



Souder, Miller & Associates ♦ 201 S. Halagueno St. ♦ Carlsbad, NM 88220
(575) 689-8801

July 10, 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 P, Section 15, 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, NMSLO
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, 6/27/2019		

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/; 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 six sample locations (L1-L6) 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.

On June 27, 2019, SMA personnel returned to the site to complete delineation as requested by NMOCD. At each of the six sample locations, a sample was collected at one foot bgs, and submitted for laboratory analysis of total chloride (EPA Method 300.0). All samples are below the 600 mg/Kg delineation requirement, as demonstrated in Table 3.

In accordance with 19.15.29.12.B(2), a deferral is being requested for 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

Black River 15 10 State Com X 4H Remediation Closure Report (2RP-5104)
July 10, 2019

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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; full delineation, 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

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:

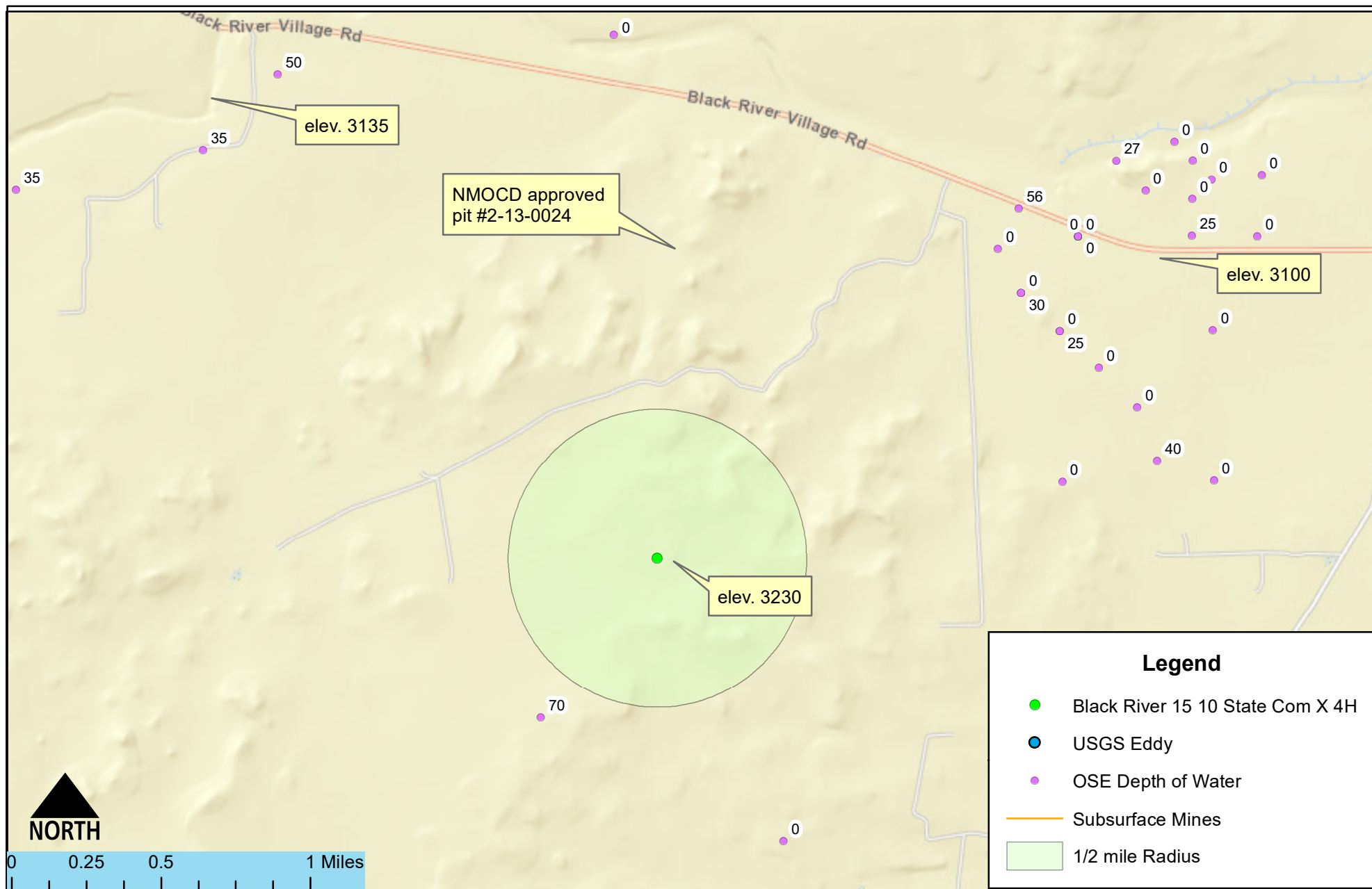
Appendix A: Form C141

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

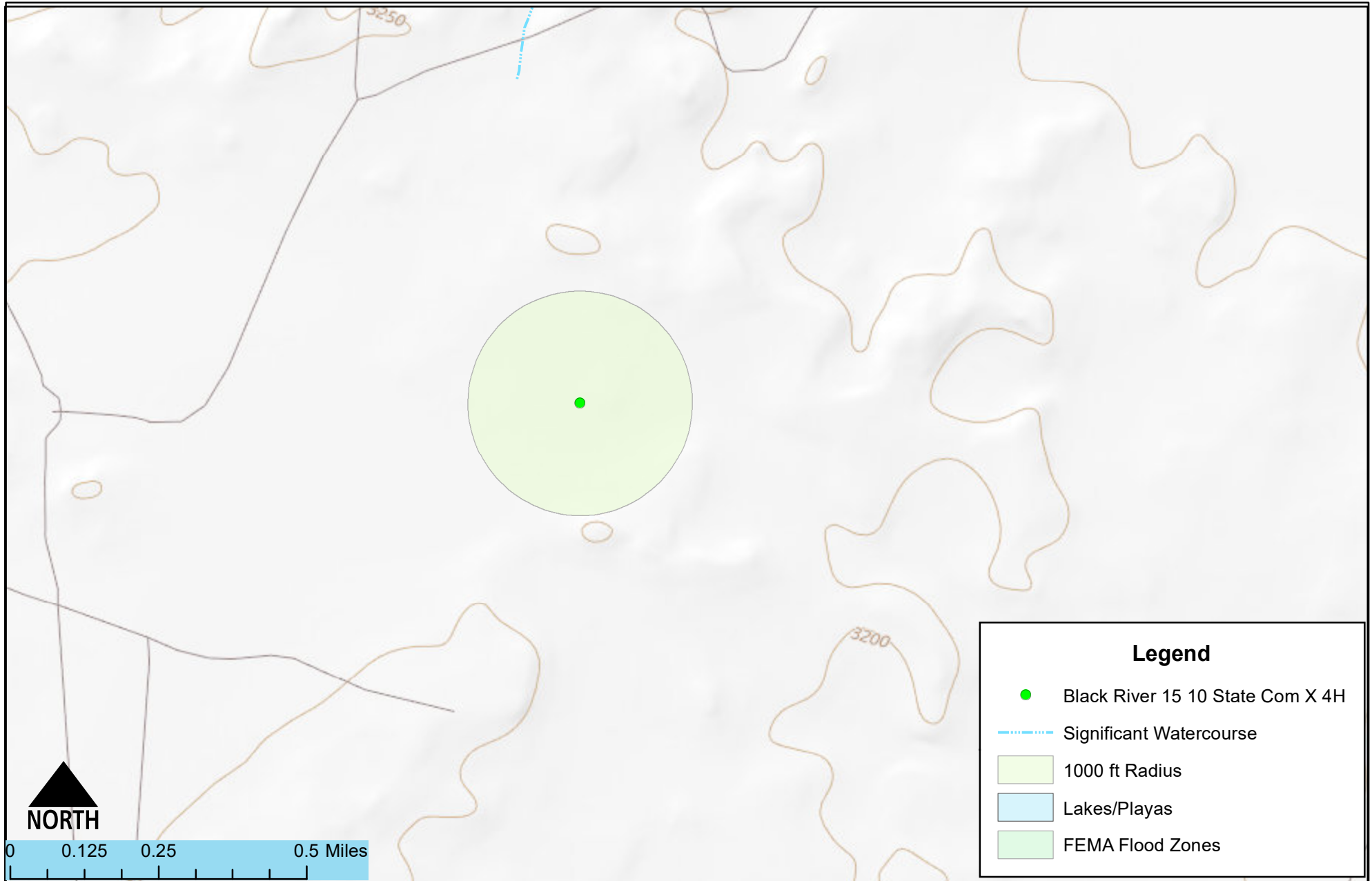
Revisions		Descr:
By:	Date:	


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Drawn Ashley Maxwell
 Checked
 Approved





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



<p>Surface Water Radius Map Black River 15 10 State Com X 4H - Marathon Oil S 15-T24SR27E, New Mexico</p>				<p>Figure 2</p>	
<p>Date Saved: 11/8/2018</p>	By: _____	Date: _____	Revisions	<p>Drawn <u>Heather Patterson</u> Checked _____ Approved _____</p>	<p> 201 South Halaguena Street Carlsbad, New Mexico 88221 (575) 689-7040 www.soudermiller.com Serving the Southwest & Rocky Mountains</p>
	By: _____	Date: _____	Descr: _____		
	Copyright 2015 Souder, Miller & Associates - All Rights Reserved				



Legend

-  Lined Containment
 Sample Locations

N



0 30 60 120 Feet

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: _____

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Drawn Heather Patterson
 Date 5/13/2019
 Checked _____
 Approved _____



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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		600	100		50	10
51' to 100'	x	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	1100
	6/27/2019	1	in-situ	--	--	--	--	--	--	70
L2	5/13/2019	surface - 0.5'	in-situ	<0.225	<0.025	<5.0	<10	<50	<65	850
	6/27/2019	1	in-situ	--	--	--	--	--	--	<60
L3	5/13/2019	surface - 0.5'	in-situ	<0.225	<0.025	<5.0	<10	<50	<65	1000
	6/27/2019	1	in-situ	--	--	--	--	--	--	<60
L4	5/13/2019	surface - 0.5'	in-situ	<0.225	<0.025	<5.0	<10	<50	<65	2900
	6/27/2019	1.5	in-situ	--	--	--	--	--	--	120
L5	5/13/2019	surface - 0.5'	in-situ	<0.225	<0.025	<5.0	<10	<50	<65	750
	6/27/2019	1	in-situ	--	--	--	--	--	--	<59
L6	5/13/2019	surface - 0.5'	in-situ	<0.025	<0.024	<5.0	<10	<50	<65	1700
	6/27/2019	1	in-situ	--	--	--	--	--	--	98

"--" = Not Analyzed

SMA #

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: _____
<u>OCD Only</u>	
Received by: <u>Ana P. Bontamente</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 not 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>Characterization Report Checklist: <i>Each of the following items must be included in the report.</i></p> <div><input type="checkbox"/> Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.<input type="checkbox"/> Field data<input type="checkbox"/> Data table of soil contaminant concentration data<input type="checkbox"/> Depth to water determination<input type="checkbox"/> Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release<input type="checkbox"/> Boring or excavation logs<input type="checkbox"/> Photographs including date and GIS information<input type="checkbox"/> Topographic/Aerial maps<input type="checkbox"/> Laboratory data including chain of custody</div>

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.

State of New Mexico
Oil Conservation Division

Page 4

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: Robert Hamlet Date: 6/4/2019

State of New Mexico
Oil Conservation Division

Incident ID	nAB1834731727
District RP	2RP-5104
Facility ID	
Application ID	pAB1834731264

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: Isaac Castro Title: HES Professional

Signature: [Signature] Date: 7-16-19

email: icastro@marathonoil.com Telephone: 575-988-0561

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

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
C 01452	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.

1/18/19 11:23 AM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER

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

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 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

Analytical Report

Lab Order 1905831

Date Reported: 5/24/2019

Hall Environmental Analysis Laboratory, Inc.

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
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	1100	60		mg/Kg	20	5/19/2019 6:23:14 PM	45019
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
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.

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		

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Analytical Report

Lab Order 1905831

Date Reported: 5/24/2019

Hall Environmental Analysis Laboratory, Inc.

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
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	850	60		mg/Kg	20	5/19/2019 6:35:39 PM	45019
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
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.

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		

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Analytical Report

Lab Order 1905831

Date Reported: 5/24/2019

Hall Environmental Analysis Laboratory, Inc.

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
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	1000	60		mg/Kg	20	5/19/2019 6:48:04 PM	45019
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
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.

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		

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Analytical Report

Lab Order 1905831

Date Reported: 5/24/2019

Hall Environmental Analysis Laboratory, Inc.

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
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	2900	150		mg/Kg	50	5/22/2019 6:58:52 AM	45019
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
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.

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		

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Analytical Report

Lab Order 1905831

Date Reported: 5/24/2019

Hall Environmental Analysis Laboratory, Inc.

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
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	750	60		mg/Kg	20	5/19/2019 7:12:54 PM	45019
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
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.

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		

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Analytical Report

Lab Order 1905831

Date Reported: 5/24/2019

Hall Environmental Analysis Laboratory, Inc.

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
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	1700	60		mg/Kg	20	5/19/2019 7:25:18 PM	45019
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
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.

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		

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1905831

24-May-19

Client: Souder, Miller & Associates

Project: Black River 4H

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

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

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1905831

24-May-19

Client: Souder, Miller & Associates

Project: Black River 4H

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

Sample ID: LCS-44997	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 44997	RunNo: 60018								
Prep Date: 5/17/2019	Analysis Date: 5/20/2019	SeqNo: 2026299 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	107	63.9	124			
Surr: DNOP	5.2		5.000		105	70	130			

Sample ID: 1905831-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: L1	Batch ID: 44997	RunNo: 60018								
Prep Date: 5/17/2019	Analysis Date: 5/20/2019	SeqNo: 2026325 Units: mg/Kg								
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: 1905831-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: L1	Batch ID: 44997	RunNo: 60018								
Prep Date: 5/17/2019	Analysis Date: 5/20/2019	SeqNo: 2026345 Units: mg/Kg								
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

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1905831

24-May-19

Client: Souder, Miller & Associates

Project: Black River 4H

Sample ID: mb-44972	SampType: MBLK	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: PBS	Batch ID: 44972	RunNo: 59967								
Prep Date: 5/16/2019	Analysis Date: 5/17/2019	SeqNo: 2024071	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: 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: lcs-44972	SampType: LCS	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: LCSS	Batch ID: 44972	RunNo: 59967								
Prep Date: 5/16/2019	Analysis Date: 5/17/2019	SeqNo: 2025155	Units: mg/Kg							
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

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1905831

24-May-19

Client: Souder, Miller & Associates

Project: Black River 4H

Sample ID: mb-44972	SampType: MBLK	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: PBS	Batch ID: 44972	RunNo: 59967								
Prep Date: 5/16/2019	Analysis Date: 5/17/2019	SeqNo: 2024075	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	470		500.0		93.3	70	130			

Sample ID: lcs-44972	SampType: LCS	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: LCSS	Batch ID: 44972	RunNo: 59967								
Prep Date: 5/16/2019	Analysis Date: 5/17/2019	SeqNo: 2025163	Units: mg/Kg							
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

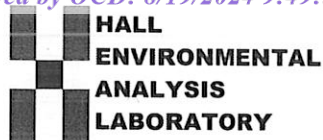
B Analyte detected in the associated Method Blank

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
UAG

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°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?
(Note discrepancies on chain of custody) Yes ☒ No ☐
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?
(If no, notify customer for authorization.) Yes ☒ No ☐

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			

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Chain-of-Custody Record		Turn-Around Time: <u>5 days</u>
Client: <u>SMA</u>	<input type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush	
<u>Carlsbad</u>	Project Name: <u>Black River 4H</u>	
Mailing Address:		

Project #:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard

☐ Level 4 (Full Validation)





Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Date	Time	Matrix	Sample Name
5/13/16	1:30	Soil	C1
1	1:40	1	C2
1	1:42	1	C3
1	1:53	1	C4
1	1:59	1	C5
2	2:00	2	C6

Cooler Temp (including CF):	Container Type and #	Preservative Type	HEAL No:
0.2 °C	Yes		1905831
			-001
			-002
			-003
			-004
			-005
			-006

Relinquished by:	Received by:	Via:	Date	Time
			5/14/19	1500
Relinquished by:	Received by:	Via:	Date	Time
		Carrier	5-16-19	8:44

Remarks:

marks: _____

Markus

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

July 03, 2019

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

RE: Black River

OrderNo.: 1906G44

Dear Heather Patterson:

Hall Environmental Analysis Laboratory received 6 sample(s) on 6/29/2019 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 horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order: 1906G44

Date Reported: 7/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Lab Order: 1906G44

Project: Black River

Lab ID: 1906G44-001

Collection Date: 6/27/2019 7:00:00 AM

Client Sample ID: L1-1'

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	70	60		mg/Kg	20	7/2/2019 3:13:03 PM	45959

Lab ID: 1906G44-002

Collection Date: 6/27/2019 8:00:00 AM

Client Sample ID: L2-1'

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	7/2/2019 3:25:28 PM	45959

Lab ID: 1906G44-003

Collection Date: 6/27/2019 9:00:00 AM

Client Sample ID: L3-1'

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	7/2/2019 3:37:52 PM	45959

Lab ID: 1906G44-004

Collection Date: 6/27/2019 9:30:00 AM

Client Sample ID: L4-1.5'

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	120	60		mg/Kg	20	7/2/2019 3:50:16 PM	45959

Lab ID: 1906G44-005

Collection Date: 6/27/2019 10:30:00 AM

Client Sample ID: L5-1'

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	59		mg/Kg	20	7/2/2019 4:02:41 PM	45959

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

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

Page 1 of 3

Analytical Report

Lab Order: 1906G44

Date Reported: 7/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Lab Order: 1906G44

Project: Black River

Lab ID: 1906G44-006

Collection Date: 6/27/2019 11:30:00 AM

Client Sample ID: L6-1'

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	98	60		mg/Kg	20	7/2/2019 4:15:06 PM	45959

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		

Page 2 of 3

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906G44
03-Jul-19

Client: Souder, Miller & Associates
Project: Black River

Sample ID: MB-45959		SampType: MBLK		TestCode: EPA Method 300.0: Anions						
Client ID: PBS		Batch ID: 45959		RunNo: 61093						
Prep Date: 7/2/2019		Analysis Date: 7/2/2019		SeqNo: 2071403			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-45959		SampType: LCS		TestCode: EPA Method 300.0: Anions						
Client ID: LCSS		Batch ID: 45959		RunNo: 61093						
Prep Date: 7/2/2019		Analysis Date: 7/2/2019		SeqNo: 2071404			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	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

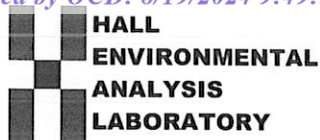
E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 3 of 3



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: **1906G44**

RcptNo: 1

Received By: **Erin Melendrez**

6/29/2019 9:30:00 AM

Completed By: **Erin Melendrez**

6/29/2019 10:13:29 AM

Reviewed By: **507119**

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°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?
(Note discrepancies on chain of custody) Yes ☒ No ☐
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?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: **YG 7/1/19**

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	2.4	Good	Yes			
2	4.8	Good	Yes			

Venegas, Victoria, EMNRD

From: Venegas, Victoria, EMNRD
Sent: Friday, August 9, 2019 10:50 AM
To: 'Castro, Isaac (MRO)'; Hamlet, Robert, EMNRD; Johnson, Misti M. (MRO)
Cc: Jacqui Harris; Heather Patterson; Bratcher, Mike, EMNRD; 'Mann, Ryan'
Subject: RE: Deferral Denied - Marathon - Black River 15 10 4H (2RP-5104) 11-23-2018
Attachments: (C-141 Deferral Approved) Black River 15 10 State Com X 4H Final 8.9.19.pdf

Marathon - Black River 15 10 4H (2RP-5104) 11-23-2018

Mr. Castro,

OCD has received your Remediation Closure Report for Marathon - Black River 15 10 4H (**2RP-5104**) 11-23-2018, thank you. SMA's closure report for this release requests to postpone additional remediation efforts until any future site alteration or final abandonment activities. The area has been delineated and documented in the report. At this time, OCD approves this request. The C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and will reflect an open environmental issue. This is a State site and will require like approval from SLO.

Victoria Venegas
EMNRD
OCD-District II
811 S First St. Artesia
NM 88210
Victoria.Venegas@state.nm.us

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

From: Castro, Isaac (MRO) <icastro@marathonoil.com>
Sent: Thursday, July 18, 2019 4:26 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Johnson, Misti M. (MRO) <mjohnson4@marathonoil.com>
Cc: Jacqui Harris <jacqui.harris@soudermiller.com>; Heather Patterson <heather.patterson@soudermiller.com>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; 'Mann, Ryan' <rmann@slo.state.nm.us>
Subject: [EXT] RE: Deferral Denied - Marathon - Black River 15 10 4H (2RP-5104) 11-23-2018

Good afternoon,

Please find attached the resubmittal of the closure report for Black River 15 10 4H. This report has also been submitted online through the OCD online platform. Receipt is attached for your reference.

Thank you,

Isaac Castro
Advanced Environmental Technician
Marathon Oil Company - Permian Asset
4111 S. Tidwell Road

Carlsbad, NM 88220

Cell: (575) 988-0561 Email: icastro@marathonoil.com



From: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>

Sent: Tuesday, June 04, 2019 3:42 PM

To: Karrigan, Callie N. (MRO) <cnkarrigan@marathonoil.com>

Cc: Jacqui Harris <jacqui.harris@soudermiller.com>; Heather Patterson <heather.patterson@soudermiller.com>;

Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>;

'Mann, Ryan' <rmann@slo.state.nm.us>

Subject: [External] Deferral Denied - Marathon - Black River 15 10 4H (2RP-5104) 11-23-2018

Beware of links/attachments.

Callie,

We have received your deferral request for (2RP-5104) Black River 15 10 4H, thank you. The deferral request is denied.

Before we can approve a deferral the spill must be fully delineated. All of the samples underneath the compromised liner are over the limit for Chlorides. If the deepest samples are all still over the limit, the spill hasn't been vertically delineated. The OCD request that samples be taken to a depth that contamination amounts are under the limit.

Regards,

Robert J Hamlet
State of New Mexico
Energy, Minerals, and Natural Resources
Oil Conservation Division
811 S. First St., Artesia NM 88210
(575) 840-5963
Robert.Hamlet@state.nm.us

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From: Karrigan, Callie N. (MRO) <cnkarrigan@marathonoil.com>

Sent: Thursday, May 30, 2019 2:58 PM

To: Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; Hamlet, Robert, EMNRD

<Robert.Hamlet@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; 'Mann, Ryan'

<rmann@slo.state.nm.us>

Cc: Jacqui Harris <jacqui.harris@soudermiller.com>; Heather Patterson <heather.patterson@soudermiller.com>

Subject: [EXT] Marathon Oil Company - 2RP-5104 Closure

Please see the attached closure document for 2RP-5104.

Thank you,

Callie Karrigan

HES Professional – Environmental

Office: 575-297-0956

Cell: 405-202-1028

State of New Mexico
Oil Conservation Division

Incident ID	nAB1834731727
District RP	2RP-5104
Facility ID	
Application ID	pAB1834731264

Remediation Plan **7J6GG-190718-C-1410****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 I 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: Isaac Castro Title: HES Professional

Signature: [Signature] Date: 7-16-19

email: icastro@marathonoil.com Telephone: 575-988-0561

OCD Only

Received by: Victoria Venegas Date: 07/18/2019

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

Signature: [Signature] Date: 08/09/2019

OCD has received your Remediation Closure Report for Marathon - Black River 15 10 4H (2RP-5104) 11-23-2018, thank you. SMA's closure report for this release, requests to postpone additional remediation efforts until any future site alteration or final abandonment activities. The area has been delineated and documented in the report. At this time, OCD approves this request. The Final C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and will reflect an open environmental issue.

Venegas, Victoria, EMNRD

From: Mann, Ryan <rmann@slo.state.nm.us>
Sent: Tuesday, August 13, 2019 4:08 PM
To: Venegas, Victoria, EMNRD; Castro, Isaac (MRO); Hamlet, Robert, EMNRD; Johnson, Misti M. (MRO)
Cc: Jacqui Harris; Heather Patterson; Bratcher, Mike, EMNRD
Subject: RE: Deferral Denied - Marathon - Black River 15 10 4H (2RP-5104) 11-23-2018

Good afternoon all,

Here are my concerns with this location:

1. This is a new well; less than 2 years old. There have been 2 major releases in this time 2RP-5064 and 2RP-5104.
2. The liner passed the integrity test for 5064 but not 5104, is that correct? How is this possible? Was the liner damaged during the clean up on 5064 or was it installed incorrectly?
3. Are there other new Marathon wells with liners that have been potentially been installed improperly?

NMSLO agrees with NMOCd regarding deferral 2RP-5104. 2RP-5064 will require reclamation/revegetation of the off pad portion of the release.

Ryan Mann

Remediation Specialist
Surface Resources Division
Office: (575) 392-3697
Cell: (505) 699-1989
New Mexico State Land Office
2827 N. Dal Paso Suite 117
Hobbs, NM 88240
rmann@slo.state.nm.us
nmstatelands.org



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From: Venegas, Victoria, EMNRD [mailto:Victoria.Venegas@state.nm.us]
Sent: Friday, August 9, 2019 10:50 AM

To: Castro, Isaac (MRO) <icastro@marathonoil.com>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Johnson, Misti M. (MRO) <mjohnson4@marathonoil.com>
Cc: Jacqui Harris <jacqui.harris@soudermiller.com>; Heather Patterson <heather.patterson@soudermiller.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Mann, Ryan <rmann@slo.state.nm.us>
Subject: RE: Deferral Denied - Marathon - Black River 15 10 4H (2RP-5104) 11-23-2018

Marathon - Black River 15 10 4H (2RP-5104) 11-23-2018

Mr. Castro,

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OCD-District II
811 S First St. Artesia
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Thank you,

Isaac Castro
Advanced Environmental Technician
Marathon Oil Company - Permian Asset
4111 S. Tidwell Road
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Cell: (575) 988-0561 **Email:** icastro@marathonoil.com



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Callie,

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Regards,

Robert J Hamlet
State of New Mexico
Energy, Minerals, and Natural Resources
Oil Conservation Division
811 S. First St., Artesia NM 88210
(575) 840-5963
Robert.Hamlet@state.nm.us

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Cc: Jacqui Harris <jacqui.harris@soudermiller.com>; Heather Patterson <heather.patterson@soudermiller.com>
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Please see the attached closure document for 2RP-5104.

Thank you,

Callie Karrigan
HES Professional – Environmental

Office: 575-297-0956

Cell: 405-202-1028

This email has been scanned by the Symantec Email Security.cloud service.
For more information please visit <http://www.symanteccloud.com>

This email has been scanned by the Symantec Email Security.cloud service.
For more information please visit <http://www.symanteccloud.com>

Venegas, Victoria, EMNRD

From: Heather Patterson <heather.patterson@soudermiller.com>
Sent: Wednesday, August 14, 2019 8:30 AM
To: Mann, Ryan; Venegas, Victoria, EMNRD; Castro, Isaac (MRO); Hamlet, Robert, EMNRD; Johnson, Misti M. (MRO)
Cc: Bratcher, Mike, EMNRD
Subject: RE: Deferral Denied - Marathon - Black River 15 10 4H (2RP-5104) 11-23-2018

Good morning everyone!

Ryan,

Thank you for looking into these projects. Just to clear up some confusion:

- 2RP-5064 originated from the treater, and primarily affected the lined area around the treating equipment. This is a different lined containment. While there was possibly some impact in the tank battery, it was just a light overspray which had followed a rain event. SMA did not inspect the tank battery area at that time, but the treater area lined containment on the south end of the pad where fluid actually pooled.
- 2RP-5104 originated in the tank battery containment, and it was at that time that small rips were seen in the liner. Since there is no gravel in this lined area, the damage was not from clean-up efforts, although the damage did appear similar to tool marks.
- While the Black River 15 10 State Com X 4H is not a very old well, Marathon did not drill it or construct the tank battery. As soon as the battery was found to be of poor quality, Marathon re-enforced it by coating it with a polyurea spray.

I hope this clears up your questions.

Thank again,

Heather Patterson
Project Scientist

**Souder, Miller & Associates**

Engineering ♦ Environmental ♦ Surveying
201 S. Halagueno St
Carlsbad, NM 88220
www.soudermiller.com
(575) 200-5343 (mobile)

From: Mann, Ryan <rmann@slo.state.nm.us>
Sent: Tuesday, August 13, 2019 4:08 PM
To: 'Venegas, Victoria, EMNRD' <Victoria.Venegas@state.nm.us>; Castro, Isaac (MRO) <icastro@marathonoil.com>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Johnson, Misti M. (MRO) <mjohnson4@marathonoil.com>
Cc: Jacqui Harris <jacqui.harris@soudermiller.com>; Heather Patterson <heather.patterson@soudermiller.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
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Here are my concerns with this location:

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3. Are there other new Marathon wells with liners that have been potentially been installed improperly?

NMSLO agrees with NMOCDD regarding deferral 2RP-5104. 2RP-5064 will require reclamation/revegetation of the off pad portion of the release.

Ryan Mann

Remediation Specialist

Surface Resources Division

Office: (575) 392-3697

Cell: (505) 699-1989

New Mexico State Land Office

2827 N. Dal Paso Suite 117

Hobbs, NM 88240

rmann@slo.state.nm.us

nmstatelands.org



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From: Venegas, Victoria, EMNRD [<mailto:Victoria.Venegas@state.nm.us>]

Sent: Friday, August 9, 2019 10:50 AM

To: Castro, Isaac (MRO) <icastro@marathonoil.com>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Johnson, Misti M. (MRO) <mjohnson4@marathonoil.com>

Cc: Jacqui Harris <jacqui.harris@soudermiller.com>; Heather Patterson <heather.patterson@soudermiller.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Mann, Ryan <rmann@slo.state.nm.us>

Subject: RE: Deferral Denied - Marathon - Black River 15 10 4H (2RP-5104) 11-23-2018

Marathon - Black River 15 10 4H (2RP-5104) 11-23-2018

Mr. Castro,

OCD has received your Remediation Closure Report for Marathon - Black River 15 10 4H (**2RP-5104**) 11-23-2018, thank you. SMA's closure report for this release requests to postpone additional remediation efforts until any future site alteration or final abandonment activities. The area has been delineated and documented in the report. At this time, OCD approves this request. The C-141 will be accepted for record and marked accordingly. The release will remain open

in OCD database files and will reflect an open environmental issue. This is a State site and will require like approval from SLO.

Victoria Venegas
EMNRD
OCD-District II
811 S First St. Artesia
NM 88210
Victoria.Venegas@state.nm.us

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

From: Castro, Isaac (MRO)
Sent: Thursday, July 18, 2019 4:26 PM
To: Hamlet, Robert, EMNRD ; Johnson, Misti M. (MRO)
Cc: Jacqui Harris ; Heather Patterson ; Venegas, Victoria, EMNRD ; Bratcher, Mike, EMNRD ; 'Mann, Ryan'
Subject: [EXT] RE: Deferral Denied - Marathon - Black River 15 10 4H (2RP-5104) 11-23-2018

Good afternoon,

Please find attached the resubmittal of the closure report for Black River 15 10 4H. This report has also been submitted online through the OCD online platform. Receipt is attached for your reference.

Thank you,

Isaac Castro
Advanced Environmental Technician
Marathon Oil Company - Permian Asset
4111 S. Tidwell Road
Carlsbad, NM 88220
Cell: (575) 988-0561 **Email:** icastro@marathonoil.com



From: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Sent: Tuesday, June 04, 2019 3:42 PM
To: Karrigan, Callie N. (MRO) <cnkarrigan@marathonoil.com>
Cc: Jacqui Harris <jacqui.harris@soudermiller.com>; Heather Patterson <heather.patterson@soudermiller.com>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; 'Mann, Ryan' <rmann@slo.state.nm.us>
Subject: [External] Deferral Denied - Marathon - Black River 15 10 4H (2RP-5104) 11-23-2018

Beware of links/attachments.
Callie,

We have received your deferral request for (2RP-5104) Black River 15 10 4H, thank you. The deferral request is denied.

Before we can approve a deferral the spill must be fully delineated. All of the samples underneath the compromised liner are over the limit for Chlorides. If the deepest samples are all still over the limit, the spill hasn't been vertically delineated. The OCD request that samples be taken to a depth that contamination amounts are under the limit.

Regards,

Robert J Hamlet
State of New Mexico
Energy, Minerals, and Natural Resources
Oil Conservation Division
811 S. First St., Artesia NM 88210
(575) 840-5963
Robert.Hamlet@state.nm.us

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

From: Karrigan, Callie N. (MRO) <cnkarrigan@marathonoil.com>
Sent: Thursday, May 30, 2019 2:58 PM
To: Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; 'Mann, Ryan' <rmann@slo.state.nm.us>
Cc: Jacqui Harris <jacqui.harris@soudermiller.com>; Heather Patterson <heather.patterson@soudermiller.com>
Subject: [EXT] Marathon Oil Company - 2RP-5104 Closure

Please see the attached closure document for 2RP-5104.

Thank you,

Callie Karrigan
HES Professional – Environmental
Office: 575-297-0956
Cell: 405-202-1028

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Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 375001

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 375001
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

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