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

December 31, 2019

#5E27950-BG27

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

SUBJECT: Remediation Closure Report for the Black River 15 10 State Com X #005H Release (2RP-5655), Eddy County, New Mexico

To Whom it May Concern:

On behalf of Marathon Oil, Permian LLC, Souder, Miller & Associates (SMA) has prepared this Remediation Closure Report that describes the remediation of a release of liquids related to oil and gas production activities at the Black River 15 10 State Com X #005H site. The site is in Unit P, Section 15, Township 24S, Range 27E, Eddy County, New Mexico, on State land. Figure 1 illustrates the vicinity and site location on an USGS 7.5 minute quadrangle map.

Table 1 summarizes release information and Closure Criteria.

Table 1: Release Information and Closure Criteria			
Name	Black River 15 10 State Com X #005H	Company	Marathon Oil – Permian LLC
API Number	30-015-44070	Location	32.21063703 -104.17320295
Incident Number	2RP-5655		
Estimated Date of Release	September 5, 2019	Date Reported to NMOCD	September 9, 2019
Land Owner	State of New Mexico	Reported To	NMOCD District 2, NMSLO
Source of Release	Flange connection at header of riser		
Released Volume	7.79 bbls	Released Material	Produced Water
Recovered Volume	6	Net Release	1.79
NMOCD Closure Criteria	<50 feet to groundwater		
SMA Response Dates	9/6/2019, 9/20/2019, 11/23/2019-12/17/2019		

1.0 Background

On September 9, 2019, a release was discovered at the Black River 15 10 State Com X #005H site due to a flange connection at the header of the riser. Initial response activities were conducted by Marathon Oil, and included source elimination and site stabilization activities, which recovered approximately 6 barrels of fluid. The spill path followed San Mateos' ROW and well as Marathon Oils' ROW. Figure 1 illustrates the vicinity and site location, Figure 2 illustrates the release location. The C-141 form is included in Appendix A.

2.0 Site Information and Closure Criteria

The Black River 15 10 State Com X #005H is located approximately five miles west of Malaga, New Mexico on State land at an elevation of approximately 3239 feet above mean sea level (amsl).

Based upon The New Mexico Office of the State Engineer (NMOSE) online water well database, the United States Geological Survey (USGS) online water well data (Appendix B), depth to groundwater in the area is estimated to be less than 50 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 10/16/2019). The nearest significant watercourse is a canal #3798, located approximately 1300 feet to the southeast. Figure 2 illustrates the site with 200 and 300-foot radii 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 a groundwater depth of less than 50 feet bgs. The site has been restored to meet the standards of Table I of 19.15.29.12 NMAC.

Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

3.0 Release Characterization and Remediation Activities

On September 6 and September 20, 2019, SMA personnel arrived on site in response to the release associated with Black River 15 10 State Com X #005H. 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.

A total of fourteen sample locations (L1-L9 & SW1-5) were investigated using a hand-auger, to depths up to 3 feet bgs. Sample location L7 represent the areas affected by surficial overspray. A minimum of two samples were collected at each sampling location and field-screened using the method above. A total of sixteen (16) samples were collected for laboratory analysis for total chloride using EPA Method 300.0. Table 3 itemizes the sample results. The release are and initial sample locations are depicted on Figure 3, and excavation depths along with closure samples are depicted on Figure 3A

Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico (Appendix C).

Between November 23 and December 17, 2019, SMA returned to the site to guide the excavation of contaminated soil. 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 calibrated MiniRAE 3000 photoionization detector (PID) equipped with a 10.6 eV lamp.

The walls and base were excavated until field screening results indicated that the NMOCD Closure Criteria would be met. NMOCD was notified on November 20, 2019 that closure samples were expected to be collected in two (2) business days.

The area around initial sample location L1 was excavated to a depth of three (3) feet bgs, and two confirmation samples were collected from the bottom and sidewall (CL1 and CSW7).The area around sample location L2 was excavated to a depth of fifteen (15) feet bgs, and one confirmation sample was collected from the bottom (CL2). The area around initial sample location L3 was excavated to a depth of ten (10) feet bgs, and two confirmation samples were collected from bottom and sidewall (CL3 and SW2). The area around initial sample locations L4, 5 and 6 were excavated to a depth of six and half (6.5) feet bgs, and five (5) confirmation samples were collected from the bottom and sidewalls (CL4, CL5, CL6, CSW3, CSW4). The area around initial sample location L9, 10, 7 was excavated to a depth of half a foot (0.5) feet bgs, and five (5) confirmation samples were collected from the bottom and sidewalls (CL7, CL9, CL10, CSW5, CSW10). The area around initial sample location L11, 12 were excavated to four (4) feet bgs, and four (4) confirmation samples were collected from the bottom and sidewalls (CL11, CL12, CSW4,CSW1). The area around initial sample location L8 was excavated to a depth of one (1) foot bgs, and one confirmation sample was collected from the bottom and sidewall (CL8).

A total of twenty-four (24) 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. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico and Xenco Laboratories in Carlsbad, New Mexico (Appendix D).

Figure 3 shows the extent of the spill area and sample locations. Figure 3A shows the extent of the excavation and closure sample locations. All field screening and 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 Environmental Solutions near Hobbs, NM, an NMOCD permitted disposal facility. Laboratory results indicate that the site has been successfully remediated and closure for 2RP-5655 is requested

4.0 Scope and Limitations

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

If there are any questions regarding this report, please contact either Ashley Maxwell or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:

Ashley Maxwell
Project Scientist

Shawna Chubbuck
Senior Scientist

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map
Figure 2: Surface Water Radius Map
Figure 3: Site and Sample Location Map
Figure 3A: Excavation and Closure Sample Location Map

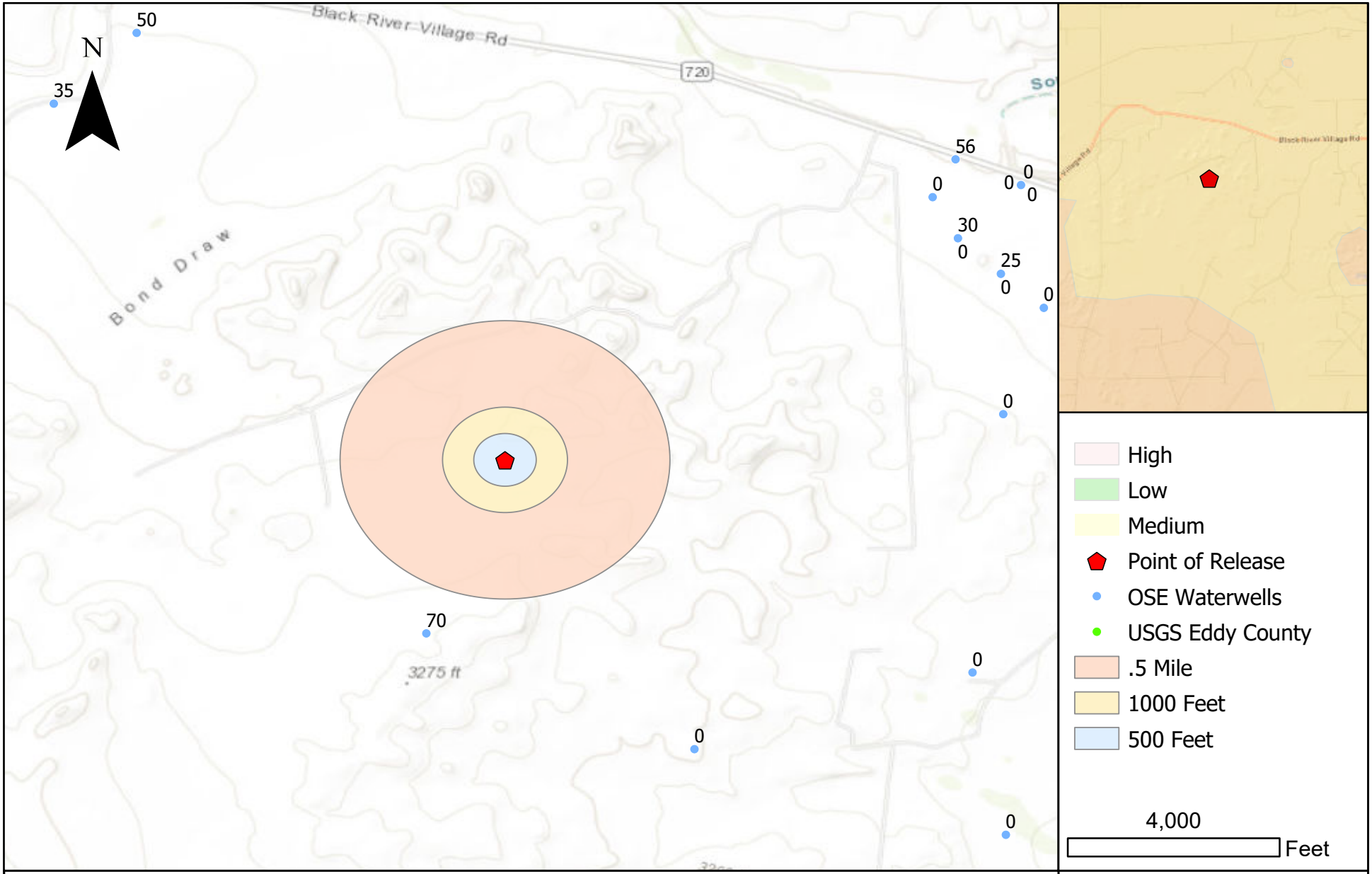
Tables:

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

Appendices:

Appendix A: Form C141
Appendix B: NMOSE Wells Report
Appendix C: Field Notes & Photo Log
Appendix D: Laboratory Analytical Reports

FIGURES



Regional Vicinity & Wellhead Protection Map
Black River 15 10 State Com X #005H - Marathon Oil
UL: P S: 15 T: 24S R: 27E, Eddy County, New Mexico

Figure 1

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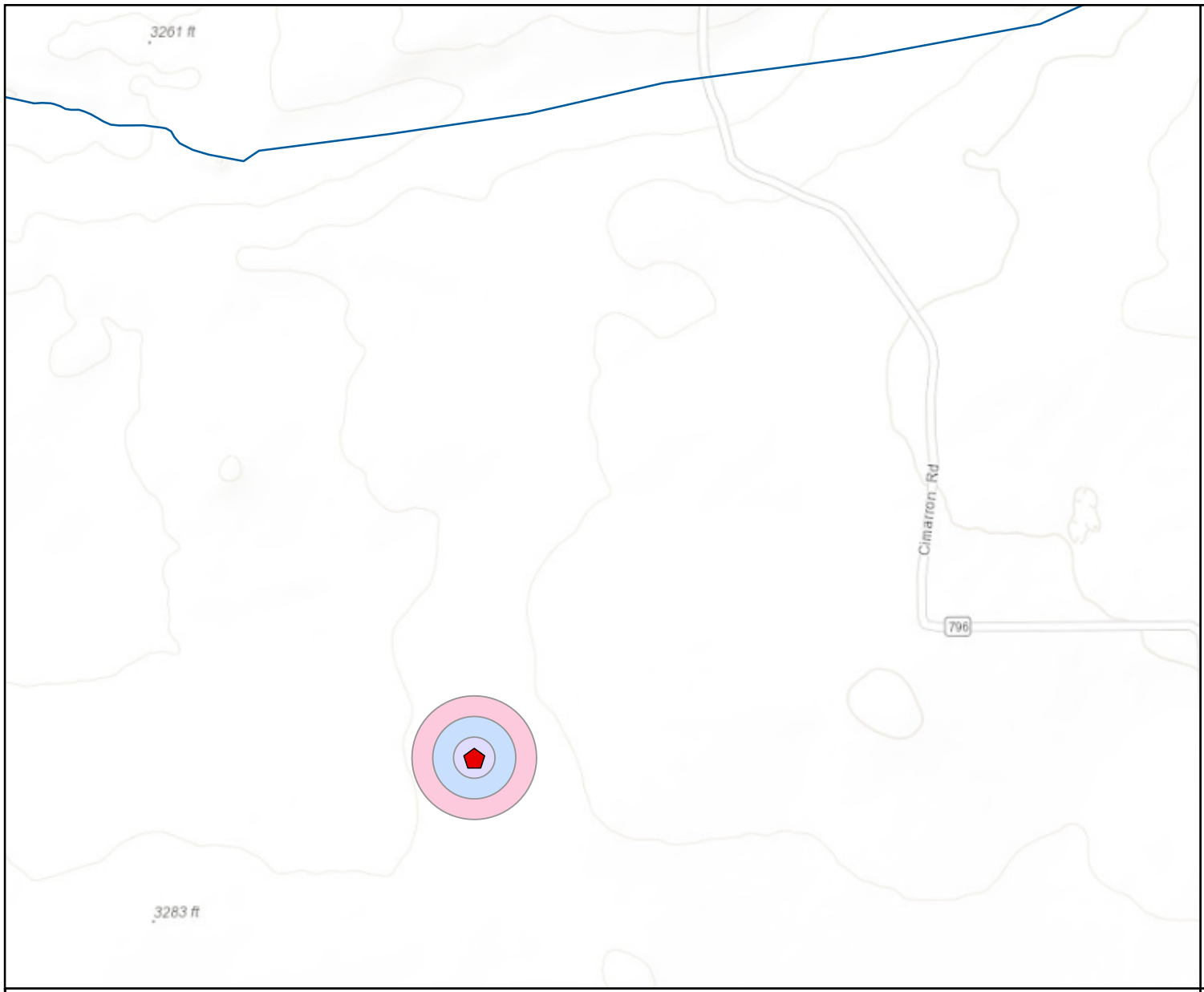
Date Saved: 8/20/2019

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

Drawn Lynn A. Acosta
Date 9/7/2019
Checked
Approved

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



Point of Release
Springs Seeps
Streams Canals
Rivers
NM Wetlands
Lakes Playas
FEMA Flood Zones 2011

Buffer Distance
100 Feet
200 Feet
300 Feet

N

1,000 Feet

Surface Water Protection Map
Black River 15 10 State Com X #005H - Marathon Oil
UL: P S: 15 T: 24S R: 27E, Eddy County, New Mexico

Figure 2

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By:_____ Date:_____ Descr:_____
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Date 9/7/2019
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Approved

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LEGEND

- SPILL AREA
- POINT OF RELEASE
- SAMPLE LOCATIONS
- SIDEWALL SAMPLES
- PIPELINE

N

0 23.5 47 94

Feet

Site and Sample Location Map
Black River 15 10 State Com X #005H - Marathon Oil LLC
UL: P S: 15 T: 24S R: 27E Eddy County, New Mexico

Figure 3

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Date Saved: 11/26/2019

Revisions

By:_____ Date:_____ Descr:_____

By:_____ Date:_____ Descr:_____

Drawn Lynn A. Acosta
Date 12/2/2019
Checked
Approved

SMA

201 South Halagueno Street
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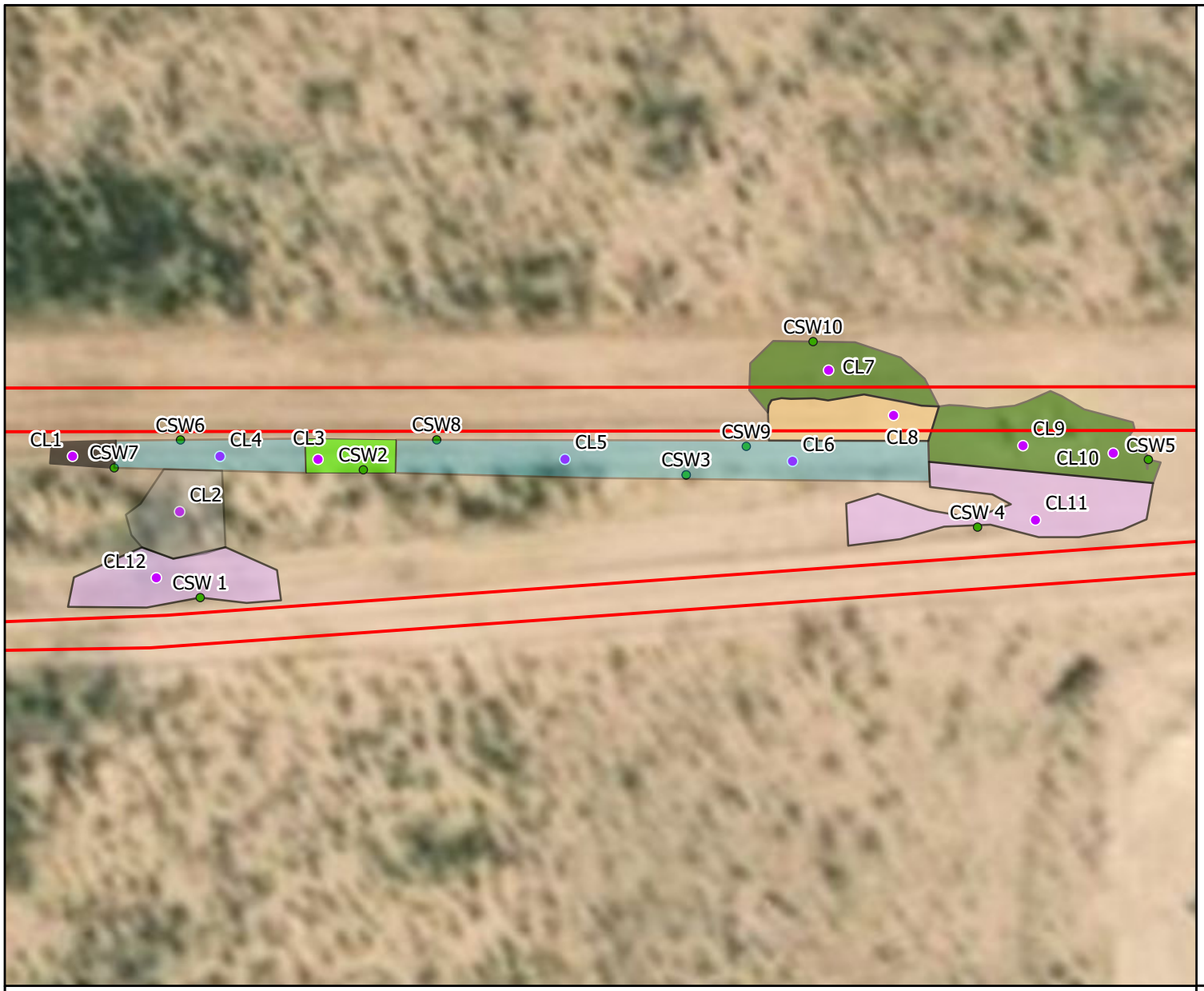

Legend

- Sample Locations
- Sidewall samples
- Point of Release
- 1' Excavation
- Overspray
- 3' Excavation
- 10' Excavation
- 4' Excavation
- Pipeline
- 6.5' Excavation
- 15' Excavation

N

0 24 48 96

Feet

Site and Sample Location Map
Black River 15 10 State Com X #005H - Marathon Oil
UL: P S: 15 T: 24S R: 27E Eddy County, New Mexico

Figure 3A

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Date Saved: 12/20/2019

Revisions

By:_____ Date:_____ Descr:_____

By:_____ Date:_____ Descr:_____

Drawn *Monica Peppin*
Date 12/31/2019
Checked
Approved

201 South Halagueno Street
Carlsbad, New Mexico 88220
(575) 689-7040
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TABLES

Table 2:
NMOCD Closure Criteria

Marathon Oil Permian LLC
Black River 15 10 State Com X #5H (2RP-5655)

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	<50	New Mexico Office of the State Engineer
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	5,375	Bond Draw to the West
Hortizontal Distance to Nearest Significant Watercourse (ft)	8,500	Black River

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					
Human and Other Areas						
<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 (Med Karst)					
within a 100-year floodplain?	No					

Table 3:
Summary of Sample Results

Marathon Oil Permian LLC
Black River 15 10 State Com X #5H (2RP-5655)

Sample ID	Sample Date	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure		50	10	1000			100	600
L1	9/6/2019	-	-	-	-	-	-	10,000
	9/20/2019	-	-	-	-	-	-	180
L2	9/6/2019	-	-	-	-	-	-	12,000
L3	9/6/2019	-	-	-	-	-	-	10,000
L4	9/6/2019	-	-	-	-	-	-	10,000
L5	9/6/2019	-	-	-	-	-	-	12,000
L6	9/6/2019	-	-	-	-	-	-	11,000
L7	9/6/2019	-	-	-	-	-	-	5800
L8	9/6/2019	-	-	-	-	-	-	11,000
	9/20/2019	-	-	-	-	-	-	1,000
L9	9/6/2019	-	-	-	-	-	-	15,000
SW 1	9/20/2019	-	-	-	-	-	-	62
SW 2	9/20/2019	-	-	-	-	-	-	330
SW 3	9/20/2019	-	-	-	-	-	-	360
SW 4	9/20/2019	-	-	-	-	-	-	150
SW 5	9/20/2019	-	-	-	-	-	-	<60
Closure Samples								
CL1	11/23/2019	<0.225	<0.025	<5.0	<9.8	<49	<63.8	140
CL2	11/24/2019	<0.216	<0.024	<4.8	<9.9	<49	<63.7	130
CL3	11/23/2019	<0.211	<0.023	<4.7	<9.5	<47	<61.2	<60
CL4		<0.225	<0.025	<5.0	<9.3	<46	<60.3	120
CL5		<0.221	<0.025	<4.9	<9.8	<49	<63.7	79
CL6	11/26/2019	<0.213	<0.024	<4.7	<9.3	<47	<61	<60
CL7	12/2/2019	<0.207	<0.023	<4.6	<9.5	<48	<62.1	270
CL8		<0.207	<0.023	<4.6	<9.4	<47	<61	<60
CL9		<0.207	<0.023	<4.6	<9.9	<49	<63.5	<60
CL10		<0.208	<0.023	<4.6	<9.6	<48	<62.2	270
CL11		<0.216	<0.024	<4.8	<8.9	<45	<58.7	<60
CL12		<0.224	<0.025	<5.0	<9.3	<46	<60.3	<60
CSW1		<0.219	<0.024	<4.9	<9.5	<47	<61.4	<60
CSW2	11/23/2019	<0.216	<0.024	<4.8	<9.4	<47	<61.2	1500
	12/17/2019	-	-	-	-	-	-	<10
CSW3	11/26/2019	<0.217	<0.024	<4.8	<8.3	<41	<54.1	<60
CSW4	12/2/2019	<0.21	<0.023	<4.7	<9.3	<47	<61	170
CSW5		<0.225	<0.025	<5.0	<9.0	<45	<59	<60
CSW6	11/23/2019	<0.221	<0.025	<4.9	<9.8	<49	<63.7	1700
	12/17/2019	-	-	-	-	-	-	<10.1
CSW7	11/23/2019	<0.217	<0.024	<4.8	<9.9	<50	<64.7	98
CSW8		<0.222	<0.025	<4.9	<10	<50	<64.9	110
CSW9	11/26/2019	<0.222	<0.025	<4.9	<9.9	<50	<64.8	<60
CSW10	12/2/2019	<0.217	<0.024	<4.8	<9.1	<46	<59.9	320

"--" = Not Analyzed

Excavated

SMA #

APPENDIX A
FORM C141

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	*NAB1928436477*
District RP	2RP-5655
Facility ID	
Application ID	pAB1928436018

Release Notification 4O376-190919-C-1410

Responsible Party

Responsible Party Marathon Oil Permian LLC	OGRID 372098
Contact Name Isaac Castro	Contact Telephone 575-988-0561
Contact email icastro@marathonoil.com	Incident # *(assigned by OCD)* NAB1928436477
Contact mailing address 4111 S. Tidwell Rd., Carlsbad, NM 88220	

Location of Release Source

Latitude 32.21063703 Longitude -104.17320295
(NAD 83 in decimal degrees to 5 decimal places)

Site Name BLACK RIVER 15 10 STATE COM X #005H	Site Type Oil and gas drilling facility
Date Release Discovered 9/5/19	API# *(if applicable)* 30-015-44070

Unit Letter	Section	Township	Range	County
P	15	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)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 7.79 bbls	Volume Recovered (bbls) 6 bbls
	Is the concentration of dissolved chloride 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

Operator reported an overspray from the header connection between Marathon produced water lines and San Mateo. Upon immediate inspection by the Field Operator, it was found that flange connection gave out. Approximately 7.79 barrels of produced water was released to the ground on Marathon pipe ROW. A vac truck was immediately dispatched to recover standing fluids and recovered 6 bbls.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAB1928436477
District RP	2RP-5655
Facility ID	
Application ID	pAB1928436018

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? This was a major release as defined by NMAC 19.15.29.7(A) based on volume of material released.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

☒ 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: Isaac Castro Title: Environmental Professional

Signature: Isaac Castro Date: 9/19/19

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

OCD Only

Received by: *Amalia Bustamante* Date: 10/11/2019

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	
District RP	2RP-5655
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<50 (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

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5655
Facility ID	
Application ID	

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.

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: Melodie Sanjari

Title: Environmental Professional

Signature: Melodie Sanjari

Date: 12/31/2019

email: msanjari@marathonoil.com

Telephone: 575-988-0561

OCD Only

Received by: _____

Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5655
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Melodie Sanjari Title: Environmental Professional

Signature: Melodie Sanjari Date: 12/31/2019

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

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	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 01452		C	ED				22	24S	27E	577435	3563175*	956	95	70	25
C 00850		C	ED		2	3	09	24S	27E	575595	3566223*	2640	108	35	73
C 00821		C	ED		3	2	09	24S	27E	575996	3566635*	2795	97	50	47
C 04147 POD1		CUB	ED	4	1	3	24	24S	27E	580101	3562969	3156	35		
C 00364	C	CUB	ED		1	2	09	24S	27E	575997	3567043*	3171	2270		
C 00347		CUB	ED		1	1	13	24S	27E	580010	3565479*	3181	60	30	30
C 03147		C	ED	3	3	3	12	24S	27E	579885	3565715	3183	140		
C 01366		CUB	ED			4	08	24S	27E	574590	3566003*	3196	60	35	25
C 00631		C	ED	3	3	4	08	24S	27E	574288	3565701*	3284	50	24	26
C 01943		C	ED			1	13	24S	27E	580221	3565275*	3293	30	25	5
C 00516		CUB	ED	1	3	4	08	24S	27E	574288	3565901*	3386	105	36	69
C 00516 CLW201016	O	CUB	ED	1	3	4	08	24S	27E	574288	3565901*	3386	62		
C 00516 CLW308590	O	CUB	ED	1	3	4	08	24S	27E	574288	3565901*	3386	105	36	69
C 00516 S		CUB	ED	1	3	4	08	24S	27E	574288	3565901	3386	50	17	33
C 03260 POD1		C	ED	3	3	3	12	24S	27E	579995	3565935	3392	80	56	24
C 00342	C	CUB	ED		4	1	13	24S	27E	580432	3565080*	3429	2565		
C 03260 POD2	O	C	ED	1	3	3	12	24S	27E	580100	3565984	3507	80	56	24
C 03489 POD1		CUB	ED	2	4	3	08	24S	27E	574153	3565939	3521	200		
C 00683		C	ED		4	3	08	24S	27E	573986	3565796*	3594	50	17	33
C 01187		C	ED		4	3	08	24S	27E	573986	3565796*	3594	108	17	91
C 03145		C	ED	3	1	4	13	24S	27E	580749	3564579*	3633	103	40	63
C 00516 POD10		CUB	ED	3	4	3	08	24S	27E	573875	3565722	3659	160	45	115
C 03490 POD1		CUB	ED	3	4	3	08	24S	27E	573812	3565709	3709	140	23	117
C 00516 POD6		CUB	ED	1	4	3	08	24S	27E	573885	3565895*	3730	78	17	61
C 01721		C	ED			1	25	24S	27E	580271	3562033*	3737	170		
C 01841		C	ED			1	29	24S	27E	573806	3561953*	3966	150		

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

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02976	C	ED	4	2	3	12	24S	27E	580519	3566195*	3974	57	27	30

Average Depth to Water: **34 feet**

Minimum Depth: **17 feet**

Maximum Depth: **70 feet**

Record Count: 27

UTMNAD83 Radius Search (in meters):

Easting (X): 577148.66 **Northing (Y):** 3564087.87 **Radius:** 4000

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

APPENDIX C
FIELD NOTES &
PHOTO LOG

SMA Field Screening

Location Name: Black River #2, 5, 6

Date: 9.6.18

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	EC (ppm)	Temp (°C)	PID Reading	PF
L1	Sandy loam	0.5	1145	7.79	21.7	—	—
L2		0.5	1147	8.58	20.4		
L3			1149	6.85	20.8		
L4			1152	7.38	20.7		
L5			1154	6.87	20.3		
L6			1156	6.29	20.0		
L7			1158	3.75	20.0		
L8			1200	6.44	19.8		
L9			1202	8.52	20.0		

SMA Field Screening

Location Name: Black River 1S 1E State Com

Date: 9-20-19

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	EC (ppm)	Temp (°C)	PID Reading	PF
L2-1	Sand	1	8:15	6.85	27.1		
L2-3	caliche	3	8:30	5.60	27.3		
L3	"	3	8:40	7.54	25.7		
L4	Sand	3	8:50	6.96	25.7		
L5	"	3	8:55	5.05	27.2		
L1	Sand	3	9:00	0.10	27.4		
L8	caliche	1.5	9:10	0.52	27.3		
L9	Sand	3	9:20	3.35	27.3		
L7	caliche	2.5	9:30	2.35	27.2		
L6	caliche	2	9:33	4.56	27.7		
SW1	Sand		9:35	0.13	27.9		
SW2	Sand		9:37	0.30	27.9		
SW3	Sand		9:40	0.27	28.1		
SW4	Sand		9:45	0.28	28.1		
SW5	Sand		9:55	0.12	28.1		

SMA Field Screening

Location Name: Black River # 15 10 State Com

Date: 10-25-19

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	titrations EC (ppm)	Temp (°C)	PID Reading	PF
BG-1 0.5'	Sand	.5'	2:30	42.5'	—	—	—
BG1-1	Sand	1	2:35'	25'	—	—	—
BG1-1.5'	Sand	1.5'	2:40	30	—	—	—
BG1-2	Sand	2	2:45'	15'	—	—	—
BG1-2.5'	Sand/Caliche	2.5'	2:50	12	—	—	—
BG-1 3	Sand/Caliche	3	2:55'	10	—	—	—
BG1-3.5'	Sand/ Caliche	3.5'	3:00	22.5'	—	—	—
BG1-4	Sand/ Caliche	4	3:10	15'	—	—	—

SMA Field Screening

Location Name: Black River 15" State Com #005H

Date: 11-22-19

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	EC (ppm)	Temp (°C)	PID Reading	PF
L2-10'	Sand/clay	10'	15:22	5.47	15.5	0	0
L2-13'	Sand/clay caliche	13'	15:48	3.68	14.1	0	0
BG-6'	Sand caliche ~~Hdes~~	6'	16:53	0.12	13.4	0	0
BG-10'	Sand. caliche	10'	16:56	0.31	13.4	0	0
BG-13'	" "	13'	17:03	0.55	13.2	0	0

SMA Field Screening

Location Name: Black River 15 State Com #005 H

Date: 11/23/19

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	EC (ppm)	Temp (°C)	PID Reading	PF
L1 -2'	Sand	2'	910	3.57	11.4	—	—
SW7	Sand/caliche	0-3'	918	0.51	11.4	—	—
* L1 - 4'	Sand/caliche	4'	914	0.22	11.4	—	—
* SW7	Sand/caliche	0- 4'	935	0.11	11.5	—	—
* L2 -4'	Sand/caliche	4'	1001	0.06	12.0	—	—
* SW2	Sand/caliche	0-10'	113	0.22	15.0	—	—
* L3 -10'	Sand, clay caliche	10'	1045	0.11	15.1	—	—
* L4 -6.5'	Sand/caliche	6.5'	249	0.23	15.9	—	—
* L5 -6.5'	Sand/caliche	6.5'	506	0.22	11.7	—	—
* SW8	Sand, clay caliche	0-10'	1020	0.26	12.3	—	—
* SW6	Sand, clay caliche	0-9'	922	0.32	11.7	—	—

SMA Field Screening

Location Name: Black River 15 State Com X #005H

Date: 11/24/19

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	EC (ppm)	Temp (°C)	PID Reading	PF
L2-6.5'	Sand, caliche clay	6.5'	850	5.83	12.3	—	—
L2-8.5'	"	8.5'	920	3.48	12.0	—	—
L2-13'	Sand, rock caliche	13	938	1.28	12.4	—	—
*L2-15'	Sand, rock caliche	15'	950	0.38	12.8	—	—
SW1	Sand, rock caliche	0-15'	1045	4.27	12.8	—	—
* SW1	Sand, rock caliche	0-15'	1030	0.019	12.8	—	—

SMA Field Screening

Location Name: Black River 15 10 State Com X #005 H

Date: 11/26/19

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	EC (ppm)	Temp (°C)	PID Reading	PF
CSW3	Sand Caliche	0-6.5'	8:28	0.03	20.6	—	—
CSW9	Sand Caliche	0-6.5'	8:54	0.05	20.6	—	—
CL6	Sand Caliche	6.5'	9:20	0.06	20.6	—	—

SMA Field Screening

Location Name:	Date:
Black River 15 10 State com X #005 H	11/27/2018

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	EC (ppm)	Temp (°C)	PID Reading	PF
CL 8-1'	Sand caliche	1'	9:48	0.45	12.0	—	—
* CL 7-0.5'	Sand caliche	0.5'	9:52	0.33	12.1		
* SW 10	Sand	0.5'	958	0.38	8.0		
L14 [illegible]		2					

SMA Field Screening

Location Name: Black River 15 10 State com W #005 H

Date: 12-2-19

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	EC (ppm)	Temp (°C)	PID Reading	PF
CL 8	Sand	1'	9:48	0.34	12.0		
CL 7	Sand	-0.5'	9:52	0.33	12.1		
SW 10	Sand	0.5'	9.58	0.38	12.0		
CL 12	Sand	0-4	10:02	0.34	12.0		
CL 9	" "	0.5'	10:07	0.32	12.0		
SW 5'	" "	0-0.5	1010	0.34	12.1		
CL 11	"Sand"	4'	1018	0.28	12.0		
SW 1	" "	0-4'	1030	0.08	12.8		
SW 4	" "	0-4'	1045	0.09	12.9		
CL 10	" "	0.5'	1058	0.012	12.1		

SMA Field Screening

Location Name: Black River 15 10 State Com X #005H

Date: 12/17/19

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	EC (ppm)	Temp (°C)	PID Reading	PF
CSW 2	Sand/caliche		2:01	0.18	18.1	—	—
CSW 6	Sand/caliche		2:08	0.16	18.0	—	—


NE
E
SE
0
60
90
120
150
101°E (T)
32°12'41"N, 104°10'28"W ±16ft
3253ft
Black River 15 State Com #005H
Lynn A. Acosta
Marathon Oil
02 Dec 2019, 09:17:05


E
90
120
SE
150
S
180
141°SE (T)
32°12'41"N, 104°10'30"W ±16ft
3224ft
Black River 15 State Com #005H
Lynn A. Acosta
Marathon Oil
24 Nov 2019, 10:31:44


SW
W
NW
210
240
270
300
330
274°W (T) 32°12'41"N, 104°10'28"W ±16ft 3201ft
Black River 15 State Com #005H
Lynn A. Acosta
Marathon Oil
23 Nov 2019, 17:14:09


NE
E
SE
60
90
120
150
107°E (T)
32°12'41"N, 104°10'29"W ±16ft
3221ft
Black River 15 State Com #005H
Lynn A. Acosta
Marathon Oil
23 Nov 2019, 15:18:03


NE
E
SE
0
60
90
120
150
101°E (T)
32°12'41"N, 104°10'29"W ±16ft
3220ft
Black River 15 State Com #005H
Lynn A. Acosta
Marathon Oil
23 Nov 2019, 15:17:43


NE
E
SE
30
60
90
120
150
100°E (T)
32°12'41"N, 104°10'30"W ±16ft
3218ft
Black River 15 State Com #005H
Lynn A. Acosta
Marathon Oil
23 Nov 2019, 15:17:09


NE
30
60
120
150
SE
91°E (T)
32°12'41"N, 104°10'31"W ±16ft
3203ft
Black River 15 State Com #005H
Lynn A. Acosta
Marathon Oil
23 Nov 2019, 15:16:41

APPENDIX D

LABORATORY ANALYTICAL REPORTS

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

September 18, 2019

Lynn A. Acosta
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-8801
FAX:

RE: Black River 5H OrderNo.: 1909435

Dear Lynn A. Acosta:

Hall Environmental Analysis Laboratory received 9 sample(s) on 9/10/2019 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 **1909435**
Date Reported: **9/18/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1
Project: Black River 5H
Collection Date: 9/6/2019 11:45:00 AM
Lab ID: 1909435-001 **Matrix:** SOIL **Received Date:** 9/10/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	10000	600		mg/Kg	200	9/15/2019 8:56:28 PM	47490

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1909435**
Date Reported: **9/18/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2
Project: Black River 5H
Collection Date: 9/6/2019 11:47:00 AM
Lab ID: 1909435-002 **Matrix:** SOIL **Received Date:** 9/10/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	12000	600		mg/Kg	200	9/15/2019 9:08:52 PM	47490

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

Qualifiers:

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

Analytical Report
Lab Order **1909435**
Date Reported: **9/18/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3
Project: Black River 5H
Collection Date: 9/6/2019 11:49:00 AM
Lab ID: 1909435-003 **Matrix:** SOIL **Received Date:** 9/10/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	10000	600		mg/Kg	200	9/17/2019 4:39:37 PM	47490

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

Qualifiers:

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

Analytical Report
Lab Order **1909435**
Date Reported: **9/18/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L4
Project: Black River 5H
Collection Date: 9/6/2019 11:52:00 AM
Lab ID: 1909435-004 **Matrix:** SOIL **Received Date:** 9/10/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	10000	600		mg/Kg	200	9/17/2019 4:52:02 PM	47490

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

Qualifiers:

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

Analytical Report
Lab Order **1909435**
Date Reported: **9/18/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L5
Project: Black River 5H
Collection Date: 9/6/2019 11:54:00 AM
Lab ID: 1909435-005 **Matrix:** SOIL **Received Date:** 9/10/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	12000	600		mg/Kg	200	9/17/2019 5:29:15 PM	47490

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1909435**
Date Reported: **9/18/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L6
Project: Black River 5H
Collection Date: 9/6/2019 11:56:00 AM
Lab ID: 1909435-006 **Matrix:** SOIL **Received Date:** 9/10/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	11000	600		mg/Kg	200	9/17/2019 5:41:40 PM	47490

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1909435**
Date Reported: **9/18/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L7
Project: Black River 5H
Collection Date: 9/6/2019 11:58:00 AM
Lab ID: 1909435-007 **Matrix:** SOIL **Received Date:** 9/10/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	5800	300		mg/Kg	100	9/17/2019 5:54:04 PM	47490

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1909435**
Date Reported: **9/18/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L8
Project: Black River 5H
Collection Date: 9/6/2019 12:00:00 PM
Lab ID: 1909435-008 **Matrix:** SOIL **Received Date:** 9/10/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	11000	600		mg/Kg	200	9/17/2019 6:06:29 PM	47490

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1909435**
Date Reported: **9/18/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L9
Project: Black River 5H
Collection Date: 9/6/2019 12:02:00 PM
Lab ID: 1909435-009 **Matrix:** SOIL **Received Date:** 9/10/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	15000	600		mg/Kg	200	9/17/2019 6:18:53 PM	47490

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 Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1909435**

18-Sep-19

Client: Souder, Miller & Associates

Project: Black River 5H

Sample ID: **MB-47490**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **47490**	RunNo: **62939**							
Prep Date: **9/15/2019**	Analysis Date: **9/15/2019**	SeqNo: **2144905**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-47490**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **47490**	RunNo: **62939**							
Prep Date: **9/15/2019**	Analysis Date: **9/15/2019**	SeqNo: **2144906**	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			

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 Limit
S	% Recovery outside of range due to dilution or matrix		

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: **1909435** RcptNo: **1**

Received By: **Yazmine Garduno** **9/10/2019 9:05:00 AM**

Completed By: **Yazmine Garduno** **9/10/2019 12:59:03 PM**

Reviewed By: DAD 9/10/19

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: YG 9/10/19

Special Handling (if applicable)

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

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.9	Good				
2	5.8	Good				

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 turn

Project Name: Black River 5H

Project #:

Project Manager: Lynn Acosta

Sampler: LAA

On Ice: ☑ Yes ☐ No

of Coolers: 4.4-0.5=3.9°

Cooler Temp(including CF): 6.3-0.5=5.8°

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. 1909435	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)
9/6/19	1145	Soil	L1	4oz		-001							X			
	1147		L2			-002							X			
	1149		L3			-003							X			
	1152		L4			-004							X			
	1154		L5			-005							X			
	1156		L6			-006							X			
	1158		L7			-007							X			
	1200		L8			-008							X			
	1202		L9			-009							X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
			[illegible]		9/9/19	1400
9/9/19	1900	[illegible]	[illegible]	courier	9/10/19	0905

Remarks: Marathon Oil

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

September 26, 2019

Lynn A. Acosta
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL:
FAX:

RE: Black River 5H OrderNo.: 1909D42

Dear Lynn A. Acosta:

Hall Environmental Analysis Laboratory received 7 sample(s) on 9/24/2019 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1909D42**
Date Reported: **9/26/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1
Project: Black River 5H
Collection Date: 9/20/2019 9:00:00 AM
Lab ID: 1909D42-001 **Matrix:** SOIL **Received Date:** 9/24/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	180	60		mg/Kg	20	9/25/2019 1:51:04 PM	47714

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1909D42**
Date Reported: **9/26/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L8
Project: Black River 5H
Collection Date: 9/20/2019 9:10:00 AM
Lab ID: 1909D42-002 **Matrix:** SOIL **Received Date:** 9/24/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	1000	60		mg/Kg	20	9/25/2019 2:28:17 PM	47714

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1909D42**
Date Reported: **9/26/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW1
Project: Black River 5H
Collection Date: 9/20/2019 9:35:00 AM
Lab ID: 1909D42-003 **Matrix:** SOIL **Received Date:** 9/24/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	62	60		mg/Kg	20	9/25/2019 2:40:41 PM	47714

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1909D42**
Date Reported: **9/26/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW2
Project: Black River 5H
Collection Date: 9/20/2019 9:37:00 AM
Lab ID: 1909D42-004 **Matrix:** SOIL **Received Date:** 9/24/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	330	60		mg/Kg	20	9/25/2019 2:53:06 PM	47714

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1909D42**
Date Reported: **9/26/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW3
Project: Black River 5H
Collection Date: 9/20/2019 9:40:00 AM
Lab ID: 1909D42-005 **Matrix:** SOIL **Received Date:** 9/24/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	360	61		mg/Kg	20	9/25/2019 3:05:31 PM	47714

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1909D42**
Date Reported: **9/26/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW4
Project: Black River 5H
Collection Date: 9/20/2019 9:45:00 AM
Lab ID: 1909D42-006 **Matrix:** SOIL **Received Date:** 9/24/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	150	60		mg/Kg	20	9/25/2019 3:17:55 PM	47714

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1909D42**
Date Reported: **9/26/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW5
Project: Black River 5H
Collection Date: 9/20/2019 9:55:00 AM
Lab ID: 1909D42-007 **Matrix:** SOIL **Received Date:** 9/24/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	9/25/2019 3:30:20 PM	47714

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 Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1909D42**

26-Sep-19

Client: Souder, Miller & Associates

Project: Black River 5H

Sample ID: **MB-47714**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **47714**	RunNo: **63185**							
Prep Date: **9/25/2019**	Analysis Date: **9/25/2019**	SeqNo: **2157006**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-47714**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **47714**	RunNo: **63185**							
Prep Date: **9/25/2019**	Analysis Date: **9/25/2019**	SeqNo: **2157008**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.1	90	110			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1909D42** RcptNo: **1**

Received By: **Leah Baca** **9/24/2019 9:20:00 AM** Leah Baca

Completed By: **Desiree Dominguez** **9/24/2019 2:34:44 PM** DD

Reviewed By: YG 9/24/19

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (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: 1 (<2 or >12 unless noted)

Adjusted?

Checked by: DD 9/24/19

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	3.2	Good	Not Present			

Chain-of-Custody Record

Client: SMA- Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

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

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

Project Name: Black River #571

Project #:

Project Manager: Lynn D. Acosta

Sampler: LAA

On Ice: ☑ Yes ☐ No

of Coolers: (1)

Cooler Temp(including CF): 3.4 - 0.2 = 3.2 (°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. 1909D42	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)
9/20/14	900	soil	L1	4oz		-001							X			
	910		L8			-002							X			
	935		SW1			-003							X			
	937		SW2			-004							X			
	940		SW3			-005							X			
	945		SW4			-006							X			
	955		SW5			-007							X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
				Courier	9/23	1300
9/23	1900			Courier	9/24/14	0920

Remarks: Maratnon Oil

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

December 05, 2019

Ashley Maxwell

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

RE: Black River 5H OrderNo.: 1911B78

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 9 sample(s) on 11/26/2019 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 **1911B78**
Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL1-3'
Project: Black River 5H
Collection Date: 11/23/2019 9:14:00 AM
Lab ID: 1911B78-001 **Matrix:** SOIL **Received Date:** 11/26/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	140	60		mg/Kg	20	12/3/2019 3:44:41 PM	49115
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/27/2019 6:33:10 PM	49026
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/27/2019 6:33:10 PM	49026
Surr: DNOP	90.7	70-130		%Rec	1	11/27/2019 6:33:10 PM	49026
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/28/2019 2:18:15 AM	49037
Surr: BFB	105	77.4-118		%Rec	1	11/28/2019 2:18:15 AM	49037
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/28/2019 2:18:15 AM	49037
Toluene	ND	0.050		mg/Kg	1	11/28/2019 2:18:15 AM	49037
Ethylbenzene	ND	0.050		mg/Kg	1	11/28/2019 2:18:15 AM	49037
Xylenes, Total	ND	0.10		mg/Kg	1	11/28/2019 2:18:15 AM	49037
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	11/28/2019 2:18:15 AM	49037

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911B78**
Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL3-10'
Project: Black River 5H
Collection Date: 11/23/2019 1:45:00 PM
Lab ID: 1911B78-002 **Matrix:** SOIL **Received Date:** 11/26/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	12/3/2019 3:57:02 PM	49115
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/27/2019 6:42:13 PM	49026
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/27/2019 6:42:13 PM	49026
Surr: DNOP	89.9	70-130		%Rec	1	11/27/2019 6:42:13 PM	49026
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/28/2019 2:41:21 AM	49037
Surr: BFB	99.3	77.4-118		%Rec	1	11/28/2019 2:41:21 AM	49037
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	11/28/2019 2:41:21 AM	49037
Toluene	ND	0.047		mg/Kg	1	11/28/2019 2:41:21 AM	49037
Ethylbenzene	ND	0.047		mg/Kg	1	11/28/2019 2:41:21 AM	49037
Xylenes, Total	ND	0.094		mg/Kg	1	11/28/2019 2:41:21 AM	49037
Surr: 4-Bromofluorobenzene	97.8	80-120		%Rec	1	11/28/2019 2:41:21 AM	49037

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911B78**
Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL4-6.5'
Project: Black River 5H
Collection Date: 11/23/2019 4:20:00 PM
Lab ID: 1911B78-003 **Matrix:** SOIL **Received Date:** 11/26/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	120	60		mg/Kg	20	12/3/2019 4:09:23 PM	49115
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	11/27/2019 6:51:15 PM	49026
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/27/2019 6:51:15 PM	49026
Surr: DNOP	118	70-130		%Rec	1	11/27/2019 6:51:15 PM	49026
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/28/2019 3:04:24 AM	49037
Surr: BFB	98.3	77.4-118		%Rec	1	11/28/2019 3:04:24 AM	49037
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/28/2019 3:04:24 AM	49037
Toluene	ND	0.050		mg/Kg	1	11/28/2019 3:04:24 AM	49037
Ethylbenzene	ND	0.050		mg/Kg	1	11/28/2019 3:04:24 AM	49037
Xylenes, Total	ND	0.10		mg/Kg	1	11/28/2019 3:04:24 AM	49037
Surr: 4-Bromofluorobenzene	95.7	80-120		%Rec	1	11/28/2019 3:04:24 AM	49037

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911B78**
Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL5-6.5'
Project: Black River 5H
Collection Date: 11/23/2019 5:06:00 PM
Lab ID: 1911B78-004 **Matrix:** SOIL **Received Date:** 11/26/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	79	60		mg/Kg	20	12/3/2019 4:21:43 PM	49115
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/27/2019 7:00:15 PM	49026
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/27/2019 7:00:15 PM	49026
Surr: DNOP	84.6	70-130		%Rec	1	11/27/2019 7:00:15 PM	49026
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/28/2019 3:27:27 AM	49037
Surr: BFB	97.7	77.4-118		%Rec	1	11/28/2019 3:27:27 AM	49037
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/28/2019 3:27:27 AM	49037
Toluene	ND	0.049		mg/Kg	1	11/28/2019 3:27:27 AM	49037
Ethylbenzene	ND	0.049		mg/Kg	1	11/28/2019 3:27:27 AM	49037
Xylenes, Total	ND	0.098		mg/Kg	1	11/28/2019 3:27:27 AM	49037
Surr: 4-Bromofluorobenzene	94.7	80-120		%Rec	1	11/28/2019 3:27:27 AM	49037

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911B78**
Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW2
Project: Black River 5H
Collection Date: 11/23/2019 1:13:00 PM
Lab ID: 1911B78-005 **Matrix:** SOIL **Received Date:** 11/26/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	1500	60		mg/Kg	20	12/4/2019 1:59:14 PM	49141
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	11/27/2019 7:09:13 PM	49026
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/27/2019 7:09:13 PM	49026
Surr: DNOP	96.4	70-130		%Rec	1	11/27/2019 7:09:13 PM	49026
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/28/2019 3:50:31 AM	49037
Surr: BFB	103	77.4-118		%Rec	1	11/28/2019 3:50:31 AM	49037
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/28/2019 3:50:31 AM	49037
Toluene	ND	0.048		mg/Kg	1	11/28/2019 3:50:31 AM	49037
Ethylbenzene	ND	0.048		mg/Kg	1	11/28/2019 3:50:31 AM	49037
Xylenes, Total	ND	0.096		mg/Kg	1	11/28/2019 3:50:31 AM	49037
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/28/2019 3:50:31 AM	49037

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

Qualifiers:

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

Analytical Report
Lab Order **1911B78**
Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW6
Project: Black River 5H
Collection Date: 11/23/2019 9:22:00 AM
Lab ID: 1911B78-006 **Matrix:** SOIL **Received Date:** 11/26/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	1700	60		mg/Kg	20	12/4/2019 2:36:27 PM	49141
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/2/2019 9:34:09 AM	49056
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/2/2019 9:34:09 AM	49056
Surr: DNOP	90.6	70-130		%Rec	1	12/2/2019 9:34:09 AM	49056
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/28/2019 4:13:30 AM	49037
Surr: BFB	98.2	77.4-118		%Rec	1	11/28/2019 4:13:30 AM	49037
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/28/2019 4:13:30 AM	49037
Toluene	ND	0.049		mg/Kg	1	11/28/2019 4:13:30 AM	49037
Ethylbenzene	ND	0.049		mg/Kg	1	11/28/2019 4:13:30 AM	49037
Xylenes, Total	ND	0.098		mg/Kg	1	11/28/2019 4:13:30 AM	49037
Surr: 4-Bromofluorobenzene	94.4	80-120		%Rec	1	11/28/2019 4:13:30 AM	49037

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911B78**
Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW7
Project: Black River 5H
Collection Date: 11/23/2019 9:18:00 AM
Lab ID: 1911B78-007 **Matrix:** SOIL **Received Date:** 11/26/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	98	60		mg/Kg	20	12/4/2019 2:48:52 PM	49141
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/2/2019 10:01:21 AM	49056
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/2/2019 10:01:21 AM	49056
Surr: DNOP	77.8	70-130		%Rec	1	12/2/2019 10:01:21 AM	49056
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/28/2019 5:22:34 AM	49037
Surr: BFB	96.4	77.4-118		%Rec	1	11/28/2019 5:22:34 AM	49037
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/28/2019 5:22:34 AM	49037
Toluene	ND	0.048		mg/Kg	1	11/28/2019 5:22:34 AM	49037
Ethylbenzene	ND	0.048		mg/Kg	1	11/28/2019 5:22:34 AM	49037
Xylenes, Total	ND	0.097		mg/Kg	1	11/28/2019 5:22:34 AM	49037
Surr: 4-Bromofluorobenzene	93.3	80-120		%Rec	1	11/28/2019 5:22:34 AM	49037

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911B78**
Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW8
Project: Black River 5H
Collection Date: 11/23/2019 10:20:00 AM
Lab ID: 1911B78-008 **Matrix:** SOIL **Received Date:** 11/26/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	110	60		mg/Kg	20	12/4/2019 3:01:17 PM	49141
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/2/2019 10:10:29 AM	49056
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/2/2019 10:10:29 AM	49056
Surr: DNOP	77.4	70-130		%Rec	1	12/2/2019 10:10:29 AM	49056
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/28/2019 5:45:36 AM	49037
Surr: BFB	98.8	77.4-118		%Rec	1	11/28/2019 5:45:36 AM	49037
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/28/2019 5:45:36 AM	49037
Toluene	ND	0.049		mg/Kg	1	11/28/2019 5:45:36 AM	49037
Ethylbenzene	ND	0.049		mg/Kg	1	11/28/2019 5:45:36 AM	49037
Xylenes, Total	ND	0.099		mg/Kg	1	11/28/2019 5:45:36 AM	49037
Surr: 4-Bromofluorobenzene	96.2	80-120		%Rec	1	11/28/2019 5:45:36 AM	49037

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

Qualifiers:

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

Analytical Report
Lab Order **1911B78**
Date Reported: **12/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL2-15'
Project: Black River 5H
Collection Date: 11/24/2019 9:50:00 AM
Lab ID: 1911B78-009 **Matrix:** SOIL **Received Date:** 11/26/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	130	60		mg/Kg	20	12/4/2019 3:38:30 PM	49141
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/2/2019 10:19:40 AM	49056
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/2/2019 10:19:40 AM	49056
Surr: DNOP	73.0	70-130		%Rec	1	12/2/2019 10:19:40 AM	49056
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/28/2019 6:08:37 AM	49037
Surr: BFB	104	77.4-118		%Rec	1	11/28/2019 6:08:37 AM	49037
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/28/2019 6:08:37 AM	49037
Toluene	ND	0.048		mg/Kg	1	11/28/2019 6:08:37 AM	49037
Ethylbenzene	ND	0.048		mg/Kg	1	11/28/2019 6:08:37 AM	49037
Xylenes, Total	ND	0.096		mg/Kg	1	11/28/2019 6:08:37 AM	49037
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	11/28/2019 6:08:37 AM	49037

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 Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1911B78**

05-Dec-19

Client: Souder, Miller & Associates

Project: Black River 5H

Sample ID: **MB-49115**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **49115**	RunNo: **64888**							
Prep Date: **12/3/2019**	Analysis Date: **12/3/2019**	SeqNo: **2226023**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-49115**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **49115**	RunNo: **64888**							
Prep Date: **12/3/2019**	Analysis Date: **12/3/2019**	SeqNo: **2226024**	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			

Sample ID: **MB-49141**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **49141**	RunNo: **64920**							
Prep Date: **12/4/2019**	Analysis Date: **12/4/2019**	SeqNo: **2227342**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-49141**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **49141**	RunNo: **64920**							
Prep Date: **12/4/2019**	Analysis Date: **12/4/2019**	SeqNo: **2227343**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.6	90	110			

Sample ID: **MB-49141**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **49141**	RunNo: **64921**							
Prep Date: **12/4/2019**	Analysis Date: **12/4/2019**	SeqNo: **2227377**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-49141**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **49141**	RunNo: **64921**							
Prep Date: **12/4/2019**	Analysis Date: **12/4/2019**	SeqNo: **2227379**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.9	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1911B78**

05-Dec-19

Client: Souder, Miller & Associates

Project: Black River 5H

Sample ID: **LCS-49026** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **49026** RunNo: **64812**

Prep Date: **11/26/2019** Analysis Date: **11/27/2019** SeqNo: **2222660** 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	4.3		5.000		85.4	70	130			

Sample ID: **MB-49026** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **49026** RunNo: **64812**

Prep Date: **11/26/2019** Analysis Date: **11/27/2019** SeqNo: **2222661** 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	9.1		10.00		91.1	70	130			

Sample ID: **1911B78-006AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **CSW6** Batch ID: **49056** RunNo: **64856**

Prep Date: **11/27/2019** Analysis Date: **12/2/2019** SeqNo: **2223549** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.7	48.45	5.152	86.0	57	142			
Surr: DNOP	4.3		4.845		89.8	70	130			

Sample ID: **1911B78-006AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **CSW6** Batch ID: **49056** RunNo: **64856**

Prep Date: **11/27/2019** Analysis Date: **12/2/2019** SeqNo: **2223550** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.5	47.66	5.152	81.0	57	142	6.69	20	
Surr: DNOP	4.1		4.766		85.2	70	130	0	0	

Sample ID: **LCS-49056** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **49056** RunNo: **64856**

Prep Date: **11/27/2019** Analysis Date: **12/2/2019** SeqNo: **2223563** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	103	63.9	124			
Surr: DNOP	5.1		5.000		102	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1911B78**

05-Dec-19

Client: Souder, Miller & Associates

Project: Black River 5H

Sample ID: **MB-49056**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **49056**	RunNo: **64856**
Prep Date: **11/27/2019**	Analysis Date: **12/2/2019**	SeqNo: **2223565** 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		79.9	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1911B78**

05-Dec-19

Client: Souder, Miller & Associates

Project: Black River 5H

Sample ID: **MB-49037**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **49037**	RunNo: **64830**
Prep Date: **11/26/2019**	Analysis Date: **11/27/2019**	SeqNo: **2222438** 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	1100		1000		108	77.4	118			

Sample ID: **LCS-49037**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **49037**	RunNo: **64830**
Prep Date: **11/26/2019**	Analysis Date: **11/27/2019**	SeqNo: **2222439** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	80	120			
Surr: BFB	1200		1000		122	77.4	118			S

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1911B78**

05-Dec-19

Client: Souder, Miller & Associates

Project: Black River 5H

Sample ID: **MB-49037**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **49037**	RunNo: **64830**
Prep Date: **11/26/2019**	Analysis Date: **11/27/2019**	SeqNo: **2222488** 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		103	80	120			

Sample ID: **LCS-49037**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **49037**	RunNo: **64830**
Prep Date: **11/26/2019**	Analysis Date: **11/27/2019**	SeqNo: **2222489** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	106	80	120			
Toluene	1.1	0.050	1.000	0	108	80	120			
Ethylbenzene	1.1	0.050	1.000	0	108	80	120			
Xylenes, Total	3.3	0.10	3.000	0	108	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	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 Limit
S	% Recovery outside of range due to dilution or matrix		

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: **1911B78** RcptNo: **1**

Received By: Juan Rojas **11/26/2019 9:00:00 AM**

Completed By: **Erin Melendrez** **11/26/2019 9:14:17 AM**

Reviewed By: DM 11/26/19

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 11/26/19

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	3.3	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 turn

Project Name: Black River #5H

Project #:

Project Manager: Ashley Maxwell

Sampler: LAA

On Ice: ☑ Yes ☐ No

of Coolers: 1

Cooler Temp(including CF): 3.3-0=3.3 (°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. 1911B78	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)
11/23/19	9:14	Soil	CL1-3'	4oz		-001							✓			
	1001		~~CL2-4'~~													
	145		CL3-10'			-002										
	420		CL4-6.5'			-003										
	506		CL5-6.5'			-004										
	113		CSW2			-005										
	922		CSW6			-006										
	918		CSW7			-007										
	1020		CSW8			-008										
11/24/19	950		CL2-15'			-009										

Date:	Time:	Relinquished by:	Received by:	Via:	Date Time
11/25	9:00				11/25/19 0900
11/25/19	1900			carrier	11/26/19 9:00

Remarks: Marathon Oil

Per Ashley add BTEX/GRO/DRO/MRO to all samples 11/26/19

Direct Bill 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

December 06, 2019

Ashley Maxwell

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

RE: Black River 5H OrderNo.: 1911D05

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 3 sample(s) on 11/30/2019 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 **1911D05**
Date Reported: **12/6/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL6
Project: Black River 5H
Collection Date: 11/26/2019 9:20:00 AM
Lab ID: 1911D05-001 **Matrix:** SOIL **Received Date:** 11/30/2019 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	12/5/2019 3:36:36 PM	49174
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	12/3/2019 5:23:09 PM	49093
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/3/2019 5:23:09 PM	49093
Surr: DNOP	80.7	70-130		%Rec	1	12/3/2019 5:23:09 PM	49093
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/3/2019 1:13:50 PM	49082
Surr: BFB	83.5	77.4-118		%Rec	1	12/3/2019 1:13:50 PM	49082
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/3/2019 1:13:50 PM	49082
Toluene	ND	0.047		mg/Kg	1	12/3/2019 1:13:50 PM	49082
Ethylbenzene	ND	0.047		mg/Kg	1	12/3/2019 1:13:50 PM	49082
Xylenes, Total	ND	0.095		mg/Kg	1	12/3/2019 1:13:50 PM	49082
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	12/3/2019 1:13:50 PM	49082

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911D05**
Date Reported: **12/6/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW 3
Project: Black River 5H
Collection Date: 11/26/2019 8:28:00 AM
Lab ID: 1911D05-002 **Matrix:** SOIL **Received Date:** 11/30/2019 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	12/5/2019 3:48:57 PM	49174
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.3		mg/Kg	1	12/4/2019 7:42:23 PM	49093
Motor Oil Range Organics (MRO)	ND	41		mg/Kg	1	12/4/2019 7:42:23 PM	49093
Surr: DNOP	65.4	70-130	S	%Rec	1	12/4/2019 7:42:23 PM	49093
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/3/2019 1:36:37 PM	49082
Surr: BFB	83.0	77.4-118		%Rec	1	12/3/2019 1:36:37 PM	49082
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/3/2019 1:36:37 PM	49082
Toluene	ND	0.048		mg/Kg	1	12/3/2019 1:36:37 PM	49082
Ethylbenzene	ND	0.048		mg/Kg	1	12/3/2019 1:36:37 PM	49082
Xylenes, Total	ND	0.097		mg/Kg	1	12/3/2019 1:36:37 PM	49082
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	12/3/2019 1:36:37 PM	49082

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911D05**
Date Reported: **12/6/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW 9
Project: Black River 5H
Collection Date: 11/26/2019 8:54:00 AM
Lab ID: 1911D05-003 **Matrix:** SOIL **Received Date:** 11/30/2019 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	12/5/2019 4:01:18 PM	49174
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/3/2019 5:41:32 PM	49093
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/3/2019 5:41:32 PM	49093
Surr: DNOP	72.1	70-130		%Rec	1	12/3/2019 5:41:32 PM	49093
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/3/2019 1:59:30 PM	49082
Surr: BFB	82.0	77.4-118		%Rec	1	12/3/2019 1:59:30 PM	49082
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	12/3/2019 1:59:30 PM	49082
Toluene	ND	0.049		mg/Kg	1	12/3/2019 1:59:30 PM	49082
Ethylbenzene	ND	0.049		mg/Kg	1	12/3/2019 1:59:30 PM	49082
Xylenes, Total	ND	0.099		mg/Kg	1	12/3/2019 1:59:30 PM	49082
Surr: 4-Bromofluorobenzene	98.8	80-120		%Rec	1	12/3/2019 1:59:30 PM	49082

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 Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1911D05**

06-Dec-19

Client: Souder, Miller & Associates

Project: Black River 5H

Sample ID: **MB-49174**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **49174**	RunNo: **64987**							
Prep Date: **12/5/2019**	Analysis Date: **12/5/2019**	SeqNo: **2228955**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-49174**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **49174**	RunNo: **64987**							
Prep Date: **12/5/2019**	Analysis Date: **12/5/2019**	SeqNo: **2228956**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.7	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1911D05**

06-Dec-19

Client: Souder, Miller & Associates

Project: Black River 5H

Sample ID: **LCS-49070**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **49070**	RunNo: **64876**							
Prep Date: **12/2/2019**	Analysis Date: **12/3/2019**	SeqNo: **2224173**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.0		5.000		79.0	70	130			

Sample ID: **MB-49070**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **49070**	RunNo: **64876**							
Prep Date: **12/2/2019**	Analysis Date: **12/3/2019**	SeqNo: **2224174**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		105	70	130			

Sample ID: **LCS-49089**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **49089**	RunNo: **64876**							
Prep Date: **12/2/2019**	Analysis Date: **12/3/2019**	SeqNo: **2224924**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.1		5.000		82.7	70	130			

Sample ID: **MB-49089**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **49089**	RunNo: **64876**							
Prep Date: **12/2/2019**	Analysis Date: **12/3/2019**	SeqNo: **2224925**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.5		10.00		85.3	70	130			

Sample ID: **LCS-49093**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **49093**	RunNo: **64876**							
Prep Date: **12/2/2019**	Analysis Date: **12/3/2019**	SeqNo: **2225772**	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	88.2	63.9	124			
Surr: DNOP	3.7		5.000		74.5	70	130			

Sample ID: **MB-49093**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **49093**	RunNo: **64876**							
Prep Date: **12/2/2019**	Analysis Date: **12/3/2019**	SeqNo: **2225773**	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	7.9		10.00		79.3	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1911D05**

06-Dec-19

Client: Souder, Miller & Associates

Project: Black River 5H

Sample ID: **mb-49082**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **49082**	RunNo: **64903**
Prep Date: **12/2/2019**	Analysis Date: **12/3/2019**	SeqNo: **2225312** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		88.3	77.4	118			

Sample ID: **lcs-49082**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **49082**	RunNo: **64903**
Prep Date: **12/2/2019**	Analysis Date: **12/3/2019**	SeqNo: **2225313** 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	97.2	80	120			
Surr: BFB	970		1000		96.8	77.4	118			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1911D05**

06-Dec-19

Client: Souder, Miller & Associates

Project: Black River 5H

Sample ID: **mb-49082**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **49082**	RunNo: **64903**
Prep Date: **12/2/2019**	Analysis Date: **12/3/2019**	SeqNo: **2225359** 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		110	80	120			

Sample ID: **LCS-49082**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **49082**	RunNo: **64903**
Prep Date: **12/2/2019**	Analysis Date: **12/3/2019**	SeqNo: **2225360** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	98.4	80	120			
Toluene	0.98	0.050	1.000	0	97.7	80	120			
Ethylbenzene	0.98	0.050	1.000	0	98.4	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.1	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1911D05** RcptNo: **1**

Received By: **Erin Melendrez** **11/30/2019 11:10:00 AM**

Completed By: **Erin Melendrez** **11/30/2019 2:16:56 PM**

Reviewed By: ENM 12/2/19

Chain of Custody

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

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 12/2/19

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	3.0	Good	Yes			
2	3.6	Good	Yes			

Chain-of-Custody Record

Client: SMH - 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 turn

Project Name:
Black River #6 H

Project #:

Project Manager:
Ashley Maxwell

Sampler: LHA

On Ice: ☒ Yes ☐ No

of Coolers: 2

Cooler Temp (including CF): 3.0-0(CF)=3.0(°C) 3.6-0(CF)=3.6°C

HEAL No. 1911005

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type		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)
11/26/19	920	Soil	CL6	4oz		-001	X	X					X			
1	828	1	CSW3			-002	X	X					X			
1	854	1	CSW9			-003	X	X					X			

Date: 11/27 Time: 14:30 Relinquished by:

Received by: Via: Date: 11/27 Time: 1436

Date: 11/29/19 Time: 1910 Relinquished by:

Received by: Via: Fedex Date: 11/30/19 Time: 1110

Remarks:
Marathon Oil
Direct Bill

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

Analysis Request

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

December 10, 2019

Ashley Maxwell

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

RE: Black River 5H OrderNo.: 1912060

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 10 sample(s) on 12/3/2019 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 **1912060**
Date Reported: **12/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL8-1'
Project: Black River 5H
Collection Date: 12/2/2019 9:48:00 AM
Lab ID: 1912060-001 **Matrix:** SOIL **Received Date:** 12/3/2019 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	12/6/2019 2:37:42 PM	49195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/5/2019 3:04:01 PM	49139
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/5/2019 3:04:01 PM	49139
Surr: DNOP	90.2	70-130		%Rec	1	12/5/2019 3:04:01 PM	49139
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/4/2019 4:11:33 PM	49121
Surr: BFB	86.1	77.4-118		%Rec	1	12/4/2019 4:11:33 PM	49121
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	12/4/2019 4:11:33 PM	49121
Toluene	ND	0.046		mg/Kg	1	12/4/2019 4:11:33 PM	49121
Ethylbenzene	ND	0.046		mg/Kg	1	12/4/2019 4:11:33 PM	49121
Xylenes, Total	ND	0.092		mg/Kg	1	12/4/2019 4:11:33 PM	49121
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	12/4/2019 4:11:33 PM	49121

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1912060**
Date Reported: **12/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL7-0.5'
Project: Black River 5H
Collection Date: 12/2/2019 9:52:00 AM
Lab ID: 1912060-002 **Matrix:** SOIL **Received Date:** 12/3/2019 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	270	60		mg/Kg	20	12/6/2019 2:50:03 PM	49195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/5/2019 3:28:15 PM	49139
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/5/2019 3:28:15 PM	49139
Surr: DNOP	71.3	70-130		%Rec	1	12/5/2019 3:28:15 PM	49139
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/4/2019 4:35:00 PM	49121
Surr: BFB	83.6	77.4-118		%Rec	1	12/4/2019 4:35:00 PM	49121
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	12/4/2019 4:35:00 PM	49121
Toluene	ND	0.046		mg/Kg	1	12/4/2019 4:35:00 PM	49121
Ethylbenzene	ND	0.046		mg/Kg	1	12/4/2019 4:35:00 PM	49121
Xylenes, Total	ND	0.092		mg/Kg	1	12/4/2019 4:35:00 PM	49121
Surr: 4-Bromofluorobenzene	96.8	80-120		%Rec	1	12/4/2019 4:35:00 PM	49121

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1912060**
Date Reported: **12/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL12-4'
Project: Black River 5H
Collection Date: 12/2/2019 10:02:00 AM
Lab ID: 1912060-003 **Matrix:** SOIL **Received Date:** 12/3/2019 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	12/6/2019 4:53:33 PM	49205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	12/5/2019 3:52:40 PM	49139
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/5/2019 3:52:40 PM	49139
Surr: DNOP	67.8	70-130	S	%Rec	1	12/5/2019 3:52:40 PM	49139
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/4/2019 4:58:25 PM	49121
Surr: BFB	85.6	77.4-118		%Rec	1	12/4/2019 4:58:25 PM	49121
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	12/4/2019 4:58:25 PM	49121
Toluene	ND	0.050		mg/Kg	1	12/4/2019 4:58:25 PM	49121
Ethylbenzene	ND	0.050		mg/Kg	1	12/4/2019 4:58:25 PM	49121
Xylenes, Total	ND	0.099		mg/Kg	1	12/4/2019 4:58:25 PM	49121
Surr: 4-Bromofluorobenzene	99.4	80-120		%Rec	1	12/4/2019 4:58:25 PM	49121

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1912060**
Date Reported: **12/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL9-0.5'
Project: Black River 5H
Collection Date: 12/2/2019 10:07:00 AM
Lab ID: 1912060-004 **Matrix:** SOIL **Received Date:** 12/3/2019 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	12/6/2019 5:30:36 PM	49205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/5/2019 4:16:50 PM	49139
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/5/2019 4:16:50 PM	49139
Surr: DNOP	58.8	70-130	S	%Rec	1	12/5/2019 4:16:50 PM	49139
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/4/2019 5:21:46 PM	49121
Surr: BFB	85.8	77.4-118		%Rec	1	12/4/2019 5:21:46 PM	49121
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	12/4/2019 5:21:46 PM	49121
Toluene	ND	0.046		mg/Kg	1	12/4/2019 5:21:46 PM	49121
Ethylbenzene	ND	0.046		mg/Kg	1	12/4/2019 5:21:46 PM	49121
Xylenes, Total	ND	0.092		mg/Kg	1	12/4/2019 5:21:46 PM	49121
Surr: 4-Bromofluorobenzene	99.8	80-120		%Rec	1	12/4/2019 5:21:46 PM	49121

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1912060**
Date Reported: **12/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL10-0.5'
Project: Black River 5H
Collection Date: 12/2/2019 10:08:00 AM
Lab ID: 1912060-005 **Matrix:** SOIL **Received Date:** 12/3/2019 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	270	60		mg/Kg	20	12/6/2019 6:07:40 PM	49205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/5/2019 4:41:11 PM	49139
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/5/2019 4:41:11 PM	49139
Surr: DNOP	34.6	70-130	S	%Rec	1	12/5/2019 4:41:11 PM	49139
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/4/2019 5:45:24 PM	49121
Surr: BFB	83.1	77.4-118		%Rec	1	12/4/2019 5:45:24 PM	49121
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	12/4/2019 5:45:24 PM	49121
Toluene	ND	0.046		mg/Kg	1	12/4/2019 5:45:24 PM	49121
Ethylbenzene	ND	0.046		mg/Kg	1	12/4/2019 5:45:24 PM	49121
Xylenes, Total	ND	0.093		mg/Kg	1	12/4/2019 5:45:24 PM	49121
Surr: 4-Bromofluorobenzene	96.8	80-120		%Rec	1	12/4/2019 5:45:24 PM	49121

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1912060**
Date Reported: **12/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL11-4'
Project: Black River 5H
Collection Date: 12/2/2019 10:18:00 AM
Lab ID: 1912060-006 **Matrix:** SOIL **Received Date:** 12/3/2019 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	12/6/2019 6:20:00 PM	49205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	12/5/2019 5:05:21 PM	49139
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/5/2019 5:05:21 PM	49139
Surr: DNOP	64.2	70-130	S	%Rec	1	12/5/2019 5:05:21 PM	49139
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/4/2019 6:08:57 PM	49121
Surr: BFB	80.2	77.4-118		%Rec	1	12/4/2019 6:08:57 PM	49121
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/4/2019 6:08:57 PM	49121
Toluene	ND	0.048		mg/Kg	1	12/4/2019 6:08:57 PM	49121
Ethylbenzene	ND	0.048		mg/Kg	1	12/4/2019 6:08:57 PM	49121
Xylenes, Total	ND	0.096		mg/Kg	1	12/4/2019 6:08:57 PM	49121
Surr: 4-Bromofluorobenzene	93.3	80-120		%Rec	1	12/4/2019 6:08:57 PM	49121

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1912060**
Date Reported: **12/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW1
Project: Black River 5H
Collection Date: 12/2/2019 10:30:00 AM
Lab ID: 1912060-007 **Matrix:** SOIL **Received Date:** 12/3/2019 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	12/6/2019 6:57:03 PM	49205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/5/2019 5:29:38 PM	49139
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/5/2019 5:29:38 PM	49139
Surr: DNOP	44.4	70-130	S	%Rec	1	12/5/2019 5:29:38 PM	49139
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/4/2019 7:42:38 PM	49121
Surr: BFB	85.4	77.4-118		%Rec	1	12/4/2019 7:42:38 PM	49121
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/4/2019 7:42:38 PM	49121
Toluene	ND	0.049		mg/Kg	1	12/4/2019 7:42:38 PM	49121
Ethylbenzene	ND	0.049		mg/Kg	1	12/4/2019 7:42:38 PM	49121
Xylenes, Total	ND	0.097		mg/Kg	1	12/4/2019 7:42:38 PM	49121
Surr: 4-Bromofluorobenzene	98.7	80-120		%Rec	1	12/4/2019 7:42:38 PM	49121

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1912060**
Date Reported: **12/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW4
Project: Black River 5H
Collection Date: 12/2/2019 10:45:00 AM
Lab ID: 1912060-008 **Matrix:** SOIL **Received Date:** 12/3/2019 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	170	60		mg/Kg	20	12/6/2019 7:09:25 PM	49205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	12/5/2019 5:53:47 PM	49139
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/5/2019 5:53:47 PM	49139
Surr: DNOP	60.0	70-130	S	%Rec	1	12/5/2019 5:53:47 PM	49139
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/4/2019 8:06:08 PM	49121
Surr: BFB	81.0	77.4-118		%Rec	1	12/4/2019 8:06:08 PM	49121
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	12/4/2019 8:06:08 PM	49121
Toluene	ND	0.047		mg/Kg	1	12/4/2019 8:06:08 PM	49121
Ethylbenzene	ND	0.047		mg/Kg	1	12/4/2019 8:06:08 PM	49121
Xylenes, Total	ND	0.093		mg/Kg	1	12/4/2019 8:06:08 PM	49121
Surr: 4-Bromofluorobenzene	93.7	80-120		%Rec	1	12/4/2019 8:06:08 PM	49121

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1912060**
Date Reported: **12/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW5
Project: Black River 5H
Collection Date: 12/2/2019 10:10:00 AM
Lab ID: 1912060-009 **Matrix:** SOIL **Received Date:** 12/3/2019 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	12/6/2019 7:21:45 PM	49205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	12/5/2019 6:18:05 PM	49139
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/5/2019 6:18:05 PM	49139
Surr: DNOP	56.8	70-130	S	%Rec	1	12/5/2019 6:18:05 PM	49139
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/4/2019 8:29:43 PM	49121
Surr: BFB	85.7	77.4-118		%Rec	1	12/4/2019 8:29:43 PM	49121
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	12/4/2019 8:29:43 PM	49121
Toluene	ND	0.050		mg/Kg	1	12/4/2019 8:29:43 PM	49121
Ethylbenzene	ND	0.050		mg/Kg	1	12/4/2019 8:29:43 PM	49121
Xylenes, Total	ND	0.10		mg/Kg	1	12/4/2019 8:29:43 PM	49121
Surr: 4-Bromofluorobenzene	97.9	80-120		%Rec	1	12/4/2019 8:29:43 PM	49121

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1912060**
Date Reported: **12/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW10
Project: Black River 5H
Collection Date: 12/2/2019 9:58:00 AM
Lab ID: 1912060-010 **Matrix:** SOIL **Received Date:** 12/3/2019 9:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	320	60		mg/Kg	20	12/6/2019 7:34:06 PM	49205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	12/5/2019 6:42:03 PM	49139
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/5/2019 6:42:03 PM	49139
Surr: DNOP	40.1	70-130	S	%Rec	1	12/5/2019 6:42:03 PM	49139
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/4/2019 8:53:08 PM	49121
Surr: BFB	87.2	77.4-118		%Rec	1	12/4/2019 8:53:08 PM	49121
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/4/2019 8:53:08 PM	49121
Toluene	ND	0.048		mg/Kg	1	12/4/2019 8:53:08 PM	49121
Ethylbenzene	ND	0.048		mg/Kg	1	12/4/2019 8:53:08 PM	49121
Xylenes, Total	ND	0.097		mg/Kg	1	12/4/2019 8:53:08 PM	49121
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	12/4/2019 8:53:08 PM	49121

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 Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1912060**

10-Dec-19

Client: Souder, Miller & Associates

Project: Black River 5H

Sample ID: **MB-49195** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **49195** RunNo: **65000**

Prep Date: **12/6/2019** Analysis Date: **12/6/2019** SeqNo: **2230260** Units: **mg/Kg**

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

Sample ID: **LCS-49195** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **49195** RunNo: **65000**

Prep Date: **12/6/2019** Analysis Date: **12/6/2019** SeqNo: **2230261** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.0	90	110			

Sample ID: **MB-49205** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **49205** RunNo: **65000**

Prep Date: **12/6/2019** Analysis Date: **12/6/2019** SeqNo: **2230295** Units: **mg/Kg**

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

Sample ID: **LCS-49205** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **49205** RunNo: **65000**

Prep Date: **12/6/2019** Analysis Date: **12/6/2019** SeqNo: **2230296** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1912060**

10-Dec-19

Client: Souder, Miller & Associates

Project: Black River 5H

Sample ID: **MB-49139**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **49139**	RunNo: **64962**
Prep Date: **12/4/2019**	Analysis Date: **12/5/2019**	SeqNo: **2227843** 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	13		10.00		128	70	130			

Sample ID: **LCS-49139**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **49139**	RunNo: **64962**
Prep Date: **12/4/2019**	Analysis Date: **12/5/2019**	SeqNo: **2227881** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	63.9	124			
Surr: DNOP	5.4		5.000		108	70	130			

Sample ID: **1912060-010AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **CSW10**	Batch ID: **49139**	RunNo: **64962**
Prep Date: **12/4/2019**	Analysis Date: **12/5/2019**	SeqNo: **2229378** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	36	9.5	47.57	0	75.1	57	142			
Surr: DNOP	1.4		4.757		30.1	70	130			S

Sample ID: **1912060-010AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **CSW10**	Batch ID: **49139**	RunNo: **64962**
Prep Date: **12/4/2019**	Analysis Date: **12/5/2019**	SeqNo: **2229379** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	9.5	47.35	0	113	57	142	40.0	20	R
Surr: DNOP	2.7		4.735		56.6	70	130	0	0	S

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 Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1912060**

10-Dec-19

Client: Souder, Miller & Associates

Project: Black River 5H

Sample ID: **mb-49121**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **49121**	RunNo: **64923**
Prep Date: **12/3/2019**	Analysis Date: **12/4/2019**	SeqNo: **2227078** 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	810		1000		81.4	77.4	118			

Sample ID: **lcs-49121**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **49121**	RunNo: **64923**
Prep Date: **12/3/2019**	Analysis Date: **12/4/2019**	SeqNo: **2227079** 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	95.2	80	120			
Surr: BFB	1000		1000		101	77.4	118			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1912060**

10-Dec-19

Client: Souder, Miller & Associates

Project: Black River 5H

Sample ID: **mb-49121**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **49121**	RunNo: **64923**
Prep Date: **12/3/2019**	Analysis Date: **12/4/2019**	SeqNo: **2227102** 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	0.95		1.000		94.8	80	120			

Sample ID: **LCS-49121**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **49121**	RunNo: **64923**
Prep Date: **12/3/2019**	Analysis Date: **12/4/2019**	SeqNo: **2227103** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.3	80	120			
Toluene	0.94	0.050	1.000	0	93.6	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.8	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.7	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	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 Limit
S	% Recovery outside of range due to dilution or matrix		

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: 1912060 RcptNo: 1

Received By: Yazmine Garduno 12/3/2019 9:23:00 AM

Completed By: Desiree Dominguez 12/3/2019 10:03:25 AM

Reviewed By: YG 12/3/19

Chain of Custody

1. Is Chain of Custody sufficiently 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. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
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 12/3/19

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	4.4	Good	Not Present			

Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

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

Project Name: Black River #5H

Project #:

Project Manager: Ashley Maxwell

Sampler: ZAA

On Ice: ☒ Yes ☐ No

of Coolers: 1

Cooler Temp (including CF): 4.4 (0) = 4.4

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. 1912060	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)
12/2/19	948	Soil	CL 8-1'	4oz		-001	X	X					X			
	952		CL 7-0.5'			-002	X	X					X			
	1002		CL 12-4'			-003	X	X					X			
	1007		CL 9-0.5'			-004	X	X					X			
	1008		CL 10-0.5'			-005	X	X					X			
	1018		CL 11-4'			-006	X	X					X			
	1030		CSW 1			-007	X	X					X			
	1045		CSW 4			-008	X	X					X			
	1010		CSW 5			-009	X	X					X			
	958		CSW 10			-010	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/2	15:30				12/2/19	1540
12/2/19	1940		courier		12/3/19	0923

Remarks: Marathon Oil Bill Direct

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.