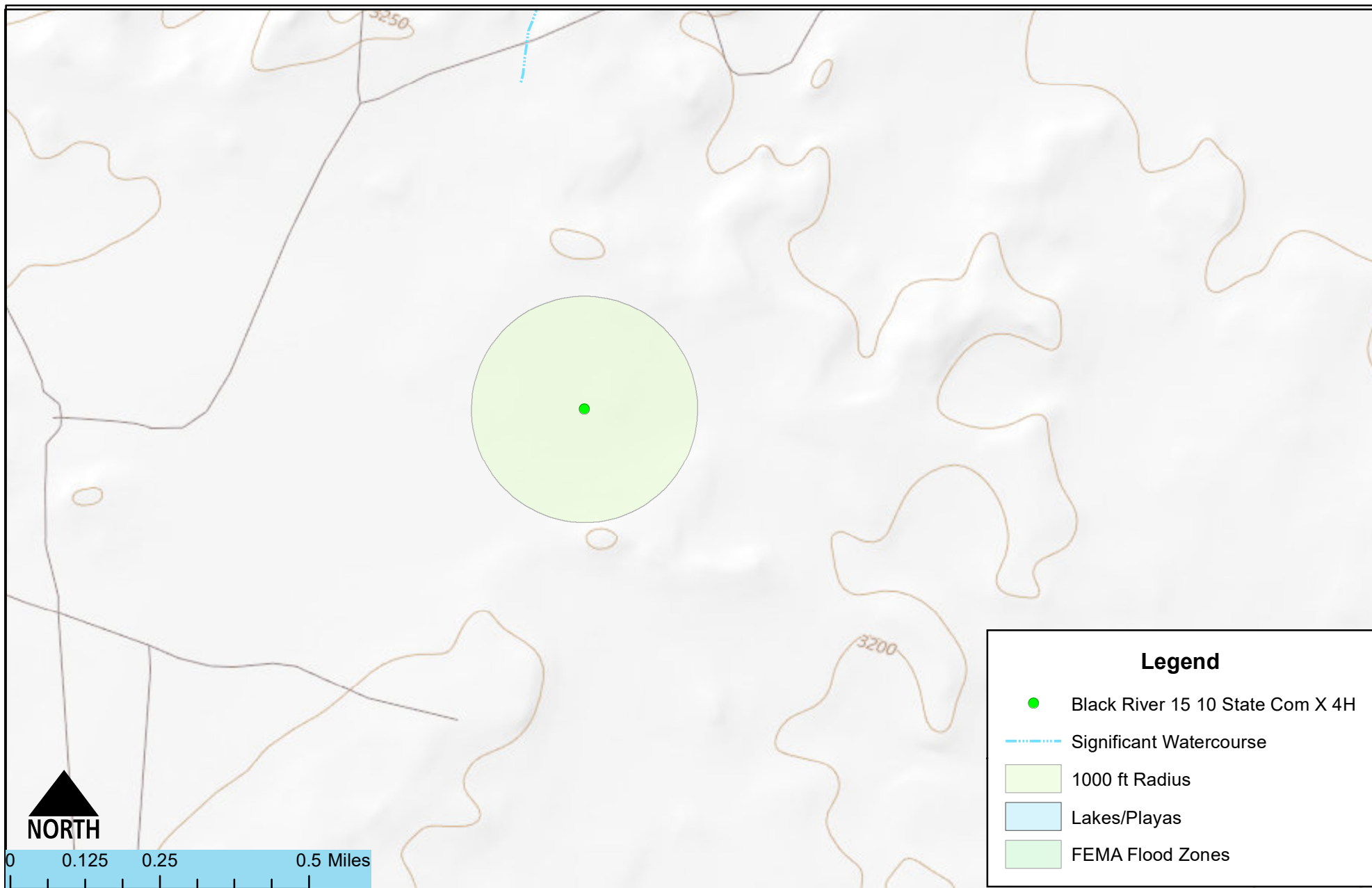
Revisions	
By: _____	Date: _____
By: _____	Date: _____


Copyright 2015 Souder, Miller & Associates - All Rights Reserved

Drawn Ashley Maxwell  
 Checked \_\_\_\_\_  
 Approved \_\_\_\_\_



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



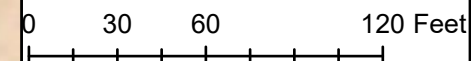
Surface Water Radius Map Black River 15 10 State Com X 4H - Marathon Oil S 15-T24S-R27E, New Mexico					Figure 2	
Date Saved: 11/8/2018	Revisions		Drawn <u>Heather Patterson</u>			201 South Halaguena Street Carlsbad, New Mexico 88221 (575) 689-7040 www.soudermiller.com Serving the Southwest & Rocky Mountains
	By: _____	Date: _____	Descr: _____	Checked _____		
	By: _____	Date: _____	Descr: _____	Approved _____		
	Copyright 2015 Souder, Miller & Associates - All Rights Reserved					





# Legend

- Lined Containment
- Sample Locations



Site and Sample location Map  
Black River 15 10 State Com X 4H- Marathon Oil  
S 15-T24S-R27E, New Mexico

Figure 3

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

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

Drawn  
Date  
Checked  
Approved

Heather Patterson  
5/13/2019  
\_\_\_\_\_  
\_\_\_\_\_



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)	60	NMOSE
Horizontal Distance From All Water Sources Within 1/2 Mile (ft)	N/A	NMOSE, USGS Topo Map
Horizontal Distance to Nearest Significant Watercourse (miles)	1	figure 2, USGS Topo Map

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	x	600	100		50	10
51' to 100'		10000	2500	1000	50	10
>100'		20000	2500	1000	50	10
Surface Water	yes or no	if yes, then				
<300' from continuously flowing watercourse or other significant watercourse?	no	600	100		50	10
<200' from lakebed, sinkhole or playa lake?	no					
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?	no					
<1000' from fresh water well or spring?	no					
<300' from an occupied permanent residence, school, hospital, institution or church?	no					
within incorporated municipal boundaries or within a defined municipal fresh water well field?	no					
<100' from wetland?	no					
within area overlying a subsurface mine	no					
within an unstable area?	no					
within a 100-year floodplain?	no					

Table 3:  
Summary of Sample Results

Marathon Oil  
Black River 15-10 State Com 4H (1RP-5104)

Sample ID	Sample Date	Depth (feet bgs)	Action	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria				50	10				100	600
L1	5/13/2019	surface - 0.5'	in-situ	<0.225	<0.025	<5.0	<10	<50	<65	<b>1100</b>
L2	5/13/2019	surface - 0.5'	in-situ	<0.225	<0.025	<5.0	<10	<50	<65	<b>850</b>
L3	5/13/2019	surface - 0.5'	in-situ	<0.225	<0.025	<5.0	<10	<50	<65	<b>1000</b>
L4	5/13/2019	surface - 0.5'	in-situ	<0.225	<0.025	<5.0	<10	<50	<65	<b>2900</b>
L5	5/13/2019	surface - 0.5'	in-situ	<0.225	<0.025	<5.0	<10	<50	<65	<b>1700</b>

"--" = Not Analyzed

# APPENDIX A

## FORM 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 Department

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 24, 2018  
Submit to appropriate OCD District office

Incident ID	NAB1834731727
District RP	2RP-5104
Facility ID	
Application ID	pAB1834731264

## Release Notification

### Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # (assigned by OCD) NAB1834731727
Contact mailing address	

### Location of Release Source

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# (if applicable)

Unit Letter	Section	Township	Range	County
	15 AB			

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☐ Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

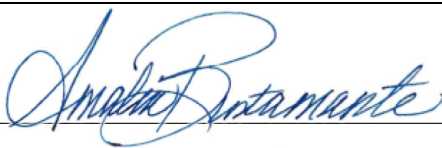
Cause of Release

Incident ID	NAB1834731727
District RP	2RP-5104
Facility ID	
Application ID	pAB1834731264

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

### Initial Response

*The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury*

<input type="checkbox"/> The source of the release has been stopped. <input type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
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: _____	Title: _____
Signature: <u>Callie Karrigan</u>	Date: _____
email: _____	Telephone: _____
<b><u>OCD Only</u></b> Received by: <u></u>	
Date: <u>12/13/2018</u>	

Incident ID	
District RP	
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?	_____ (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input 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 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 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 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 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 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 type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input 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.

<p><b>Characterization Report Checklist:</b> <i>Each of the following items must be included in the report.</i></p> <ul style="list-style-type: none"><li><input type="checkbox"/> Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.</li><li><input type="checkbox"/> Field data</li><li><input type="checkbox"/> Data table of soil contaminant concentration data</li><li><input type="checkbox"/> Depth to water determination</li><li><input type="checkbox"/> Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release</li><li><input type="checkbox"/> Boring or excavation logs</li><li><input type="checkbox"/> Photographs including date and GIS information</li><li><input type="checkbox"/> Topographic/Aerial maps</li><li><input type="checkbox"/> Laboratory data including chain of custody</li></ul>
--

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	
District RP	
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: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: Callie Kerrigan \_\_\_\_\_ Date: \_\_\_\_\_

email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	
District RP	
Facility ID	
Application ID	

## Remediation Plan

**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: Callie Karrigan Date: \_\_\_\_\_

email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	
District RP	
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: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: Callie Karigan Date: \_\_\_\_\_

email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**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: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

# 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
<a href="#">C 01452</a>	C		ED				22	24S	27E	577435	3563175*	925	95	70	25

Average Depth to Water: **70 feet**

Minimum Depth: **70 feet**

Maximum Depth: **70 feet**

Record Count: 1

### UTM NAD83 Radius Search (in meters):

**Easting (X):** 577595.25

**Northing (Y):** 3564086.68

**Radius:** 1610

\*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.

# APPENDIX C

## PHOTO LOG

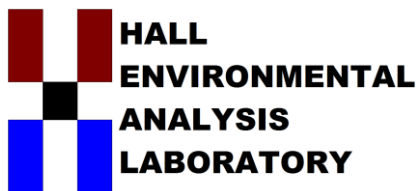






# APPENDIX D

## 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](http://www.hallenvironmental.com)*

May 24, 2019

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

RE: Black River 4H

OrderNo.: 1905831

Dear Heather Patterson:

Hall Environmental Analysis Laboratory received 6 sample(s) on 5/16/2019 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](http://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 horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1905831**Date Reported: **5/24/2019****CLIENT:** Souder, Miller & Associates**Client Sample ID:** L1**Project:** Black River 4H**Collection Date:** 5/13/2019 1:30:00 PM**Lab ID:** 1905831-001**Matrix:** SOIL**Received Date:** 5/16/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	1100	60		mg/Kg	20	5/19/2019 6:23:14 PM	45019
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/18/2019 7:17:54 AM	44972
Surr: BFB	95.4	70-130		%Rec	1	5/18/2019 7:17:54 AM	44972
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/20/2019 11:25:15 AM	44997
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/20/2019 11:25:15 AM	44997
Surr: DNOP	92.2	70-130		%Rec	1	5/20/2019 11:25:15 AM	44997
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>RAA</b>
Benzene	ND	0.025		mg/Kg	1	5/18/2019 7:17:54 AM	44972
Toluene	ND	0.050		mg/Kg	1	5/18/2019 7:17:54 AM	44972
Ethylbenzene	ND	0.050		mg/Kg	1	5/18/2019 7:17:54 AM	44972
Xylenes, Total	ND	0.10		mg/Kg	1	5/18/2019 7:17:54 AM	44972
Surr: 1,2-Dichloroethane-d4	87.2	70-130		%Rec	1	5/18/2019 7:17:54 AM	44972
Surr: 4-Bromofluorobenzene	88.0	70-130		%Rec	1	5/18/2019 7:17:54 AM	44972
Surr: Dibromofluoromethane	101	70-130		%Rec	1	5/18/2019 7:17:54 AM	44972
Surr: Toluene-d8	87.7	70-130		%Rec	1	5/18/2019 7:17:54 AM	44972

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

<b>Qualifiers:</b>	*	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 **1905831**Date Reported: **5/24/2019****CLIENT:** Souder, Miller & Associates**Client Sample ID:** L2**Project:** Black River 4H**Collection Date:** 5/13/2019 1:40:00 PM**Lab ID:** 1905831-002**Matrix:** SOIL**Received Date:** 5/16/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	850	60		mg/Kg	20	5/19/2019 6:35:39 PM	45019
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/18/2019 7:46:26 AM	44972
Surr: BFB	95.2	70-130		%Rec	1	5/18/2019 7:46:26 AM	44972
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/20/2019 9:24:56 AM	44997
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/20/2019 9:24:56 AM	44997
Surr: DNOP	95.6	70-130		%Rec	1	5/20/2019 9:24:56 AM	44997
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>RAA</b>
Benzene	ND	0.025		mg/Kg	1	5/18/2019 7:46:26 AM	44972
Toluene	ND	0.050		mg/Kg	1	5/18/2019 7:46:26 AM	44972
Ethylbenzene	ND	0.050		mg/Kg	1	5/18/2019 7:46:26 AM	44972
Xylenes, Total	ND	0.099		mg/Kg	1	5/18/2019 7:46:26 AM	44972
Surr: 1,2-Dichloroethane-d4	89.3	70-130		%Rec	1	5/18/2019 7:46:26 AM	44972
Surr: 4-Bromofluorobenzene	87.3	70-130		%Rec	1	5/18/2019 7:46:26 AM	44972
Surr: Dibromofluoromethane	102	70-130		%Rec	1	5/18/2019 7:46:26 AM	44972
Surr: Toluene-d8	84.1	70-130		%Rec	1	5/18/2019 7:46:26 AM	44972

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

<b>Qualifiers:</b>	*	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 **1905831**Date Reported: **5/24/2019****CLIENT:** Souder, Miller & Associates**Client Sample ID:** L3**Project:** Black River 4H**Collection Date:** 5/13/2019 1:42:00 PM**Lab ID:** 1905831-003**Matrix:** SOIL**Received Date:** 5/16/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	1000	60		mg/Kg	20	5/19/2019 6:48:04 PM	45019
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/18/2019 8:15:00 AM	44972
Surr: BFB	94.6	70-130		%Rec	1	5/18/2019 8:15:00 AM	44972
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/20/2019 9:48:58 AM	44997
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/20/2019 9:48:58 AM	44997
Surr: DNOP	94.6	70-130		%Rec	1	5/20/2019 9:48:58 AM	44997
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	5/18/2019 8:15:00 AM	44972
Toluene	ND	0.048		mg/Kg	1	5/18/2019 8:15:00 AM	44972
Ethylbenzene	ND	0.048		mg/Kg	1	5/18/2019 8:15:00 AM	44972
Xylenes, Total	ND	0.096		mg/Kg	1	5/18/2019 8:15:00 AM	44972
Surr: 1,2-Dichloroethane-d4	89.4	70-130		%Rec	1	5/18/2019 8:15:00 AM	44972
Surr: 4-Bromofluorobenzene	90.2	70-130		%Rec	1	5/18/2019 8:15:00 AM	44972
Surr: Dibromofluoromethane	102	70-130		%Rec	1	5/18/2019 8:15:00 AM	44972
Surr: Toluene-d8	83.2	70-130		%Rec	1	5/18/2019 8:15:00 AM	44972

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

<b>Qualifiers:</b>	*	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 **1905831**Date Reported: **5/24/2019****CLIENT:** Souder, Miller & Associates**Client Sample ID:** L4**Project:** Black River 4H**Collection Date:** 5/13/2019 1:53:00 PM**Lab ID:** 1905831-004**Matrix:** SOIL**Received Date:** 5/16/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>smb</b>
Chloride	2900	150		mg/Kg	50	5/22/2019 6:58:52 AM	45019
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/18/2019 8:43:37 AM	44972
Surr: BFB	94.2	70-130		%Rec	1	5/18/2019 8:43:37 AM	44972
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/20/2019 10:12:59 AM	44997
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/20/2019 10:12:59 AM	44997
Surr: DNOP	93.4	70-130		%Rec	1	5/20/2019 10:12:59 AM	44997
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>RAA</b>
Benzene	ND	0.025		mg/Kg	1	5/18/2019 8:43:37 AM	44972
Toluene	ND	0.050		mg/Kg	1	5/18/2019 8:43:37 AM	44972
Ethylbenzene	ND	0.050		mg/Kg	1	5/18/2019 8:43:37 AM	44972
Xylenes, Total	ND	0.099		mg/Kg	1	5/18/2019 8:43:37 AM	44972
Surr: 1,2-Dichloroethane-d4	89.6	70-130		%Rec	1	5/18/2019 8:43:37 AM	44972
Surr: 4-Bromofluorobenzene	86.8	70-130		%Rec	1	5/18/2019 8:43:37 AM	44972
Surr: Dibromofluoromethane	102	70-130		%Rec	1	5/18/2019 8:43:37 AM	44972
Surr: Toluene-d8	85.6	70-130		%Rec	1	5/18/2019 8:43:37 AM	44972

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

<b>Qualifiers:</b>	*	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 **1905831**Date Reported: **5/24/2019****CLIENT:** Souder, Miller & Associates**Client Sample ID:** L5**Project:** Black River 4H**Collection Date:** 5/13/2019 1:59:00 PM**Lab ID:** 1905831-005**Matrix:** SOIL**Received Date:** 5/16/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	750	60		mg/Kg	20	5/19/2019 7:12:54 PM	45019
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/18/2019 9:12:14 AM	44972
Surr: BFB	97.8	70-130		%Rec	1	5/18/2019 9:12:14 AM	44972
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	5/20/2019 10:37:06 AM	44997
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/20/2019 10:37:06 AM	44997
Surr: DNOP	86.6	70-130		%Rec	1	5/20/2019 10:37:06 AM	44997
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	5/18/2019 9:12:14 AM	44972
Toluene	ND	0.049		mg/Kg	1	5/18/2019 9:12:14 AM	44972
Ethylbenzene	ND	0.049		mg/Kg	1	5/18/2019 9:12:14 AM	44972
Xylenes, Total	ND	0.097		mg/Kg	1	5/18/2019 9:12:14 AM	44972
Surr: 1,2-Dichloroethane-d4	88.4	70-130		%Rec	1	5/18/2019 9:12:14 AM	44972
Surr: 4-Bromofluorobenzene	89.7	70-130		%Rec	1	5/18/2019 9:12:14 AM	44972
Surr: Dibromofluoromethane	101	70-130		%Rec	1	5/18/2019 9:12:14 AM	44972
Surr: Toluene-d8	88.1	70-130		%Rec	1	5/18/2019 9:12:14 AM	44972

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

<b>Qualifiers:</b>	*	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 **1905831**Date Reported: **5/24/2019****CLIENT:** Souder, Miller & Associates**Client Sample ID:** L6**Project:** Black River 4H**Collection Date:** 5/13/2019 2:06:00 PM**Lab ID:** 1905831-006**Matrix:** SOIL**Received Date:** 5/16/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	1700	60		mg/Kg	20	5/19/2019 7:25:18 PM	45019
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/18/2019 9:40:57 AM	44972
Surr: BFB	101	70-130		%Rec	1	5/18/2019 9:40:57 AM	44972
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/20/2019 11:01:11 AM	44997
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/20/2019 11:01:11 AM	44997
Surr: DNOP	95.6	70-130		%Rec	1	5/20/2019 11:01:11 AM	44997
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>RAA</b>
Benzene	ND	0.024		mg/Kg	1	5/18/2019 9:40:57 AM	44972
Toluene	ND	0.049		mg/Kg	1	5/18/2019 9:40:57 AM	44972
Ethylbenzene	ND	0.049		mg/Kg	1	5/18/2019 9:40:57 AM	44972
Xylenes, Total	ND	0.097		mg/Kg	1	5/18/2019 9:40:57 AM	44972
Surr: 1,2-Dichloroethane-d4	87.8	70-130		%Rec	1	5/18/2019 9:40:57 AM	44972
Surr: 4-Bromofluorobenzene	89.3	70-130		%Rec	1	5/18/2019 9:40:57 AM	44972
Surr: Dibromofluoromethane	103	70-130		%Rec	1	5/18/2019 9:40:57 AM	44972
Surr: Toluene-d8	89.5	70-130		%Rec	1	5/18/2019 9:40:57 AM	44972

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

<b>Qualifiers:</b>	*	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#: 1905831

24-May-19

Client: Souder, Miller &amp; Associates

Project: Black River 4H

Sample ID: <b>MB-45019</b>	SampType: <b>mbk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>45019</b>	RunNo: <b>59991</b>								
Prep Date: <b>5/19/2019</b>	Analysis Date: <b>5/19/2019</b>	SeqNo: <b>2024942</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-45019</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>45019</b>	RunNo: <b>59991</b>								
Prep Date: <b>5/19/2019</b>	Analysis Date: <b>5/19/2019</b>	SeqNo: <b>2024943</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.8	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 Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1905831

24-May-19

Client: Souder, Miller &amp; Associates

Project: Black River 4H

Sample ID: <b>MB-44997</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>44997</b>	RunNo: <b>60018</b>								
Prep Date: <b>5/17/2019</b>	Analysis Date: <b>5/20/2019</b>	SeqNo: <b>2026297</b> Units: <b>mg/Kg</b>								
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		115	70	130			

Sample ID: <b>LCS-44997</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>44997</b>	RunNo: <b>60018</b>								
Prep Date: <b>5/17/2019</b>	Analysis Date: <b>5/20/2019</b>	SeqNo: <b>2026299</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	107	63.9	124			
Surr: DNOP	5.2		5.000		105	70	130			

Sample ID: <b>1905831-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>L1</b>	Batch ID: <b>44997</b>	RunNo: <b>60018</b>								
Prep Date: <b>5/17/2019</b>	Analysis Date: <b>5/20/2019</b>	SeqNo: <b>2026325</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.3	46.73	0	98.5	53.5	126			
Surr: DNOP	4.7		4.673		99.5	70	130			

Sample ID: <b>1905831-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>L1</b>	Batch ID: <b>44997</b>	RunNo: <b>60018</b>								
Prep Date: <b>5/17/2019</b>	Analysis Date: <b>5/20/2019</b>	SeqNo: <b>2026345</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.5	47.44	0	95.4	53.5	126	1.69	21.7	
Surr: DNOP	4.8		4.744		100	70	130	0	0	

### 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#: 1905831

24-May-19

Client: Souder, Miller &amp; Associates

Project: Black River 4H

Sample ID: <b>mb-44972</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>PBS</b>	Batch ID: <b>44972</b>	RunNo: <b>59967</b>								
Prep Date: <b>5/16/2019</b>	Analysis Date: <b>5/17/2019</b>	SeqNo: <b>2024071</b>	Units: <b>mg/Kg</b>							
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: 1,2-Dichloroethane-d4	0.45		0.5000		90.8	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		87.1	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.42		0.5000		84.0	70	130			

Sample ID: <b>lcs-44972</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>44972</b>	RunNo: <b>59967</b>								
Prep Date: <b>5/16/2019</b>	Analysis Date: <b>5/17/2019</b>	SeqNo: <b>2025155</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	96.7	70	130			
Toluene	0.96	0.050	1.000	0	95.7	70	130			
Ethylbenzene	0.97	0.050	1.000	0	96.9	70	130			
Xylenes, Total	2.9	0.10	3.000	0	97.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		88.8	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.5000		90.4	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.43		0.5000		86.6	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#: 1905831

24-May-19

Client: Souder, Miller &amp; Associates

Project: Black River 4H

Sample ID: <b>mb-44972</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>44972</b>	RunNo: <b>59967</b>								
Prep Date: <b>5/16/2019</b>	Analysis Date: <b>5/17/2019</b>	SeqNo: <b>2024075</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	470		500.0		93.3	70	130			

Sample ID: <b>lcs-44972</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>44972</b>	RunNo: <b>59967</b>								
Prep Date: <b>5/16/2019</b>	Analysis Date: <b>5/17/2019</b>	SeqNo: <b>2025163</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.9	70	130			
Surr: BFB	480		500.0		95.9	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



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: 1905831

RcptNo: 1

Received By: Jevon Campisi 5/16/2019 8:45:00 AM

Completed By: Erin Melendrez 5/16/2019 10:09:11 AM

Reviewed By: LB

LB: DAD 5/16/19

*Jevon Campisi*  
*ERIN*

### 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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 5/16/19

### 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:

### 17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.2	Good	Yes			

