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

May 3, 2019

#5E27499-BG20

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-5064), Malaga, New Mexico

Dear 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-5064		
Estimated Date of Release	11/5/2018	Date Reported to NMOCD	11/5/2018
Land Owner	State	Reported To	NMOCD, NMSLO
Source of Release	Separator		
Released Volume	149 bbls	Released Material	Crude oil
Recovered Volume	140 bbls	Net Release	9 bbls
NMOCD Closure Criteria	<50 feet to groundwater (per NMOCD)		
SMA Response Dates	11/5/2018, 1/4/2019, 3/18-20/2019		

1.0 Background

On November 5, 2018, a release was discovered at the Black River 15 10 State Com X 4H site due to gasket failure on the separator. A majority of the impacted area was within the lined containment. There was also a light overspray across the pad, and an area of runoff to the east side of the pad that followed a Lucid pipeline ROW. Initial response activities were conducted by Marathon, and included vacuum truck and backhoe activities, which recovered approximately 140 barrels of fluid and approximately 12 cubic yards of contaminated soil, which were hauled to and disposed of at Lea Lands in Hobbs, NM. Figures 1 and 2 illustrate the vicinity and site location, Figure 3 illustrate 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, the applicable NMOCD Closure Criteria for this site is for groundwater depth of between 51-100 feet bgs. Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B. Since there was no water well data within one half mile of the release area, NMOCD requested closure criteria for groundwater depth of between 0-50 feet bgs.

3.0 Release Characterization Activities and Findings

On November 5, 2018, SMA personnel arrived on site in response to the release associated with the Black River 15 10 State Com X 4H. SMA performed site delineation activities by collecting soil samples around the release site and throughout the visibly stained area. Soil samples were field-screened for chloride using an electrical conductivity (EC) meter.

On January 4, 2019, SMA personnel returned to the site to provide further vertical delineation. A total of twelve sample locations (L1-L12) were investigated using excavated test pits, to depths up to 2 feet bgs. A total of 17 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. Locations for all delineation samples are depicted on Figure 3a.

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

As summarized in Table 3 and demonstrated in Figure 3, results indicate that an area approximately 135 feet by 55 feet by 1 foot deep had been impacted.

In the workplan dated February 4, 2019 , SMA proposed excavating and removing contaminated soil in the impacted area to approximately one (1) foot bgs. On February 12, 2019, NMOCD approved the workplan.

4.0 Soil Remediation Summary

In accordance with the approved workplan, from March 18 to 20, 2019, SMA returned to the site to guide the excavation of contaminated soil. After approval from area utilities via 811, SMA guided the excavation activities by collecting soil samples for field screening. Samples were screened for chloride using an electrical conductivity (EC) meter and for hydrocarbon impacts using a photoionization detector (PID). The walls and base were excavated until field screening results indicated that the NMOCD closure criteria would be met. NMOCD was notified on March 18, 2019 that closure samples were expected to be collected in two (2) business days.

On March 20, 2019, SMA conducted confirmation sampling of the walls and base of the excavation. The area around sample locations CS1, CS4, and CS12 were excavated to a depth of one foot bgs, sample location CS2 was excavated to a depth of two feet bgs, sample location CS3 was excavated to a depth of three feet bgs, and sample locations CS5 and CS6 was excavated to a depth of one half feet bgs. The confirmation samples were collected from within the excavation in accordance with the sampling protocol approved by NMOCD in the work plan.

All confirmation sample results are below the NMOCD Closure Criteria standard for this site; SMA recommends no further action for release 2RP-5064. Figure 3 shows the extent of the excavation and sample locations. Laboratory results are summarized in Table 3. Laboratory reports are included in Appendix D.

Contaminated soils were removed and replaced with clean backfill material to return the surface to previous contours. The contaminated soil was transported and disposed of at R360, Hobbs NM, an NMOCD permitted disposal facility.

5.0 Scope and Limitations

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

If there are any questions regarding this report, please contact either Heather Patterson at 575-200-5343 or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Heather Patterson
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 Maps

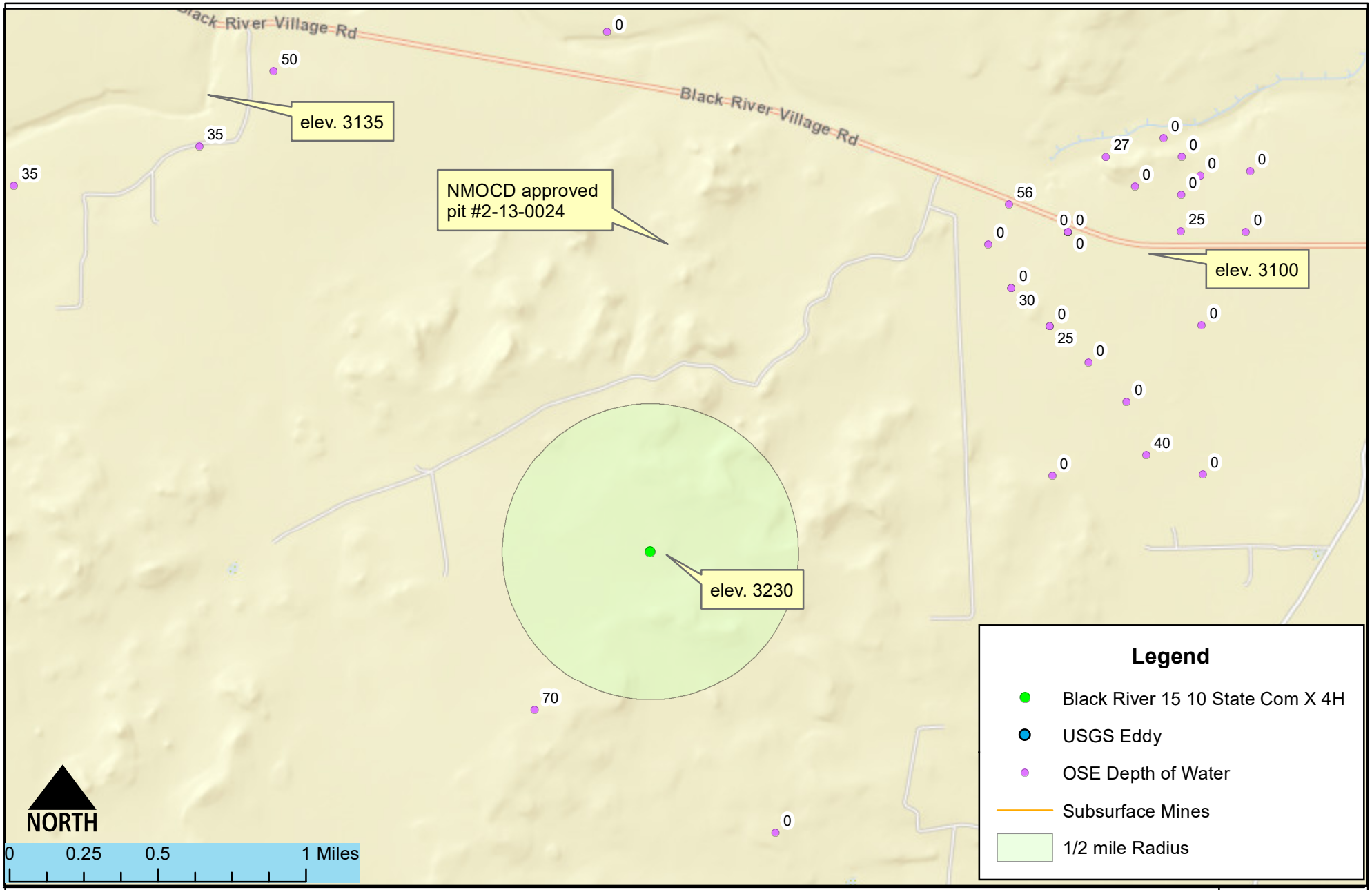
Tables:

Table 2: NMOCD Closure Criteria Justification
Table 3: Summary of Sample Results

Appendices:

Appendix A: Form C141
Appendix B: NMOSE Wells Report
Appendix C: Field Notes, Photo Documentation, Sampling Protocol
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

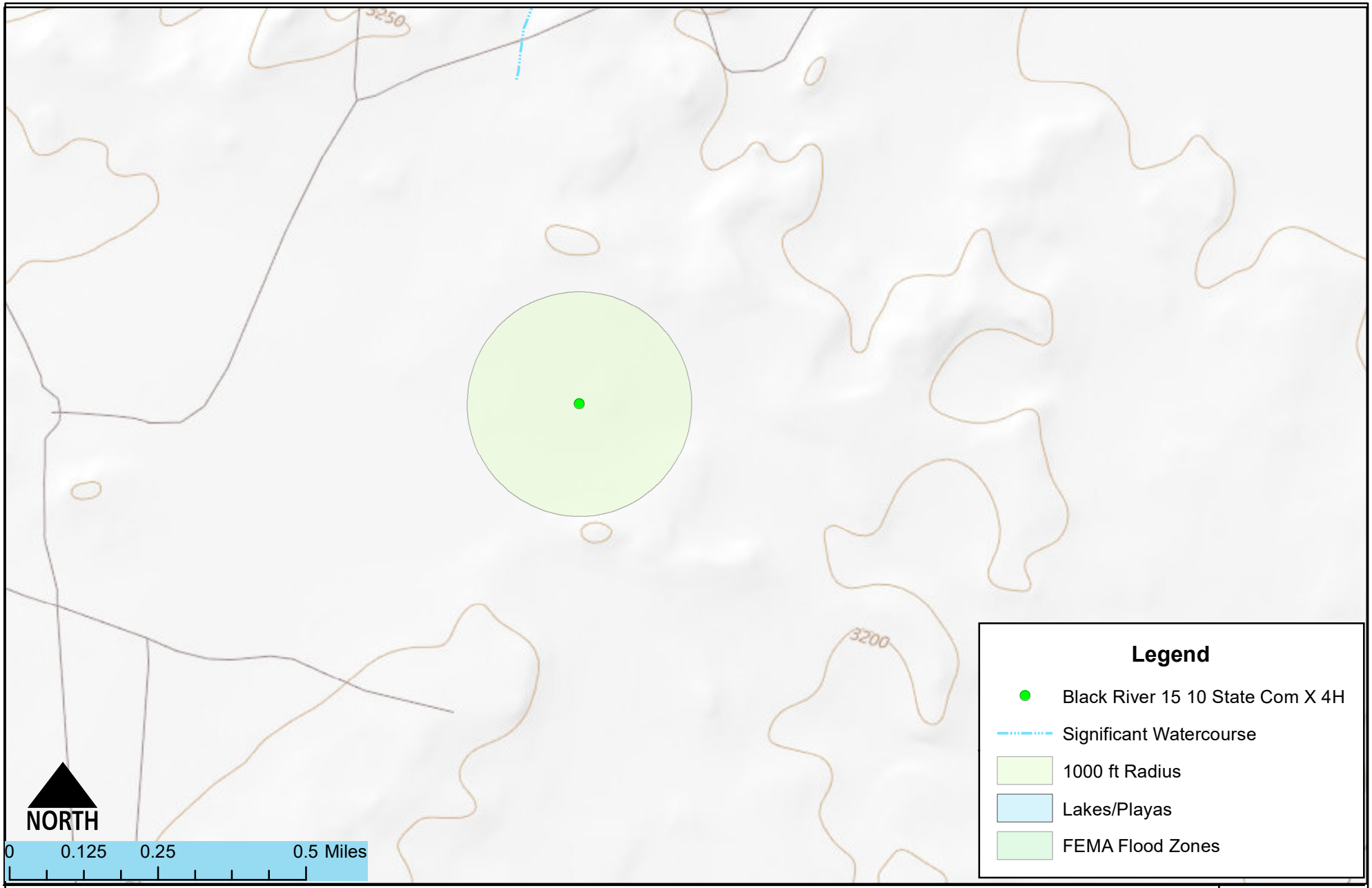
Figure 1

Date Saved: 11/8/2018

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

Drawn Ashley Maxwell
Checked
Approved

SMA
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
By: Date: Descr:
By: Date: Descr:

Drawn Heather Patterson
Checked
Approved

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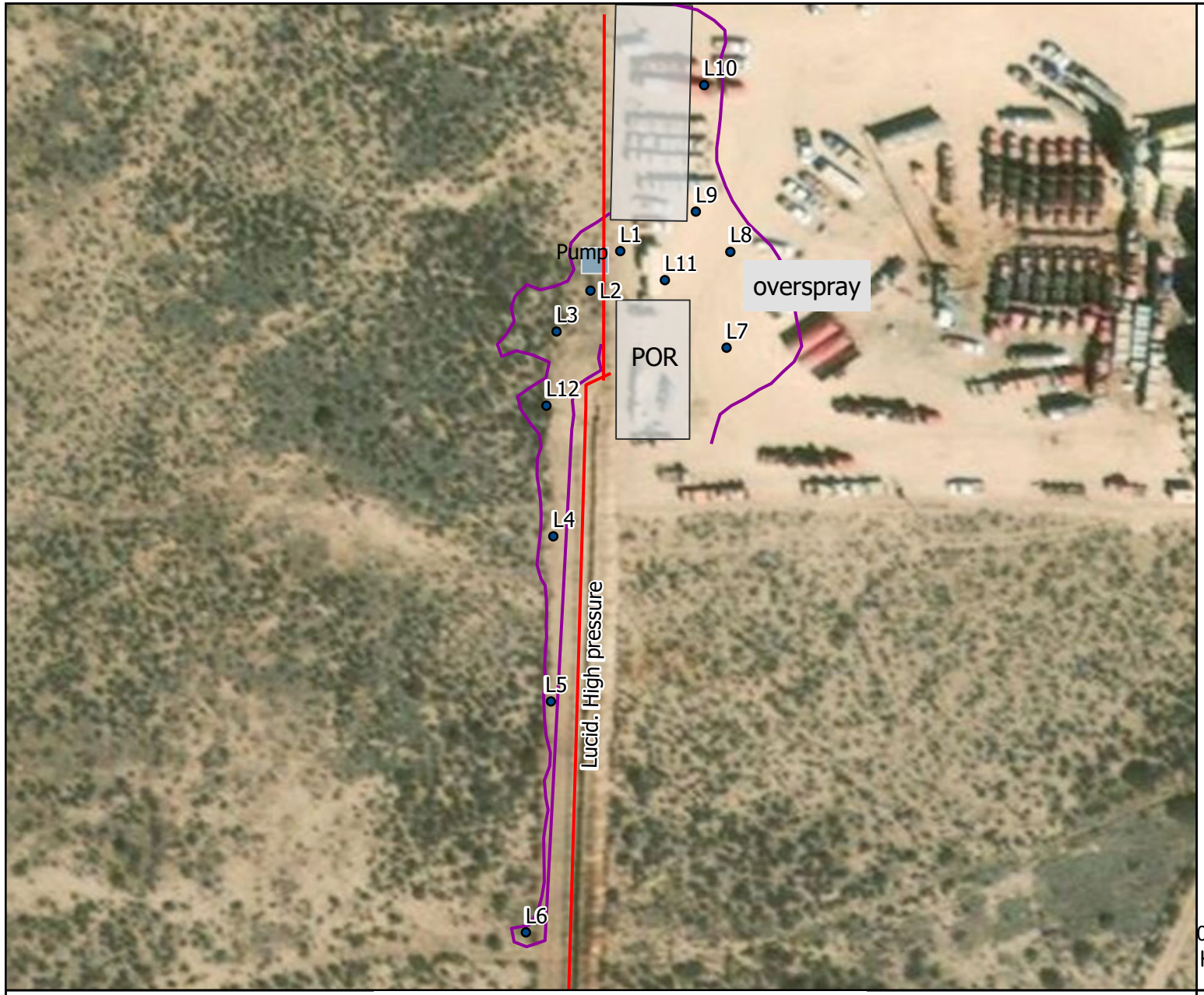

Legend

- Sample Locations
- Pipelines
- Spill Area
- Lined Containment

N

0 48.5 97 194 Feet

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

Figure 3a

Revisions

By:_____ Date:_____ Descr:_____

By:_____ Date:_____ Descr:_____

Date Saved: 2/7/2019

Drawn *Heather Patterson*
Date 2/7/2019
Checked
Approved

SMA

201 South Halaguena Street
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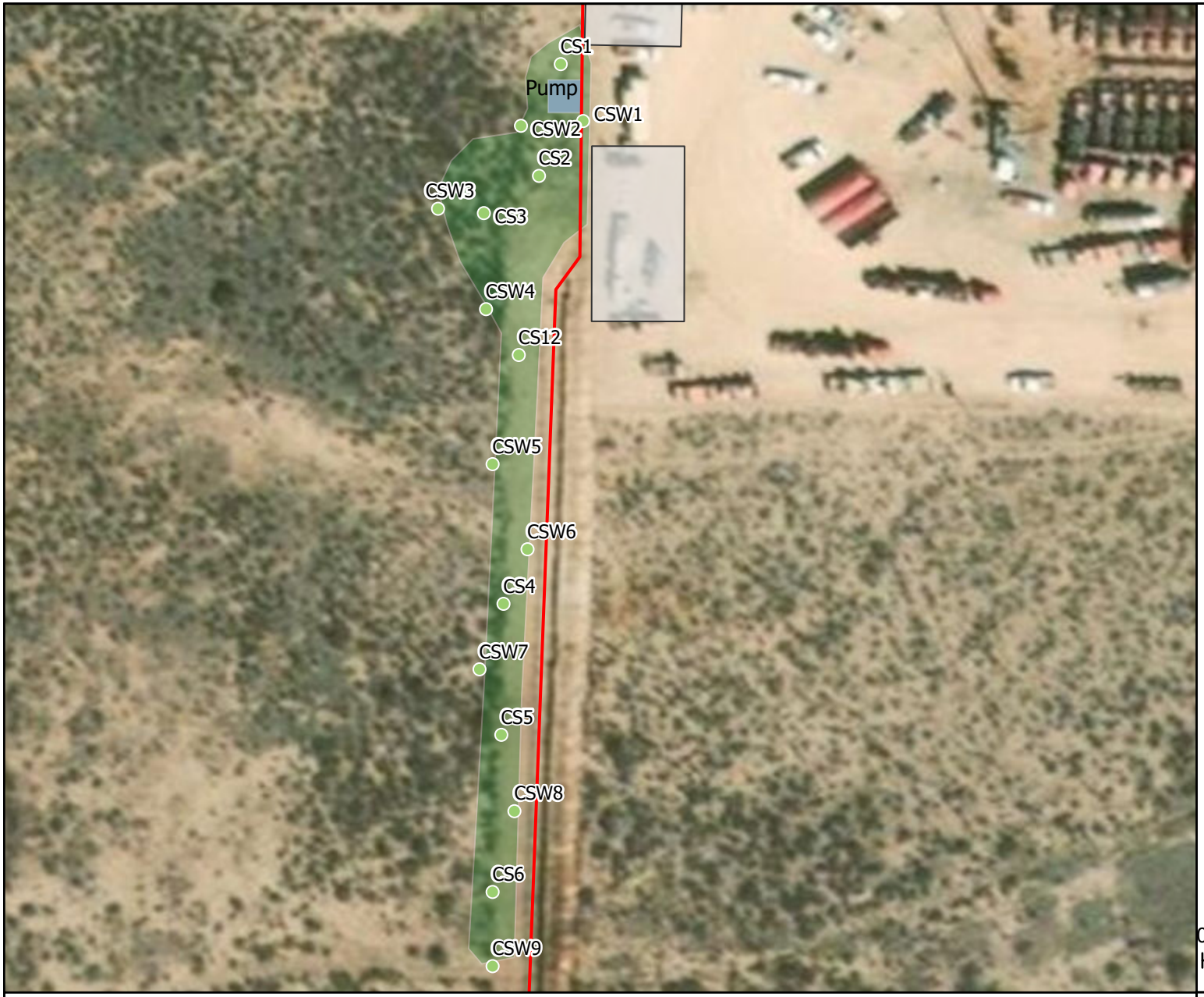
\\CBO10\Projects\5-Marathon MSA 2019 (5E27950)\GIS\ARCGIS\MARATHON_MIT.aprx



Legend

- Lined Containment
- Sample Locations
- Buried Lines
- Excavation
- Equipment

N

0 38.5 77 154 Feet

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

Figure 3b

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Date Saved: 5/3/2019

Revisions

By:_____ Date:_____ Descr:_____

By:_____ Date:_____ Descr:_____

Drawn Heather Patterson
Date 5/3/2019
Checked
Approved

SMA

201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689-7040
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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
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	N/A	NMOSE, USGS Topo Map
Hortizontal 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
Black River 15 10 State Com X 4H(2RP-5064)

Initial Sampling

Sample ID	Sample Date	Depth (feet bgs)	Proposed Action/ Action Taken	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			100	600
L1	11/5/2018	0.5	excavate	14.55	<0.024	360	17000	7900	25260	360
	1/4/2019	1	in-situ	--	--	<4.9	<9.5	<48	<63	--
	1/4/2019	2	in-situ	--	--	<5.0	24	<48	24	--
L2	11/5/2018	0.5	in-situ	<0.23	<0.024	<4.8	<10	<50	<65	300
L3	11/5/2018	0.5	excavate	<0.23	<0.12	360	17000	7800	25160	470
	1/4/2019	2	in-situ	--	--	<4.7	<9.9	<49	<64	--
L4	11/6/2018	0.5	excavate	<0.23	<0.023	<4.7	<9.8	<49	<64	1000
	1/4/2019	1	in-situ	--	--	--	--	--	--	100
L5	11/6/2018	0.5	in-situ	<0.23	<0.024	<4.9	<9.7	<49	<64	270
L6	11/6/2018	0.5	in-situ	<0.23	<0.024	<4.9	<9.9	<50	<65	310
L7	11/6/2018	0.5	in-situ	<0.23	<0.024	<4.8	190	97	287	250
L8	11/6/2018	0.5	in-situ	<0.23	<0.024	<4.8	130	98	228	240
L9	11/6/2018	0.5	in-situ	<0.23	<0.023	<4.6	27	<49	27	87
L10	11/6/2018	0.5	in-situ	<0.23	<0.024	<4.8	<9.9	<49	<64	<30
L11	11/6/2018	0.5	in-situ	<0.23	<0.024	<4.8	21	<48	21	170
L12	1/4/2019	0.5	in-situ	--	--	<4.8	<9.4	<47	<62	210
	1/4/2019	1	in-situ	--	--	<4.7	<9.7	<49	<64	--

Closure Sampling

Sample ID	Sample Date	Depth (feet bgs)	~~Proposed~~ Action/ Action Taken	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			100	600
CS1	3/20/2019	1	in-situ	<0.23	<0.024	<4.9	<10	<51	<66	<60
CS2	3/20/2019	2	in-situ	--	--	<4.8	<10	<50	<65	<60
CS3	3/20/2019	3	in-situ	<0.23	<0.024	<4.9	<9.9	<49	<64	<60
CS4	3/19/2019	1	in-situ	--	--	<4.7	<10	<50	<65	<60
CS5	3/19/2019	0.5	in-situ	--	--	<4.8	<9.8	<49	<64	<59
CS6	3/19/2019	0.5	in-situ	<0.23	<0.023	<4.7	<9.7	<49	<64	<60
CS12	3/20/2019	1	in-situ	--	--	<4.6	<10	<51	<66	430
CSW1	3/20/2019	0-1	in-situ	<0.23	<0.024	<4.9	<9.9	<50	<65	<60
CSW2	3/20/2019	0-3	in-situ	--	--	<4.7	<10	<51	<66	<60
CSW3	3/20/2019	0-3	in-situ	<0.23	<0.025	<4.9	<9.9	<50	<65	<60
CSW4	3/19/2019	0.5	in-situ	--	--	<4.9	<9.8	<49	<64	<60
CSW5	3/19/2019	0-1	in-situ	--	--	<4.8	<9.7	<49	<64	<60
CSW6	3/19/2019	0-0.5	in-situ	--	--	<4.9	<9.8	<49	<64	79
CSW7	3/19/2019	0-0.5	in-situ	--	--	<4.9	<9.8	<49	<64	74
CSW8	3/19/2019	0-0.5	in-situ	--	--	<4.7	<9.8	<49	<64	310
CSW9	3/19/2019	0-0.5	in-situ	<0.23	<0.025	<5.0	<9.8	<49	<64	<60

"--" = Not Analyzed

APPENDIX A
FORM C141 FINAL

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	NAB1832755462
District RP	2RP-5064
Facility ID	
Application ID	pAB1832755014

Release Notification

Responsible Party

Responsible Party Marathon Oil Permian LLC	OGRID 372098
Contact Name Callie Karrigan	Contact Telephone 575-297-0956
Contact email cnkarrigan@marathonoil.com	Incident # *(assigned by OCD)* NAB1832755462
Contact mailing address 4111 Tidwell Road, Carlsbad New Mexico, 88220	

Location of Release Source

Latitude 32.210579 Longitude -104.170769
(NAD 83 in decimal degrees to 5 decimal places)

Site Name BLACK RIVER 15 10 STATE COM X 4H	Site Type Oil and gas drilling facility
Date Release Discovered 11/5/18	API# *(if applicable)* 30-015-43959

Unit Letter	Section	Township	Range	County
A	22	24S	27E	Eddy

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)

☑ Crude Oil	Volume Released (bbls) 149	Volume Recovered (bbls) 140
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

At approximately 2:30 am 11/5/18, a 3rd party hauler reported an overspray from the facility. Upon immediate inspection by the Field Operator, it was found that the high pressure separator manway gasket failed. Approximately 149 barrels was released, with 23 barrels traveling offsite affecting a 0.23 acre area.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1832755462
District RP	2RP-5064
Facility ID	
Application ID	pAB1832755014

Was this a major release as defined by 19.15.29.7(A) NMAC? ☑ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? The release exceeded 25 bbls.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Maria Pruett, Jim Griswold and Ryan Mann via email on 11/5/18 5:57 pm.

Initial Response

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

- ☑ The source of the release has been stopped.
- ☑ The impacted area has been secured to protect human health and the environment.
- ☑ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☑ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not 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: Callie Karrigan Title: HES Professional

Signature: Callie Karrigan Date: 11/19/18

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

OCD Only

Received by: Amelia Barrameda Date: 11/23/2018

State of New Mexico
Oil Conservation Division

Incident ID	nAB1832755462
District RP	2RP-5064
Facility ID	
Application ID	pAB1832755014

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?	60 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ 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)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ 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?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☐ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

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

State of New Mexico
Oil Conservation Division

Incident ID	nAB1832755462
District RP	2RP-5064
Facility ID	
Application ID	pAB1832755014

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

Printed Name: __Callie Karrigan_____ Title: _____HES Professional_____

Signature:_____*Callie Karrigan* _____ Date: ___2/8/2019_____

email: ___cnkarrigan@marathonoil.com_____ Telephone: ___575-297-0956_____

OCD Only

Received by: _____ Date**:** _____

State of New Mexico
Oil Conservation Division

Incident ID	nAB1832755462
District RP	2RP-5064
Facility ID	
Application ID	pAB1832755014

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: _____ Callie Karrigan _____ Title: _____ HES Professional _____

Signature: __*Callie Karrigan* _____ Date: ____2/8/2019_____

email: _____ cnkarrigan@marathonoil.com _____ Telephone: ____575-297-0956_____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAB1832755462
District RP	2RP-5064
Facility ID	
Application ID	pAB1832755014

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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

Printed Name: _____Callie Karrigan_____ Title: _____HES Professional_____

Signature: *Callie Karrigan*_____ Date: __5/3/2019_____

email: __cnkarrigan@marathonoil.com_____ Telephone: _____575-297-0956_____

OCD Only

Received by: _____ Date**:** _____

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

Closure Approved by: _____ 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-basin Code	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

UTMNAD83 Radius Search (in meters):

Easting (X): 577595.25 **Northing (Y):** 3564086.68 **Radius:** 1610

***UTM location was derived from PLSS - see Help**

APPENDIX C
SAMPLING PROTOCOL & FIELD NOTES

Sampling Protocol

Representatives from SMA chose the Judgmental Sampling Method as described in EPA's Final Sampling Guidance for SW-846, 2002 to adequately quantify contaminant concentrations on the Black River 15 10 State Com X 4H Location. The utility of this particular method functions on the sufficient knowledge of the contaminant, which we possess. This design is also useful when identifying the composition of a release, which we have documented. In addition, this sampling design was chosen for this project because of the locations uniform soil type, and the several operational considerations (such as the liner within the battery and the construction of a new facility) that precluded the implementation of a different statistical design.

The soil samples were collected in laboratory supplied containers in accordance with this sampling protocol, immediately placed on ice and sent under standard chain-of-custody protocols to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for analysis. A total of seventeen (17) samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D.

Sampling Analysis Field Quality Assurance Procedures

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

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

Field Screening

Location Name: Black River State #471

Date: 03-19-2019

Sample Name:	Collection Time:	EC (mS)	Temp (°C)	PID Reading /PF	Soil Color	Primary Soil Type	Moisture Level	Other Remarks/Notes:
L6	1150	0.09	14.3	—	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	no Hc odor
SW9	1201	0.05	14.4	—	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	no Hc odor
SW8	1215	0.29	14.4	—	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	no Hc odor
SW7	12.25	0.09	14.7	—	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	no Hc odor
L5	150	0.07	17.2	—	Light Dark; ~~Tan~~ ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	no Hc odor
SW6	201	0.13	15.6	—	Light Dark; Tan Brown; Gray Olive; Yellow Red	Gravel Rock; Sand Silt; Clay	~~Dry~~ Moist Wet	no Hc odor
SW5	206	0.07	14.0	—	Light Dark; ~~Tan~~ ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	no Hc odor
L4	236	0.08	17.8	—	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; Sand Silt; Clay	~~Dry~~ Moist Wet	no Hc odor
SW4	258	0.07	18.3	—	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	no Hc odor

Field Screening

Location Name: Black River #4H

Date: 03-20-19

Sample Name:	Collection Time:	EC (mS)	Temp (°C)	PID Reading /PF	Soil Color	Primary Soil Type	Moisture Level	Other Remarks/Notes:
SW-3	950	0.07	14.1	0.8	Light Dark; Tan ~~Brown~~ Olive; Gray; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	No Hc odor
SW-2	1211	0.10	13.2	0.6	Light Dark; Tan ~~Brown~~ Olive; Gray; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	No HC odor
SW-1	100	0.11	13.7	1.2	Light Dark; Tan ~~Brown~~ Olive; Gray; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	No Hc odor
L1	133	0.11	12.4	3.2	Light Dark; Tan ~~Brown~~ Olive; Gray; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	No Hc odor
L2	1337	0.12	13.4	4.3	Light Dark; Tan ~~Brown~~ Olive; Gray; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	No Hc odor
L3	158	0.08	15.4	12.1	Light Dark; Tan Brown Olive; Gray; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	No Hc odor
L12	212	0.20	15.4	6.5	Light Dark; Tan ~~Brown~~ Olive; Gray; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	No HC odor
					Light Dark; Tan Brown Olive; Gray; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	Dry Moist Wet	
					Light Dark; Tan Brown Olive; Gray; Yellow Red	Gravel Rock; Sand Silt; Clay	Dry Moist Wet	

Photo Log

Photo Taken March 19, 2019

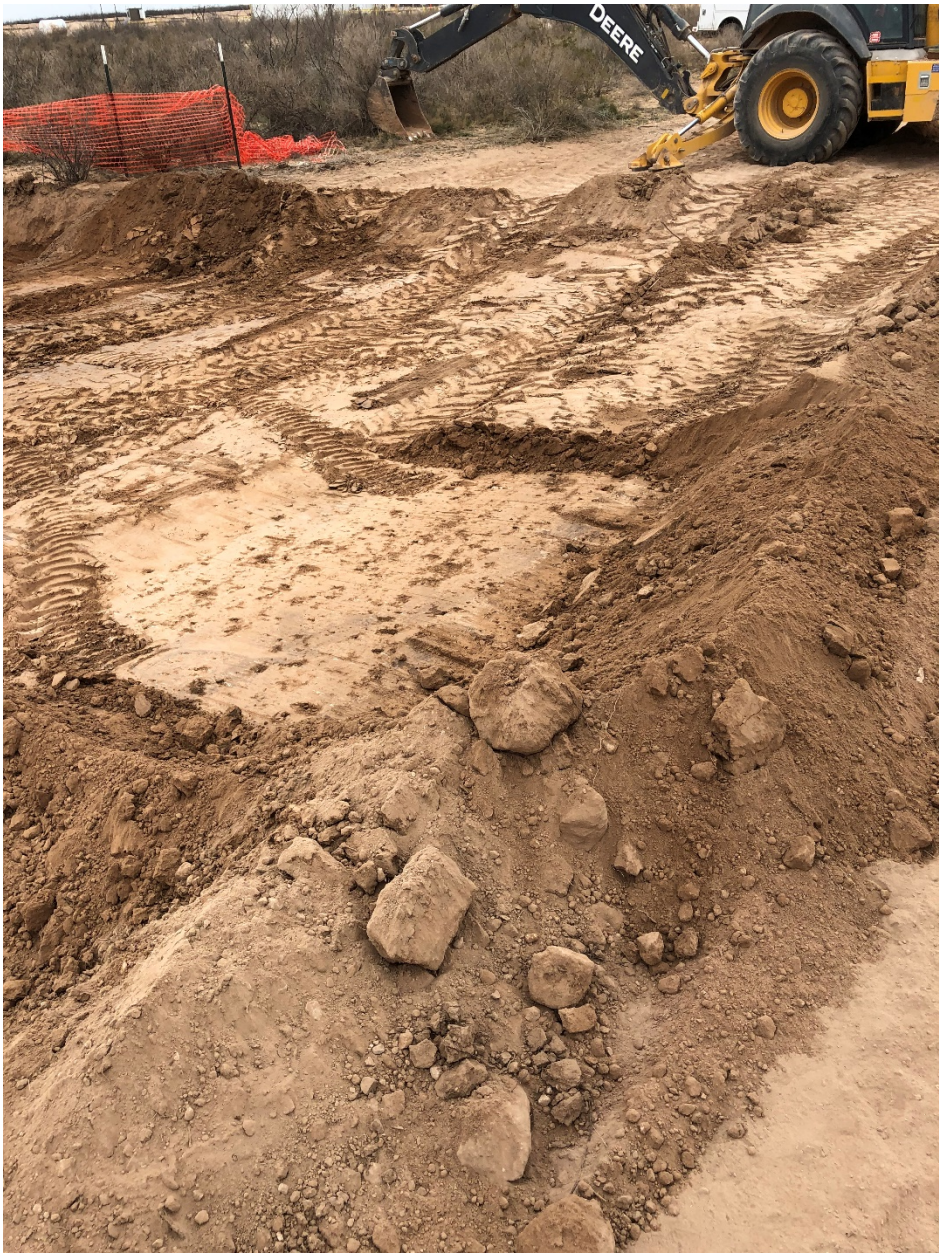
Facing north

32.20899, -104.17185

Photo Taken March 20, 2019

Facing North

32.21001, -104.17182



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

November 12, 2018

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

RE: Black River 4H OrderNo.: 1811331

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 11 sample(s) on 11/7/2018 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1
Project: Black River 4H
Collection Date: 11/5/2018 2:18:00 AM
Lab ID: 1811331-001 **Matrix:** SOIL **Received Date:** 11/7/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	360	30		mg/Kg	20	11/9/2018 12:24:21 PM	41445
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	17000	970		mg/Kg	100	11/9/2018 11:15:17 AM	41421
Motor Oil Range Organics (MRO)	7900	4900		mg/Kg	100	11/9/2018 11:15:17 AM	41421
Surr: DNOP	0	50.6-138	S	%Rec	100	11/9/2018 11:15:17 AM	41421
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	360	4.8		mg/Kg	1	11/8/2018 10:50:53 AM	41412
Surr: BFB	1740	73.8-119	S	%Rec	1	11/8/2018 10:50:53 AM	41412
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/8/2018 10:50:53 AM	41412
Toluene	1.6	0.048		mg/Kg	1	11/8/2018 10:50:53 AM	41412
Ethylbenzene	0.95	0.048		mg/Kg	1	11/8/2018 10:50:53 AM	41412
Xylenes, Total	12	0.095		mg/Kg	1	11/8/2018 10:50:53 AM	41412
Surr: 4-Bromofluorobenzene	331	80-120	S	%Rec	1	11/8/2018 10:50:53 AM	41412

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2
Project: Black River 4H
Collection Date: 11/5/2018 2:24:00 AM
Lab ID: 1811331-002 **Matrix:** SOIL **Received Date:** 11/7/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	300	30		mg/Kg	20	11/9/2018 12:36:46 PM	41445
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/9/2018 11:59:14 AM	41421
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/9/2018 11:59:14 AM	41421
Surr: DNOP	94.9	50.6-138		%Rec	1	11/9/2018 11:59:14 AM	41421
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/8/2018 12:48:36 PM	41412
Surr: BFB	97.2	73.8-119		%Rec	1	11/8/2018 12:48:36 PM	41412
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/8/2018 12:48:36 PM	41412
Toluene	ND	0.048		mg/Kg	1	11/8/2018 12:48:36 PM	41412
Ethylbenzene	ND	0.048		mg/Kg	1	11/8/2018 12:48:36 PM	41412
Xylenes, Total	ND	0.096		mg/Kg	1	11/8/2018 12:48:36 PM	41412
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	11/8/2018 12:48:36 PM	41412

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3
Project: Black River 4H
Collection Date: 11/5/2018 2:35:00 AM
Lab ID: 1811331-003 **Matrix:** SOIL **Received Date:** 11/7/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	470	30		mg/Kg	20	11/9/2018 1:38:49 PM	41445
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	17000	970		mg/Kg	100	11/9/2018 1:45:24 PM	41421
Motor Oil Range Organics (MRO)	7800	4900		mg/Kg	100	11/9/2018 1:45:24 PM	41421
Surr: DNOP	0	50.6-138	S	%Rec	100	11/9/2018 1:45:24 PM	41421
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	360	24		mg/Kg	5	11/8/2018 9:57:43 AM	41412
Surr: BFB	816	73.8-119	S	%Rec	5	11/8/2018 9:57:43 AM	41412
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.12		mg/Kg	5	11/8/2018 9:57:43 AM	41412
Toluene	ND	0.24		mg/Kg	5	11/8/2018 9:57:43 AM	41412
Ethylbenzene	ND	0.24		mg/Kg	5	11/8/2018 9:57:43 AM	41412
Xylenes, Total	ND	0.49		mg/Kg	5	11/8/2018 9:57:43 AM	41412
Surr: 4-Bromofluorobenzene	122	80-120	S	%Rec	5	11/8/2018 9:57:43 AM	41412

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L4
Project: Black River 4H
Collection Date: 11/6/2018 9:03:00 AM
Lab ID: 1811331-004 **Matrix:** SOIL **Received Date:** 11/7/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	1000	30		mg/Kg	20	11/9/2018 1:51:13 PM	41445
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/9/2018 2:07:26 PM	41421
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/9/2018 2:07:26 PM	41421
Surr: DNOP	91.4	50.6-138		%Rec	1	11/9/2018 2:07:26 PM	41421
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/8/2018 1:58:44 PM	41412
Surr: BFB	90.4	73.8-119		%Rec	1	11/8/2018 1:58:44 PM	41412
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	11/8/2018 1:58:44 PM	41412
Toluene	ND	0.047		mg/Kg	1	11/8/2018 1:58:44 PM	41412
Ethylbenzene	ND	0.047		mg/Kg	1	11/8/2018 1:58:44 PM	41412
Xylenes, Total	ND	0.094		mg/Kg	1	11/8/2018 1:58:44 PM	41412
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	11/8/2018 1:58:44 PM	41412

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L5
Project: Black River 4H
Collection Date: 11/6/2018 9:20:00 AM
Lab ID: 1811331-005 **Matrix:** SOIL **Received Date:** 11/7/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	270	30		mg/Kg	20	11/9/2018 2:03:37 PM	41445
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	11/9/2018 2:29:33 PM	41421
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/9/2018 2:29:33 PM	41421
Surr: DNOP	94.2	50.6-138		%Rec	1	11/9/2018 2:29:33 PM	41421
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/8/2018 2:22:00 PM	41412
Surr: BFB	91.9	73.8-119		%Rec	1	11/8/2018 2:22:00 PM	41412
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	11/8/2018 2:22:00 PM	41412
Toluene	ND	0.049		mg/Kg	1	11/8/2018 2:22:00 PM	41412
Ethylbenzene	ND	0.049		mg/Kg	1	11/8/2018 2:22:00 PM	41412
Xylenes, Total	ND	0.098		mg/Kg	1	11/8/2018 2:22:00 PM	41412
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	11/8/2018 2:22:00 PM	41412

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L6
Project: Black River 4H
Collection Date: 11/6/2018 9:24:00 AM
Lab ID: 1811331-006 **Matrix:** SOIL **Received Date:** 11/7/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	310	30		mg/Kg	20	11/9/2018 2:16:02 PM	41445
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/9/2018 3:13:39 PM	41421
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/9/2018 3:13:39 PM	41421
Surr: DNOP	95.3	50.6-138		%Rec	1	11/9/2018 3:13:39 PM	41421
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/8/2018 2:45:22 PM	41412
Surr: BFB	92.4	73.8-119		%Rec	1	11/8/2018 2:45:22 PM	41412
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	11/8/2018 2:45:22 PM	41412
Toluene	ND	0.049		mg/Kg	1	11/8/2018 2:45:22 PM	41412
Ethylbenzene	ND	0.049		mg/Kg	1	11/8/2018 2:45:22 PM	41412
Xylenes, Total	ND	0.097		mg/Kg	1	11/8/2018 2:45:22 PM	41412
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	11/8/2018 2:45:22 PM	41412

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L7
Project: Black River 4H
Collection Date: 11/6/2018 10:35:00 AM
Lab ID: 1811331-007 **Matrix:** SOIL **Received Date:** 11/7/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	250	30		mg/Kg	20	11/9/2018 2:28:27 PM	41445
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	190	9.8		mg/Kg	1	11/9/2018 3:36:02 PM	41421
Motor Oil Range Organics (MRO)	97	49		mg/Kg	1	11/9/2018 3:36:02 PM	41421
Surr: DNOP	102	50.6-138		%Rec	1	11/9/2018 3:36:02 PM	41421
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/8/2018 3:08:49 PM	41412
Surr: BFB	102	73.8-119		%Rec	1	11/8/2018 3:08:49 PM	41412
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	11/8/2018 3:08:49 PM	41412
Toluene	ND	0.048		mg/Kg	1	11/8/2018 3:08:49 PM	41412
Ethylbenzene	ND	0.048		mg/Kg	1	11/8/2018 3:08:49 PM	41412
Xylenes, Total	ND	0.096		mg/Kg	1	11/8/2018 3:08:49 PM	41412
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	11/8/2018 3:08:49 PM	41412

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L8
Project: Black River 4H
Collection Date: 11/6/2018 10:52:00 AM
Lab ID: 1811331-008 **Matrix:** SOIL **Received Date:** 11/7/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	240	30		mg/Kg	20	11/9/2018 8:47:18 PM	41452
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	130	9.3		mg/Kg	1	11/9/2018 3:58:04 PM	41421
Motor Oil Range Organics (MRO)	98	46		mg/Kg	1	11/9/2018 3:58:04 PM	41421
Surr: DNOP	121	50.6-138		%Rec	1	11/9/2018 3:58:04 PM	41421
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/8/2018 3:32:22 PM	41412
Surr: BFB	92.6	73.8-119		%Rec	1	11/8/2018 3:32:22 PM	41412
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/8/2018 3:32:22 PM	41412
Toluene	ND	0.048		mg/Kg	1	11/8/2018 3:32:22 PM	41412
Ethylbenzene	ND	0.048		mg/Kg	1	11/8/2018 3:32:22 PM	41412
Xylenes, Total	ND	0.095		mg/Kg	1	11/8/2018 3:32:22 PM	41412
Surr: 4-Bromofluorobenzene	99.4	80-120		%Rec	1	11/8/2018 3:32:22 PM	41412

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L9
Project: Black River 4H
Collection Date: 11/6/2018 11:16:00 AM
Lab ID: 1811331-009 **Matrix:** SOIL **Received Date:** 11/7/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	87	30		mg/Kg	20	11/9/2018 8:59:42 PM	41452
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	27	9.8		mg/Kg	1	11/9/2018 4:20:11 PM	41421
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/9/2018 4:20:11 PM	41421
Surr: DNOP	106	50.6-138		%Rec	1	11/9/2018 4:20:11 PM	41421
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/8/2018 3:55:58 PM	41412
Surr: BFB	88.7	73.8-119		%Rec	1	11/8/2018 3:55:58 PM	41412
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	11/8/2018 3:55:58 PM	41412
Toluene	ND	0.046		mg/Kg	1	11/8/2018 3:55:58 PM	41412
Ethylbenzene	ND	0.046		mg/Kg	1	11/8/2018 3:55:58 PM	41412
Xylenes, Total	ND	0.092		mg/Kg	1	11/8/2018 3:55:58 PM	41412
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/8/2018 3:55:58 PM	41412

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L10
Project: Black River 4H
Collection Date: 11/6/2018 11:48:00 AM
Lab ID: 1811331-010 **Matrix:** SOIL **Received Date:** 11/7/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	30		mg/Kg	20	11/9/2018 9:36:57 PM	41452
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/9/2018 4:42:15 PM	41421
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/9/2018 4:42:15 PM	41421
Surr: DNOP	92.0	50.6-138		%Rec	1	11/9/2018 4:42:15 PM	41421
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/8/2018 6:16:49 PM	41412
Surr: BFB	89.1	73.8-119		%Rec	1	11/8/2018 6:16:49 PM	41412
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	11/8/2018 6:16:49 PM	41412
Toluene	ND	0.048		mg/Kg	1	11/8/2018 6:16:49 PM	41412
Ethylbenzene	ND	0.048		mg/Kg	1	11/8/2018 6:16:49 PM	41412
Xylenes, Total	ND	0.096		mg/Kg	1	11/8/2018 6:16:49 PM	41412
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	11/8/2018 6:16:49 PM	41412

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L11
Project: Black River 4H
Collection Date: 11/6/2018 12:45:00 PM
Lab ID: 1811331-011
Matrix: SOIL
Received Date: 11/7/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	170	30		mg/Kg	20	11/9/2018 9:49:21 PM	41452
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	21	9.6		mg/Kg	1	11/9/2018 5:04:22 PM	41421
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/9/2018 5:04:22 PM	41421
Surr: DNOP	97.7	50.6-138		%Rec	1	11/9/2018 5:04:22 PM	41421
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/8/2018 6:40:17 PM	41412
Surr: BFB	89.4	73.8-119		%Rec	1	11/8/2018 6:40:17 PM	41412
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	11/8/2018 6:40:17 PM	41412
Toluene	ND	0.048		mg/Kg	1	11/8/2018 6:40:17 PM	41412
Ethylbenzene	ND	0.048		mg/Kg	1	11/8/2018 6:40:17 PM	41412
Xylenes, Total	ND	0.097		mg/Kg	1	11/8/2018 6:40:17 PM	41412
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	11/8/2018 6:40:17 PM	41412

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811331**

12-Nov-18

Client: Souder, Miller & Associates

Project: Black River 4H

Sample ID	**MB-41452**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**41452**	RunNo:	**55558**					
Prep Date:	**11/9/2018**	Analysis Date:	**11/9/2018**	SeqNo:	**1850186**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-41452**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**41452**	RunNo:	**55558**					
Prep Date:	**11/9/2018**	Analysis Date:	**11/9/2018**	SeqNo:	**1850187**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.0	90	110			

Sample ID	**MB-41445**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**41445**	RunNo:	**55543**					
Prep Date:	**11/9/2018**	Analysis Date:	**11/9/2018**	SeqNo:	**1850235**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-41445**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**41445**	RunNo:	**55543**					
Prep Date:	**11/9/2018**	Analysis Date:	**11/9/2018**	SeqNo:	**1850236**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	99.4	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811331**

12-Nov-18

Client: Souder, Miller & Associates

Project: Black River 4H

Sample ID	**LCS-41421**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**41421**		RunNo:	**55534**				
Prep Date:	**11/8/2018**	Analysis Date:	**11/9/2018**		SeqNo:	**1849540**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	88.5	70	130			
Surr: DNOP	3.8		5.000		75.3	50.6	138			

Sample ID	**MB-41421**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**41421**		RunNo:	**55534**				
Prep Date:	**11/8/2018**	Analysis Date:	**11/9/2018**		SeqNo:	**1849541**	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	8.2		10.00		81.5	50.6	138			

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811331**

12-Nov-18

Client: Souder, Miller & Associates

Project: Black River 4H

Sample ID	**MB-41412**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**41412**	RunNo:	**55519**					
Prep Date:	**11/7/2018**	Analysis Date:	**11/8/2018**	SeqNo:	**1848374**	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	940		1000		94.2	73.8	119			

Sample ID	**LCS-41412**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**41412**	RunNo:	**55519**					
Prep Date:	**11/7/2018**	Analysis Date:	**11/8/2018**	SeqNo:	**1848375**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	80.1	123			
Surr: BFB	1100		1000		105	73.8	119			

Sample ID	**1811331-001AMS**	SampType:	**MS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**L1**	Batch ID:	**41412**	RunNo:	**55519**					
Prep Date:	**11/7/2018**	Analysis Date:	**11/8/2018**	SeqNo:	**1848378**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	380	4.8	24.04	358.5	93.4	77.8	128			
Surr: BFB	17000		961.5		1760	73.8	119			S

Sample ID	**1811331-001AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**L1**	Batch ID:	**41412**	RunNo:	**55519**					
Prep Date:	**11/7/2018**	Analysis Date:	**11/8/2018**	SeqNo:	**1848379**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	370	4.9	24.27	358.5	48.5	77.8	128	2.84	20	S
Surr: BFB	16000		970.9		1680	73.8	119	0	0	S

Sample ID	**MB-41429**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**41429**	RunNo:	**55537**					
Prep Date:	**11/8/2018**	Analysis Date:	**11/9/2018**	SeqNo:	**1850020**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	900		1000		90.5	73.8	119			

Sample ID	**LCS-41429**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**41429**	RunNo:	**55537**					
Prep Date:	**11/8/2018**	Analysis Date:	**11/9/2018**	SeqNo:	**1850021**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		110	73.8	119			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811331**

12-Nov-18

Client: Souder, Miller & Associates

Project: Black River 4H

Sample ID	**MB-41412**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**41412**	RunNo:	**55519**					
Prep Date:	**11/7/2018**	Analysis Date:	**11/8/2018**	SeqNo:	**1848394**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID	**LCS-41412**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**41412**	RunNo:	**55519**					
Prep Date:	**11/7/2018**	Analysis Date:	**11/8/2018**	SeqNo:	**1848395**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.6	80	120			
Toluene	0.98	0.050	1.000	0	97.5	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.8	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.8	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID	**MB-41429**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**41429**	RunNo:	**55537**					
Prep Date:	**11/8/2018**	Analysis Date:	**11/9/2018**	SeqNo:	**1850035**	Units:	**%Rec**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID	**LCS-41429**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**41429**	RunNo:	**55537**					
Prep Date:	**11/8/2018**	Analysis Date:	**11/9/2018**	SeqNo:	**1850036**	Units:	**%Rec**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1811331** RcptNo: **1**

Received By: **Victoria Zellar** **11/7/2018 8:50:00 AM** Victoria Zellar

Completed By: **Ashley Gallegos** **11/7/2018 9:50:55 AM**

Reviewed By: VVZ 11/7/18

labeled by: IO 11/7/18

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	IO 11/7/18
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? _____
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 ☐	Checked by: _____

Special Handling (if applicable)

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

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

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.6	Good	Yes			

Chain-of-Custody Record

Client: SMA - C'bad

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day

☐ Standard ☒ Rush

Project Name: Black River 4 H

Project #:

Project Manager: Austin Weyant

Sampler: Heath Catteran

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1811331	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
11/5/18	2:18	Soil	L1	4oz		-001	X		X					X								
11/5/18	2:24		L2			-002	X		X					X								
11/5/18	2:35		L3			-003	X		X					X								
11/6/18	9:03		L4			-004	X		X					X								
	9:20		L5			-005	X		X					X								
	9:24		L6			-006	X		X					X								
	10:35		L7			-007	X		X					X								
	10:52		L8			-008	X		X					X								
	11:14		L9			-009	X		X					X								
	11:48		L10			-010	X		X					X								
	12:45		L11			-011	X		X					X								

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/6/18	1510	[signature]	[signature]	11/6/18	1510
11/6/18	1910	[signature]	Courier 11/7/18 8:50 Victoria Zellar	11/7/18	8:50

Remarks: Marathon

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

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

January 14, 2019

Austin Weyant

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

RE: Black River 4H OrderNo.: 1901248

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 6 sample(s) on 1/9/2019 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1901248**
Date Reported: **1/14/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L4-1
Project: Black River 4H
Collection Date: 1/4/2019 11:00:00 AM
Lab ID: 1901248-001 **Matrix:** SOIL **Received Date:** 1/9/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	100	30		mg/Kg	20	1/12/2019 5:37:10 AM	42565

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L12-0.5
Project: Black River 4H
Collection Date: 1/4/2019 10:05:00 AM
Lab ID: 1901248-002 **Matrix:** SOIL **Received Date:** 1/9/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	210	30		mg/Kg	20	1/12/2019 5:49:35 AM	42565
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	1/10/2019 6:30:48 PM	42516
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/10/2019 6:30:48 PM	42516
Surr: DNOP	113	50.6-138		%Rec	1	1/10/2019 6:30:48 PM	42516
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/10/2019 10:40:13 PM	42514
Surr: BFB	100	73.8-119		%Rec	1	1/10/2019 10:40:13 PM	42514

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L12-1
Project: Black River 4H
Collection Date: 1/4/2019 11:21:00 AM
Lab ID: 1901248-003 **Matrix:** SOIL **Received Date:** 1/9/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/10/2019 6:52:42 PM	42516
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/10/2019 6:52:42 PM	42516
Surr: DNOP	93.4	50.6-138		%Rec	1	1/10/2019 6:52:42 PM	42516
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/10/2019 11:03:50 PM	42514
Surr: BFB	100	73.8-119		%Rec	1	1/10/2019 11:03:50 PM	42514

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-2
Project: Black River 4H
Collection Date: 1/4/2019 11:33:00 AM
Lab ID: 1901248-004 **Matrix:** SOIL **Received Date:** 1/9/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/10/2019 7:14:22 PM	42516
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/10/2019 7:14:22 PM	42516
Surr: DNOP	93.6	50.6-138		%Rec	1	1/10/2019 7:14:22 PM	42516
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/10/2019 11:27:16 PM	42514
Surr: BFB	96.6	73.8-119		%Rec	1	1/10/2019 11:27:16 PM	42514

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-1
Project: Black River 4H
Collection Date: 1/4/2019 12:02:00 PM
Lab ID: 1901248-005 **Matrix:** SOIL **Received Date:** 1/9/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	1/10/2019 7:36:15 PM	42516
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/10/2019 7:36:15 PM	42516
Surr: DNOP	113	50.6-138		%Rec	1	1/10/2019 7:36:15 PM	42516
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/10/2019 11:50:50 PM	42514
Surr: BFB	98.1	73.8-119		%Rec	1	1/10/2019 11:50:50 PM	42514

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-2
Project: Black River 4H
Collection Date: 1/4/2019 12:03:00 PM
Lab ID: 1901248-006 **Matrix:** SOIL **Received Date:** 1/9/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	24	9.7		mg/Kg	1	1/10/2019 7:58:00 PM	42516
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/10/2019 7:58:00 PM	42516
Surr: DNOP	101	50.6-138		%Rec	1	1/10/2019 7:58:00 PM	42516
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/10/2019 2:58:29 PM	42514
Surr: BFB	92.4	73.8-119		%Rec	1	1/10/2019 2:58:29 PM	42514

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1901248**

14-Jan-19

Client: Souder, Miller & Associates

Project: Black River 4H

Sample ID	**MB-42565**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**42565**	RunNo:	**56965**					
Prep Date:	**1/11/2019**	Analysis Date:	**1/12/2019**	SeqNo:	**1905579**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-42565**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**42565**	RunNo:	**56965**					
Prep Date:	**1/11/2019**	Analysis Date:	**1/12/2019**	SeqNo:	**1905580**	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.	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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1901248**

14-Jan-19

Client: Souder, Miller & Associates

Project: Black River 4H

Sample ID	**LCS-42516**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**42516**		RunNo:	**56890**				
Prep Date:	**1/9/2019**	Analysis Date:	**1/10/2019**		SeqNo:	**1903681**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	70	130			
Surr: DNOP	4.5		5.000		90.1	50.6	138			

Sample ID	**MB-42516**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**42516**		RunNo:	**56890**				
Prep Date:	**1/9/2019**	Analysis Date:	**1/10/2019**		SeqNo:	**1903682**	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	8.5		10.00		85.2	50.6	138			

Sample ID	**1901248-006AMS**	SampType:	**MS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**L1-2**	Batch ID:	**42516**		RunNo:	**56890**				
Prep Date:	**1/9/2019**	Analysis Date:	**1/10/2019**		SeqNo:	**1904497**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	79	9.9	49.36	23.53	112	53.5	126			
Surr: DNOP	6.5		4.936		131	50.6	138			

Sample ID	**1901248-006AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**L1-2**	Batch ID:	**42516**		RunNo:	**56890**				
Prep Date:	**1/9/2019**	Analysis Date:	**1/10/2019**		SeqNo:	**1904498**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	61	9.7	48.64	23.53	76.7	53.5	126	26.0	21.7	R
Surr: DNOP	5.2		4.864		106	50.6	138	0	0	

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1901248**

14-Jan-19

Client: Souder, Miller & Associates

Project: Black River 4H

Sample ID	**MB-42518**	SampType: **MBLK**			TestCode: **EPA Method 8015D: Gasoline Range**				
Client ID:	**PBS**	Batch ID: **42518**			RunNo: **56885**				
Prep Date:	**1/9/2019**	Analysis Date: **1/10/2019**			SeqNo: **1904141**	Units: **%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	970		1000		97.3	73.8	119			

Sample ID	**LCS-42518**	SampType: **LCS**			TestCode: **EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSS**	Batch ID: **42518**			RunNo: **56885**				
Prep Date:	**1/9/2019**	Analysis Date: **1/10/2019**			SeqNo: **1904142**	Units: **%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		110	73.8	119			

Sample ID	**MB-42514**	SampType: **MBLK**			TestCode: **EPA Method 8015D: Gasoline Range**				
Client ID:	**PBS**	Batch ID: **42514**			RunNo: **56885**				
Prep Date:	**1/9/2019**	Analysis Date: **1/10/2019**			SeqNo: **1904148**	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	940		1000		94.1	73.8	119			

Sample ID	**LCS-42514**	SampType: **LCS**			TestCode: **EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSS**	Batch ID: **42514**			RunNo: **56885**				
Prep Date:	**1/9/2019**	Analysis Date: **1/10/2019**			SeqNo: **1904149**	Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	80.1	123			
Surr: BFB	1100		1000		110	73.8	119			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1901248** RcptNo: 1

Received By: **Victoria Zellar** **1/9/2019 8:45:00 AM** Victoria Zellar

Completed By: **Desiree Dominguez** **1/9/2019 9:52:41 AM** DD

Reviewed By: ENM 1/9/19

LB: LB 1/9/19

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (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: ____

ENM 1/9/19

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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.1	Good	Yes			

Chain-of-Custody Record

Client: SMA Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 5 day turn
☐ Standard ☐ Rush

Project Name: Black River 4H

Project #:

Project Manager: A. Weyant

Sampler: LAA

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.1°c

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1901248	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, ~~NO3, NO2, PO4, SO4~~	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
1.4	1100	soil	L4-1	4oz		-001							X			
1.4	1005		L12-0.5			-002		X					X			
1.4	11:21		L12-1			-003		X								
1.4	11:33		L3-2			-004		X								
1.4	1202		L1-1			-005		X								
1.4	1203	↓	L1-2	↓		-006		X								

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
1.7	2:30	Samantha Watson				
1/8/19	1900			Courier	1/8/19	1400
			Victoria Vallan		1/9/19	8:45

Remarks: Marathon

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

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

April 01, 2019

Heather Patterson

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

RE: Black River 4H OrderNo.: 1903A86

Dear Heather Patterson:

Hall Environmental Analysis Laboratory received 16 sample(s) on 3/22/2019 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CS1
Project: Black River 4H
Collection Date: 3/20/2019 1:33:00 PM
Lab ID: 1903A86-001 **Matrix:** SOIL **Received Date:** 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	3/26/2019 3:50:07 PM	43878
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/28/2019 8:46:22 PM	43863
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	3/28/2019 8:46:22 PM	43863
Surr: DNOP	97.2	70-130		%Rec	1	3/28/2019 8:46:22 PM	43863
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/27/2019 7:30:08 PM	43840
Surr: BFB	90.0	73.8-119		%Rec	1	3/27/2019 7:30:08 PM	43840
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	3/27/2019 7:30:08 PM	43840
Toluene	ND	0.049		mg/Kg	1	3/27/2019 7:30:08 PM	43840
Ethylbenzene	ND	0.049		mg/Kg	1	3/27/2019 7:30:08 PM	43840
Xylenes, Total	ND	0.097		mg/Kg	1	3/27/2019 7:30:08 PM	43840
Surr: 4-Bromofluorobenzene	93.1	80-120		%Rec	1	3/27/2019 7:30:08 PM	43840

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

Qualifiers:

H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CS2
Project: Black River 4H
Collection Date: 3/20/2019 1:37:00 PM
Lab ID: 1903A86-002 **Matrix:** SOIL **Received Date:** 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	3/26/2019 4:27:21 PM	43878
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/28/2019 9:53:23 PM	43863
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/28/2019 9:53:23 PM	43863
Surr: DNOP	90.1	70-130		%Rec	1	3/28/2019 9:53:23 PM	43863
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/27/2019 7:53:26 PM	43840
Surr: BFB	89.0	73.8-119		%Rec	1	3/27/2019 7:53:26 PM	43840

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CS3
Project: Black River 4H
Collection Date: 3/20/2019 1:58:00 PM
Lab ID: 1903A86-003 **Matrix:** SOIL **Received Date:** 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	3/26/2019 4:39:46 PM	43878
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/28/2019 10:15:52 PM	43863
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/28/2019 10:15:52 PM	43863
Surr: DNOP	85.5	70-130		%Rec	1	3/28/2019 10:15:52 PM	43863
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/27/2019 8:16:45 PM	43840
Surr: BFB	90.5	73.8-119		%Rec	1	3/27/2019 8:16:45 PM	43840
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	3/27/2019 8:16:45 PM	43840
Toluene	ND	0.049		mg/Kg	1	3/27/2019 8:16:45 PM	43840
Ethylbenzene	ND	0.049		mg/Kg	1	3/27/2019 8:16:45 PM	43840
Xylenes, Total	ND	0.098		mg/Kg	1	3/27/2019 8:16:45 PM	43840
Surr: 4-Bromofluorobenzene	92.7	80-120		%Rec	1	3/27/2019 8:16:45 PM	43840

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CS4
Project: Black River 4H
Collection Date: 3/19/2019 2:36:00 PM
Lab ID: 1903A86-004 **Matrix:** SOIL **Received Date:** 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	3/26/2019 4:52:11 PM	43878
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/29/2019 12:44:49 PM	43863
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/29/2019 12:44:49 PM	43863
Surr: DNOP	76.7	70-130		%Rec	1	3/29/2019 12:44:49 PM	43863
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/27/2019 8:40:06 PM	43840
Surr: BFB	89.5	73.8-119		%Rec	1	3/27/2019 8:40:06 PM	43840

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CS5
Project: Black River 4H
Collection Date: 3/19/2019 1:50:00 PM
Lab ID: 1903A86-005 **Matrix:** SOIL **Received Date:** 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	59		mg/Kg	20	3/27/2019 2:44:19 PM	43904
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/28/2019 11:00:34 PM	43863
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/28/2019 11:00:34 PM	43863
Surr: DNOP	111	70-130		%Rec	1	3/28/2019 11:00:34 PM	43863
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/27/2019 9:03:25 PM	43840
Surr: BFB	91.1	73.8-119		%Rec	1	3/27/2019 9:03:25 PM	43840

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CS6
Project: Black River 4H
Collection Date: 3/19/2019 11:50:00 AM
Lab ID: 1903A86-006 **Matrix:** SOIL
Received Date: 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	3/27/2019 3:21:32 PM	43904
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/28/2019 11:22:47 PM	43863
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/28/2019 11:22:47 PM	43863
Surr: DNOP	86.8	70-130		%Rec	1	3/28/2019 11:22:47 PM	43863
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/27/2019 9:26:43 PM	43840
Surr: BFB	90.1	73.8-119		%Rec	1	3/27/2019 9:26:43 PM	43840
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	3/27/2019 9:26:43 PM	43840
Toluene	ND	0.047		mg/Kg	1	3/27/2019 9:26:43 PM	43840
Ethylbenzene	ND	0.047		mg/Kg	1	3/27/2019 9:26:43 PM	43840
Xylenes, Total	ND	0.093		mg/Kg	1	3/27/2019 9:26:43 PM	43840
Surr: 4-Bromofluorobenzene	93.5	80-120		%Rec	1	3/27/2019 9:26:43 PM	43840

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

Qualifiers:

H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CS12
Project: Black River 4H
Collection Date: 3/20/2019 2:12:00 PM
Lab ID: 1903A86-007 **Matrix:** SOIL **Received Date:** 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	430	60		mg/Kg	20	3/27/2019 3:33:56 PM	43904
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/28/2019 11:45:12 PM	43863
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	3/28/2019 11:45:12 PM	43863
Surr: DNOP	133	70-130	S	%Rec	1	3/28/2019 11:45:12 PM	43863
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/27/2019 9:50:00 PM	43840
Surr: BFB	90.8	73.8-119		%Rec	1	3/27/2019 9:50:00 PM	43840

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW1
Project: Black River 4H
Collection Date: 3/20/2019 1:00:00 PM
Lab ID: 1903A86-008 **Matrix:** SOIL
Received Date: 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	3/27/2019 4:11:09 PM	43904
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/29/2019 12:07:27 AM	43863
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/29/2019 12:07:27 AM	43863
Surr: DNOP	96.4	70-130		%Rec	1	3/29/2019 12:07:27 AM	43863
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/27/2019 10:13:23 PM	43840
Surr: BFB	90.3	73.8-119		%Rec	1	3/27/2019 10:13:23 PM	43840
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	3/27/2019 10:13:23 PM	43840
Toluene	ND	0.049		mg/Kg	1	3/27/2019 10:13:23 PM	43840
Ethylbenzene	ND	0.049		mg/Kg	1	3/27/2019 10:13:23 PM	43840
Xylenes, Total	ND	0.098		mg/Kg	1	3/27/2019 10:13:23 PM	43840
Surr: 4-Bromofluorobenzene	93.0	80-120		%Rec	1	3/27/2019 10:13:23 PM	43840

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW2
Project: Black River 4H
Collection Date: 3/20/2019 12:11:00 PM
Lab ID: 1903A86-009 **Matrix:** SOIL
Received Date: 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	3/27/2019 4:23:34 PM	43904
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/29/2019 12:29:42 AM	43863
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	3/29/2019 12:29:42 AM	43863
Surr: DNOP	119	70-130		%Rec	1	3/29/2019 12:29:42 AM	43863
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/27/2019 10:36:41 PM	43840
Surr: BFB	91.7	73.8-119		%Rec	1	3/27/2019 10:36:41 PM	43840

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

Qualifiers:

H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW3
Project: Black River 4H
Collection Date: 3/20/2019 9:50:00 AM
Lab ID: 1903A86-010 **Matrix:** SOIL
Received Date: 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	3/27/2019 4:35:59 PM	43904
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/29/2019 12:51:58 AM	43863
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/29/2019 12:51:58 AM	43863
Surr: DNOP	109	70-130		%Rec	1	3/29/2019 12:51:58 AM	43863
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/26/2019 12:40:56 AM	43828
Surr: BFB	91.2	73.8-119		%Rec	1	3/26/2019 12:40:56 AM	43828
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	3/26/2019 12:40:56 AM	43828
Toluene	ND	0.049		mg/Kg	1	3/26/2019 12:40:56 AM	43828
Ethylbenzene	ND	0.049		mg/Kg	1	3/26/2019 12:40:56 AM	43828
Xylenes, Total	ND	0.099		mg/Kg	1	3/26/2019 12:40:56 AM	43828
Surr: 4-Bromofluorobenzene	96.6	80-120		%Rec	1	3/26/2019 12:40:56 AM	43828

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

Qualifiers:

H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW4
Project: Black River 4H
Collection Date: 3/19/2019 2:58:00 PM
Lab ID: 1903A86-011 **Matrix:** SOIL **Received Date:** 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	3/27/2019 4:48:23 PM	43904
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/29/2019 1:14:20 AM	43863
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/29/2019 1:14:20 AM	43863
Surr: DNOP	116	70-130		%Rec	1	3/29/2019 1:14:20 AM	43863
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/26/2019 1:04:25 AM	43828
Surr: BFB	90.5	73.8-119		%Rec	1	3/26/2019 1:04:25 AM	43828

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW5
Project: Black River 4H
Collection Date: 3/19/2019 2:06:00 PM
Lab ID: 1903A86-012 **Matrix:** SOIL **Received Date:** 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	3/27/2019 2:40:14 PM	43905
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/29/2019 1:36:33 AM	43863
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/29/2019 1:36:33 AM	43863
Surr: DNOP	114	70-130		%Rec	1	3/29/2019 1:36:33 AM	43863
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/26/2019 1:27:53 AM	43828
Surr: BFB	90.2	73.8-119		%Rec	1	3/26/2019 1:27:53 AM	43828

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW6
Project: Black River 4H
Collection Date: 3/19/2019 2:01:00 PM
Lab ID: 1903A86-013 **Matrix:** SOIL **Received Date:** 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	79	60		mg/Kg	20	3/27/2019 3:17:28 PM	43905
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/28/2019 5:10:10 AM	43853
Surr: BFB	107	70-130		%Rec	1	3/28/2019 5:10:10 AM	43853
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/29/2019 1:58:51 AM	43863
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/29/2019 1:58:51 AM	43863
Surr: DNOP	91.8	70-130		%Rec	1	3/29/2019 1:58:51 AM	43863

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW7
Project: Black River 4H
Collection Date: 3/19/2019 12:25:00 PM
Lab ID: 1903A86-014 **Matrix:** SOIL **Received Date:** 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	74	60		mg/Kg	20	3/27/2019 3:54:42 PM	43905
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/28/2019 5:38:49 AM	43853
Surr: BFB	106	70-130		%Rec	1	3/28/2019 5:38:49 AM	43853
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/29/2019 2:20:55 AM	43863
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/29/2019 2:20:55 AM	43863
Surr: DNOP	98.2	70-130		%Rec	1	3/29/2019 2:20:55 AM	43863

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

Qualifiers:

H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW8
Project: Black River 4H
Collection Date: 3/19/2019 12:15:00 PM
Lab ID: 1903A86-015 **Matrix:** SOIL **Received Date:** 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	310	60		mg/Kg	20	3/27/2019 4:07:07 PM	43905
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/28/2019 6:07:23 AM	43853
Surr: BFB	108	70-130		%Rec	1	3/28/2019 6:07:23 AM	43853
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/29/2019 2:13:18 PM	43961
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/29/2019 2:13:18 PM	43961
Surr: DNOP	74.5	70-130		%Rec	1	3/29/2019 2:13:18 PM	43961

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

Qualifiers:

H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW9
Project: Black River 4H
Collection Date: 3/19/2019 12:01:00 PM
Lab ID: 1903A86-016 **Matrix:** SOIL
Received Date: 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	3/27/2019 4:19:31 PM	43905
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/28/2019 6:36:00 AM	43853
Surr: BFB	106	70-130		%Rec	1	3/28/2019 6:36:00 AM	43853
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/29/2019 1:29:09 PM	43863
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/29/2019 1:29:09 PM	43863
Surr: DNOP	70.1	70-130		%Rec	1	3/29/2019 1:29:09 PM	43863
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	3/28/2019 6:36:00 AM	43853
Toluene	ND	0.050		mg/Kg	1	3/28/2019 6:36:00 AM	43853
Ethylbenzene	ND	0.050		mg/Kg	1	3/28/2019 6:36:00 AM	43853
Xylenes, Total	ND	0.099		mg/Kg	1	3/28/2019 6:36:00 AM	43853
Surr: 1,2-Dichloroethane-d4	83.5	70-130		%Rec	1	3/28/2019 6:36:00 AM	43853
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	3/28/2019 6:36:00 AM	43853
Surr: Dibromofluoromethane	86.6	70-130		%Rec	1	3/28/2019 6:36:00 AM	43853
Surr: Toluene-d8	89.7	70-130		%Rec	1	3/28/2019 6:36:00 AM	43853

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1903A86**

01-Apr-19

Client: Souder, Miller & Associates

Project: Black River 4H

Sample ID: **MB-43878**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **43878**	RunNo: **58625**							
Prep Date: **3/26/2019**	Analysis Date: **3/26/2019**	SeqNo: **1969565**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-43878**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **43878**	RunNo: **58625**							
Prep Date: **3/26/2019**	Analysis Date: **3/26/2019**	SeqNo: **1969566**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.4	90	110			

Sample ID: **MB-43905**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **43905**	RunNo: **58668**							
Prep Date: **3/27/2019**	Analysis Date: **3/27/2019**	SeqNo: **1971475**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-43905**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **43905**	RunNo: **58668**							
Prep Date: **3/27/2019**	Analysis Date: **3/27/2019**	SeqNo: **1971476**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.0	90	110			

Sample ID: **MB-43904**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **43904**	RunNo: **58669**							
Prep Date: **3/27/2019**	Analysis Date: **3/27/2019**	SeqNo: **1971664**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-43904**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **43904**	RunNo: **58669**							
Prep Date: **3/27/2019**	Analysis Date: **3/27/2019**	SeqNo: **1971665**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.1	90	110			

Qualifiers:

H Holding times for preparation or analysis exceeded
PQL Practical Quanitative Limit
S % Recovery outside of range due to dilution or matrix
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903A86**
01-Apr-19

Client: Souder, Miller & Associates
Project: Black River 4H

Sample ID: **LCS-43863**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **43863**	RunNo: **58623**							
Prep Date: **3/25/2019**	Analysis Date: **3/27/2019**	SeqNo: **1969475**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.6	63.9	124			
Surr: DNOP	3.5		5.000		69.8	70	130			S

Sample ID: **MB-43863**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **43863**	RunNo: **58623**							
Prep Date: **3/25/2019**	Analysis Date: **3/27/2019**	SeqNo: **1969476**	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	8.0		10.00		80.4	70	130			

Sample ID: **LCS-43863**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **43863**	RunNo: **58730**							
Prep Date: **3/25/2019**	Analysis Date: **3/28/2019**	SeqNo: **1973173**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	63.9	124			
Surr: DNOP	4.9		5.000		97.4	70	130			

Sample ID: **MB-43863**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **43863**	RunNo: **58730**							
Prep Date: **3/25/2019**	Analysis Date: **3/28/2019**	SeqNo: **1973174**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		112	70	130			

Sample ID: **1903A86-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **CS1**	Batch ID: **43863**	RunNo: **58730**							
Prep Date: **3/25/2019**	Analysis Date: **3/28/2019**	SeqNo: **1973268**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	63	9.9	49.26	0	127	53.5	126			S
Surr: DNOP	5.9		4.926		121	70	130			

Qualifiers:

H Holding times for preparation or analysis exceeded
PQL Practical Quanitative Limit
S % Recovery outside of range due to dilution or matrix
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1903A86**

01-Apr-19

Client: Souder, Miller & Associates

Project: Black River 4H

Sample ID: **1903A86-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **CS1**	Batch ID: **43863**	RunNo: **58730**
Prep Date: **3/25/2019**	Analysis Date: **3/28/2019**	SeqNo: **1973269** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	49.95	0	104	53.5	126	18.9	21.7	
Surr: DNOP	4.5		4.995		91.1	70	130	0	0	

Sample ID: **MB-43961**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **43961**	RunNo: **58728**
Prep Date: **3/29/2019**	Analysis Date: **3/29/2019**	SeqNo: **1973388** 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	10		10.00		103	70	130			

Sample ID: **LCS-43961**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **43961**	RunNo: **58728**
Prep Date: **3/29/2019**	Analysis Date: **3/29/2019**	SeqNo: **1973389** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.3	63.9	124			
Surr: DNOP	4.6		5.000		92.0	70	130			

Qualifiers:

H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903A86**
01-Apr-19

Client: Souder, Miller & Associates
Project: Black River 4H

Sample ID: **MB-43828**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **43828**	RunNo: **58605**
Prep Date: **3/22/2019**	Analysis Date: **3/25/2019**	SeqNo: **1967510** 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	970		1000		97.4	73.8	119			

Sample ID: **LCS-43828**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **43828**	RunNo: **58605**
Prep Date: **3/22/2019**	Analysis Date: **3/25/2019**	SeqNo: **1967511** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.0	80.1	123			
Surr: BFB	1100		1000		106	73.8	119			

Sample ID: **MB-43840**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **43840**	RunNo: **58635**
Prep Date: **3/22/2019**	Analysis Date: **3/26/2019**	SeqNo: **1969308** 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	930		1000		93.1	73.8	119			

Sample ID: **LCS-43840**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **43840**	RunNo: **58635**
Prep Date: **3/22/2019**	Analysis Date: **3/26/2019**	SeqNo: **1969309** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.2	80.1	123			
Surr: BFB	1100		1000		108	73.8	119			

Qualifiers:

H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1903A86**

01-Apr-19

Client: Souder, Miller & Associates

Project: Black River 4H

Sample ID: **MB-43828**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **43828**	RunNo: **58605**
Prep Date: **3/22/2019**	Analysis Date: **3/25/2019**	SeqNo: **1967549** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID: **LCS-43828**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **43828**	RunNo: **58605**
Prep Date: **3/22/2019**	Analysis Date: **3/25/2019**	SeqNo: **1967550** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.7	80	120			
Toluene	0.99	0.050	1.000	0	99.4	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.7	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.3	80	120			

Sample ID: **MB-43840**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **43840**	RunNo: **58635**
Prep Date: **3/22/2019**	Analysis Date: **3/26/2019**	SeqNo: **1969335** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.97		1.000		97.5	80	120			

Sample ID: **LCS-43840**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **43840**	RunNo: **58635**
Prep Date: **3/22/2019**	Analysis Date: **3/26/2019**	SeqNo: **1969336** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.9	80	120			
Toluene	0.98	0.050	1.000	0	97.8	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.8	80	120			
Xylenes, Total	3.0	0.10	3.000	0	98.8	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.7	80	120			

Qualifiers:

- H Holding times for preparation or analysis exceeded
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903A86**
01-Apr-19

Client: Souder, Miller & Associates
Project: Black River 4H

Sample ID: **lcs-43853**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS**	Batch ID: **43853**	RunNo: **58659**
Prep Date: **3/25/2019**	Analysis Date: **3/27/2019**	SeqNo: **1970988** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.0	70	130			
Toluene	0.94	0.050	1.000	0	93.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.43		0.5000		85.1	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		105	70	130			
Surr: Dibromofluoromethane	0.44		0.5000		87.0	70	130			
Surr: Toluene-d8	0.44		0.5000		88.6	70	130			

Sample ID: **mb-43853**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **43853**	RunNo: **58659**
Prep Date: **3/25/2019**	Analysis Date: **3/27/2019**	SeqNo: **1970989** 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	0.42		0.5000		84.9	70	130			
Surr: 4-Bromofluorobenzene	0.54		0.5000		108	70	130			
Surr: Dibromofluoromethane	0.44		0.5000		88.3	70	130			
Surr: Toluene-d8	0.44		0.5000		87.9	70	130			

Qualifiers:

H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903A86**
01-Apr-19

Client: Souder, Miller & Associates
Project: Black River 4H

Sample ID: **lcs-43853**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **43853**	RunNo: **58659**
Prep Date: **3/25/2019**	Analysis Date: **3/27/2019**	SeqNo: **1970937** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.2	70	130			
Surr: BFB	540		500.0		108	70	130			

Sample ID: **mb-43853**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **43853**	RunNo: **58659**
Prep Date: **3/25/2019**	Analysis Date: **3/27/2019**	SeqNo: **1970938** 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	540		500.0		108	70	130			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1903A86** RcptNo: **1**

Received By: **Desiree Dominguez** **3/22/2019 9:05:00 AM**

Completed By: **Erin Melendrez** **3/22/2019 10:51:14 AM**

Reviewed By: LB 3/22/19

LB: DAD 3/22/19

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
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 ☐	Checked by: DAD 3/22/19

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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Yes			

Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 5 day

Project Name: Black River #4H1

Project #:

Project Manager: Heather Patterson

Sampler: Lynn A. Acosta

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.6°c

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www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1903A86	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3-20-19	133	Soil	CS1	4 oz		-001	X	X					X			
3-20-19	137		CS2			-002		X					X			
3-20-19	158		CS3			-003	X	X					X			
3-19-19	236		CS4			-004		X					X			
3-19-19	150		CS5			-005		X					X			
3-19-19	1150		CS6			-006	X	X					X			
3-20-19	212		CS12			-007		X					X			
3-20-19	100		CSW1			-008	X	X					X			
3-20-19	1211		CSW2			-009		X					X			
3-20-19	950		CSW3			-010	X	X					X			
3-19-19	258		CSW4			-011		X					X			
3-19-19	206		CSW5			-012		X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
		Lynn A. Acosta			3/21/19	1430
3/21/19	1900			Courier	3/22/19	9:05

Remarks: Marathon Oil

1 of 2

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

Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 5 day

Project Name: Black River #4H

Project #:

Project Manager: Heather Patterson

Sampler: Lynn A. Acosta

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.6°C

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Analysis Request

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3-19-19	201	Soil	CSW 6	4 oz		-013		X					X			
3-19-19	1225	"	CSW 7	"		-014		X					X			
3-19-19	1215	"	CSW 8	"		-015		X					X			
3-19-19	1201	"	CSW 9	"		-016	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					3/21/19	1430
3/21/19	1900			courier	3/22/19	9:05

Remarks: Marathon Oil

2 of 2

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