Souder, Miller & Associates♦201 S. Halagueno St.♦Carlsbad, NM 88220

February 8, 2019

#5E26816-BG27

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

SUBJECT: Remediation Plan for the Oil CDP Release (2RP-5174), Eddy County, New Mexico

Dear Mr. Hamlet:

On behalf of Matador Resources Company (Matador), Souder, Miller & Associates (SMA) has prepared this Remediation Plan that describes the delineation and proposed remediation for a release of liquids related to oil and gas production activities at the Oil CDP site. The site is in Unit E, Section 31, Township 23S, Range 28E, Eddy County, New Mexico, on private land. Figure 1 illustrates the vicinity and site location on an USGS 7.5 minute quadrangle map.

Table 1 summarizes information regarding the release.

Table 1: Release Information and Closure Criteria			
Name	Oil CDP	Company	Matador Resources Company
API Number	fAB1901439524	Location	32.263008° -104.134550°
Incident Number	2RP-5174		
Estimated Date of Release	December 14, 2018	Date Reported to NMOCD	12/28/2018
Land Owner	Longwood Midstream Delaware, LLC	Reported To	NMOCD
Source of Release	Equipment failure		
Released Volume	33 bbls	Released Material	Crude Oil
Recovered Volume	25 bbls	Net Release	8 bbls
NMOCD Closure Criteria	>100 feet to groundwater		
SMA Response Dates	1/3/2019		

1.0 Background

On December 14, 2018, a release was discovered at the Oil CDP site due to equipment failure causing crude oil to be released onto the well pad. Initial response activities were conducted by Matador, and included hydrovacing free standing fluid and excavating impacted soil which recovered approximately 25 barrels of fluid. Figures 1 and 2 illustrate the vicinity and site location, Figure 3 illustrates the release location. The C-141 form is included in Appendix A.

2.0 Site Information and Closure Criteria

The Oil CDP is located approximately 2.6 miles southwest of Loving, New Mexico on privately-owned land at an elevation of approximately 3,144 feet above mean sea level (amsl).

Based upon New Mexico Office of the State Engineer (NMOSE) water well data (Appendix B), depth to groundwater in the area is estimated to be 219 feet below grade surface (bgs). There are four (4) 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 2/7/2019). The nearest significant watercourse is the Southern Canal, located approximately 2,868 feet to the north. 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 groundwater depth of greater than 100 feet bgs. Unless a deferral is approved by NMOCD per 19.15.29.12.B.(2), the site will be 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 Activities and Findings

On January 3, 2018, SMA personnel arrived on site in response to the release associated with the Oil CDP. 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 seven (7) sample locations (Pad BG, BH1-BH6) were investigated using a power auger, to depths up to twelve (12) feet bgs. A minimum of two samples were collected at each sampling location and field-screened using the method above. A total of eighteen (18) 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. Table 3 itemizes the samples and field-screening results as well as identifying any variances from the typical specification of two samples per boring. Locations for all samples are depicted on Figure 3.

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).

As summarized in Table 3, results indicate that an area around BH4 approximately to 1-foot bgs has been impacted.

4.0 Proposed Soil Remediation Work Plan

In accordance with 19.15.29.12.B(2), a deferral is being requested for the area around sample location BH4. This area is bound on both sides by underground electric lines and equipment on either side. Remediation in this area could cause safety issues or cause a major facility deconstruction . As described above, the contamination has been delineated and does not cause an imminent risk to human health, the environment, or groundwater. It is also the only sample location where impact exceeded NMOCD closure criteria for the location.

5.0 Scope and Limitations

The scope of our services included: assessment sampling; verifying release stabilization, regulatory liaison, and preparing this remediation plan. 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 Austin Weyant at 575-689-8801 or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Ashley Maxwell
Project Scientist

Reviewed by:

Shawna Chubbuck
Senior Scientist

ATTACHMENTS:

Figures:

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

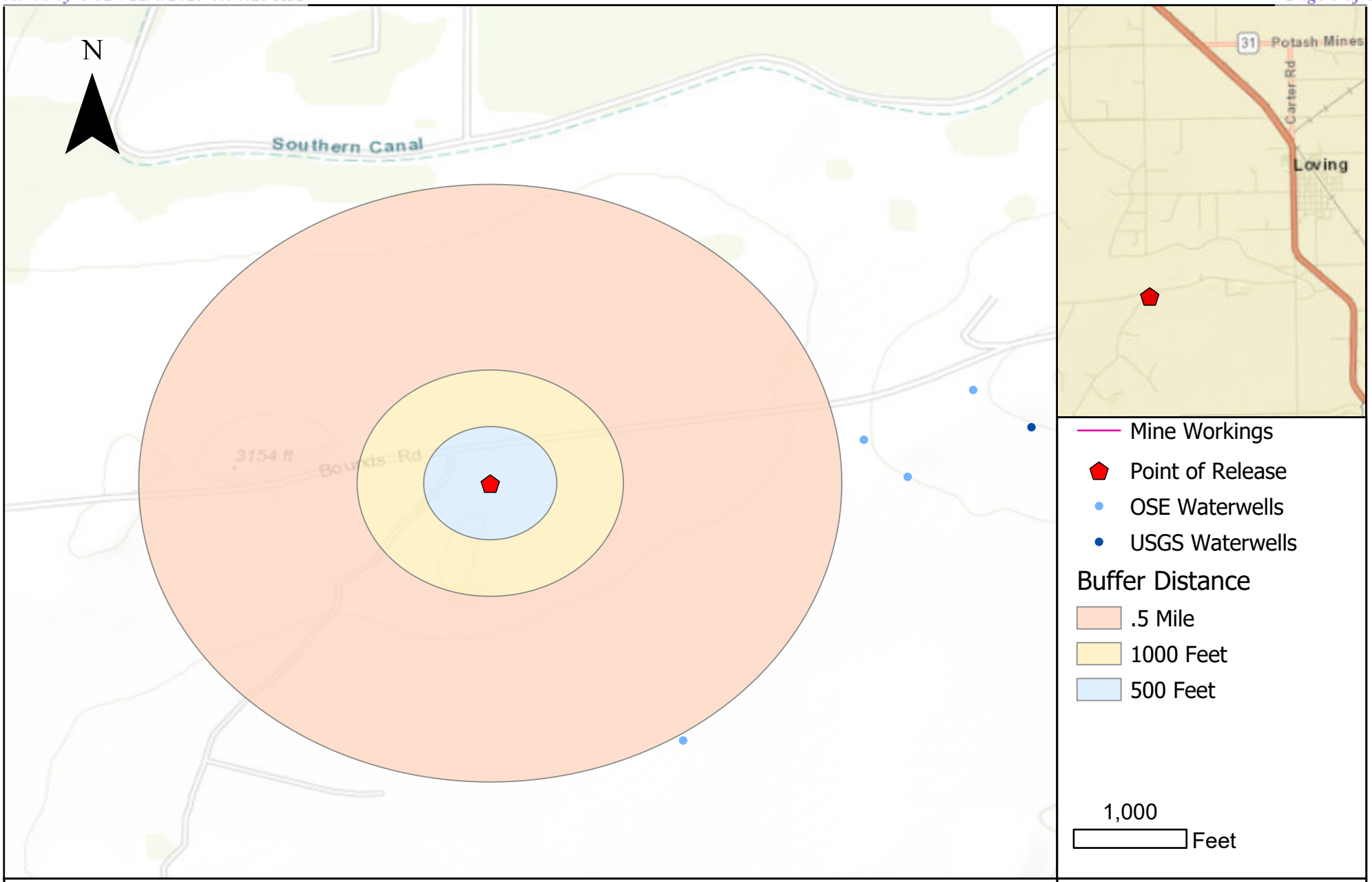
Tables:

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

Appendices:

Appendix A: Forms C141
Appendix B: Water Wells Report
Appendix C: Laboratory Analytical Reports

FIGURES



Regional Vicinity & Wellhead Protection Map
Charlie Sweeney - Matador Resources
Sec 31 23S 28E Eddy County

Figure 1

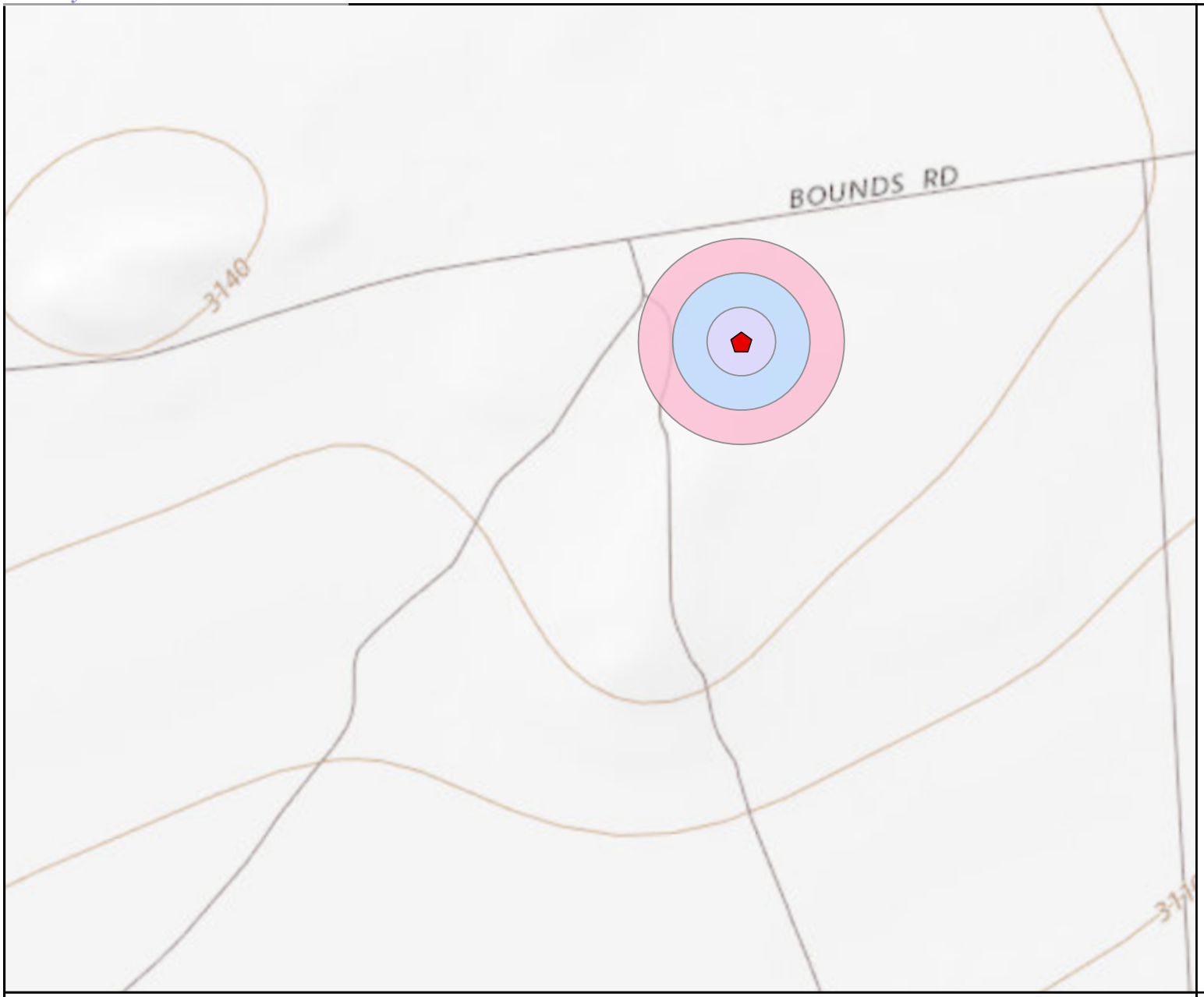
P:\5-Matador 2019 MSA (5E27961)\GIS\ARCGIS\MATADOR_MIT.aprx

Date Saved: 2/7/2019

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

Drawn MRS
Date 2/8/2019
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

670 Feet

Surface Water Protection Map
Oil CDP- Matador Resources
Sec 31 T23S R28E Eddy County , NM

Figure 2

P:\5-Matador 2019 MSA (5E27961)\GIS\ARCGIS\MATADOR_MIT.aprx

Date Saved: 2/7/2019

Revisions
By: Date: Descr:
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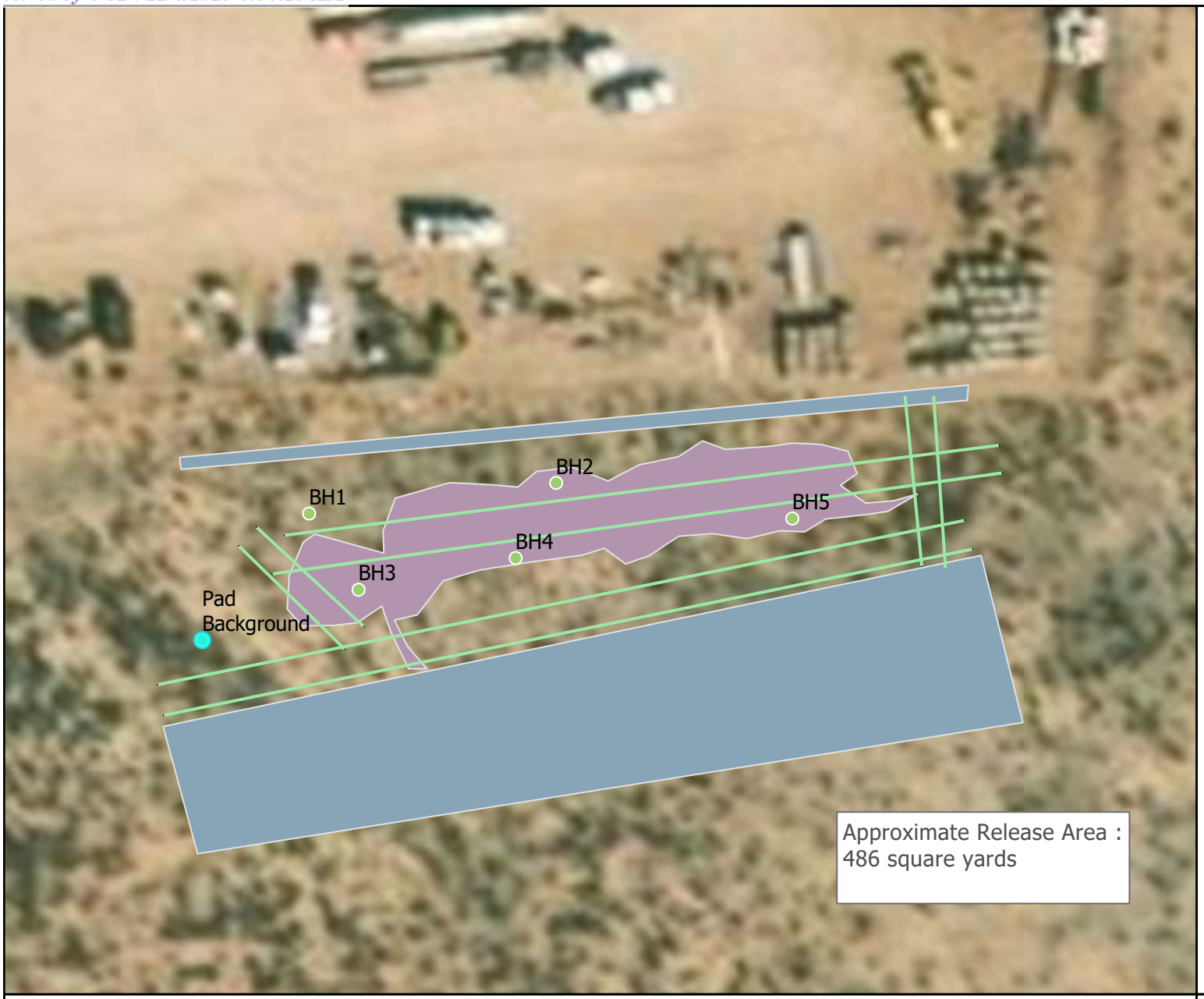

Sample Locations
Pipelines
Release Area
Equipment

N

0.01
Miles

Site and Sample location Map

OIL CDP- MAtador Resources

Figure 3

\\CBO10\Projects\MARK_WEST\GIS\ARCGIS\MARKWEST_MIT.aprx

Date Saved: 1/11/2019

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

Drawn
Date 1/11/2019
Checked
Approved

SMA

201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689-7040
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Table 3:
Summary of Sample Results

Matador
Oil CPD

Sample ID	Sample Date	Depth (feet bgs)	Proposed Action/ Action Taken	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria				50	10	1000			2500	1000
Pad BG	1/3/2019	Sur	Sampled	--	--	--	--	--	--	67
	1/3/2019	1	Sampled	--	--	--	--	--	--	280
	1/3/2019	2	Sampled	--	--	--	--	--	--	100
BH 1	1/3/2019	1	Sampled	--	--	<5.0	<10	<50	<65	31
	1/3/2019	2	Sampled	<0.225	<0.025	<5.0	<10	<50	<65	41
BH 2	1/3/2019	Sur	Sampled	--	--	<5.0	18	<50	18	100
	1/3/2019	1	Sampled	<0.225	<0.025	<5.0	<10	<50	<65	100
BH 3	1/3/2019	2	Sampled	--	--	<5.0	<10	<50	<65	110
	1/3/2019	4	Sampled	<0.225	<0.025	<5.0	<10	<50	<65	<30
BH 4	1/3/2019	1	Sampled	--	--	260	2600	720	3580	<30
	1/3/2019	2	Sampled	--	--	26	520	220	766	<30
	1/3/2019	3	Sampled	--	--	<5.0	64	<50	64	<30
	1/3/2019	6	Sampled	--	--	<5.0	<10	<50	<65	<30
	1/3/2019	12	Sampled	< 0.225	<0.025	<5.0	<10	<50	<65	430
BH 5	1/3/2019	1	Sampled	--	--	28	610	240	878	<30
	1/3/2019	2	Sampled	--	--	<5.0	100	<50	100	50
	1/3/2019	4	Sampled	< 0.225	<0.025	7.5	77	<50	84.5	51
	1/3/2019	8	Sampled	--	--	<5.0	22	<51	22	280

"--" = Not Analyzed

SMA #

TABLES

Table 2:
NMOCD Closure Criteria

Matador Resources Company
Oil CDP (2RP-5174)

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	219	NMOSE, Figure 1
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	1,650	NMOSE, Figure 1
Hortizontal Distance to Nearest Significant Watercourse (ft)	2,868	USGS, Figure 1

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
Depth to Groundwater		**Closure Criteria (units in mg/kg)**				
		Chloride *numerical limit or background, whichever is greater	**TPH**	**GRO + DRO**	**BTEX**	**Benzene**
< 50' BGS		600	100		50	10
51' to 100'		10000	2500	1000	50	10
>100'		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					
within a 100-year floodplain?	No					

Table 3:
Summary of Sample Results

Matador Resources Company
Oil CDP (2RP-5174)

Sample ID	Sample Date	Depth (feet bgs)	Action	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria				50	10	1000			2500	20,000
Pad BG	1/3/2019	Surface	Sampled	--	--	--	--	--	--	67
	1/3/2019	1	Sampled	--	--	--	--	--	--	280
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BH 1	1/3/2019	1	Sampled	--	--	<5.0	<10	<50	<65	31
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BH 3	1/3/2019	2	Sampled	--	--	<5.0	<10	<50	<65	110
	1/3/2019	4	Sampled	<0.225	<0.025	<5.0	<10	<50	<65	<30
BH 4	1/3/2019	1	Sampled	--	--	260	**2,600**	720	**3,580**	<30
	1/3/2019	2	Sampled	--	--	26	520	220	766	<30
	1/3/2019	3	Sampled	--	--	<5.0	64	<50	64	<30
	1/3/2019	6	Sampled	--	--	<5.0	<10	<50	<65	<30
	1/3/2019	12	Sampled	< 0.225	<0.025	<5.0	<10	<50	<65	430
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	1/3/2019	8	Sampled	--	--	<5.0	22	<51	22	280

"--" = Not Analyzed

APPENDIX A
FORM C141

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Matador Resources Company	OGRID 228937
Contact Name John Hurt	Contact Telephone 972-371-5200
Contact email JHurt@matadorresources.com	Incident # *(assigned by OCD)*
Contact mailing address5400 LBJ Freeway, Suite 1500 Dallas,TX 75240	

Location of Release Source

Latitude 32.263008° Longitude -104.134550°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Oil CDP	Site Type Gathering Facility
Date Release Discovered 12/14/18	API# *(if applicable) n/a*

Unit Letter	Section	Township	Range	County
E	31	23S	28E	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* LONGWOOD MIDSTREAM DELAWARE LLC___)

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) 33	Volume Recovered (bbls) 25
☐ Produced Water	Volume Released (bbls)	Volume Recovered (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:
Equipment failure occurred allowing fluids to be released on to the pad. Backhoe was on site and excavated soils associated with this release. A vacuum truck called to site to recover free fluids.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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 release was over 25 bbls
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes on 12/18/18 to Jim.Griswold; Robert.Hamlet; Mike.Bratcher by email	

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: The release was on even ground and did not continue to spread, so no containment devices were used.

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: John Hurt Title: RES Specialist

Signature: Date: 12/28/18

email: JHurt@matadorresources.com Telephone: 972-371-5200

OCD Only

Received by: Date:

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-5174
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Matador Resources Company	OGRID 228937
Contact Name John Hurt	Contact Telephone 972-371-5200
Contact email JHurt@matadorresources.com	Incident # *(assigned by OCD)*
Contact mailing address5400 LBJ Freeway, Suite 1500 Dallas, TX 75240	

Location of Release Source

Latitude 32.263008° Longitude -104.134550°

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Oil CDP	Site Type Gathering Facility
Date Release Discovered 12/14/18	API# *(if applicable) n/a*

Unit Letter	Section	Township	Range	County
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Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* LONGWOOD MIDSTREAM DELAWARE LLC___)

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

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☐ Produced Water	Volume Released (bbls)	Volume Recovered (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:
Equipment failure occurred allowing fluids to be released on to the pad. Backhoe was on site and excavated soils associated with this release. A vacuum truck called to site to recover free fluids.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5174
Facility ID	
Application ID	

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 release was over 15 bbls
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes on 12/18/18 to Jim.Griswold; Robert.Hamlet; Mike.Bratcher by email	

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.

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Printed Name: John Hurt Title: RES Specialist

Signature: Date: 2/8/19

email: JHurt@matadorresources.com Telephone: 972-371-5200

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5174
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?	219 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141 State of New Mexico
Page 4 Oil Conservation Division

Incident ID	
District RP	2RP-5174
Facility ID	
Application ID	

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

Printed Name: John Hurt Title: RES Specialist

Signature: Date: 2/8/19

email: JHurt@matadorresources.com Telephone: 972-371-5200

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5174
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: John Hurt Title: RES Specialist

Signature: Date: 2/8/19

email: JHurt@matadorresources.com Telephone: 972-371-5200

OCD Only

Received by: Date:

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

Signature: Date:

APPENDIX B
NMOSE WELLS REPORT

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

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

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 04085 POD1	CUB	ED	1	4	1	31	23S	28E	582039	3570027	537	250	200	50
C 04085 POD2	CUB	ED	2	4	1	31	23S	28E	582083	3569982	573	240	100	140
C 04281 POD1	C	ED	2	4	1	31	23S	28E	582193	3570055	693	200	100	100
C 04037 POD1	C	ED	4	3	2	31	23S	28E	582576	3569872	1063	99	60	39

Average Depth to Water: **115 feet**

Minimum Depth: **60 feet**

Maximum Depth: **200 feet**

Record Count: 4

UTMNAD83 Radius Search (in meters):

Easting (X): 581513.51 **Northing (Y):** 3569917.39 **Radius:** 1610

APPENDIX C

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

January 11, 2019

Austin Weyant

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

RE: Oil CPD OrderNo.: 1901145

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 18 sample(s) on 1/5/2019 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 **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pad BG-Sur
Project: Oil CPD
Collection Date: 1/3/2019 9:30:00 AM
Lab ID: 1901145-001 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	67	30		mg/Kg	20	1/9/2019 3:06:28 PM	42508

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

Qualifiers:

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

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pad BG-1
Project: Oil CPD
Collection Date: 1/3/2019 9:35:00 AM
Lab ID: 1901145-002 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	280	30		mg/Kg	20	1/9/2019 3:18:53 PM	42508

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

Qualifiers:

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

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pad BG-2
Project: Oil CPD
Collection Date: 1/3/2019 9:40:00 AM
Lab ID: 1901145-003 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	100	30		mg/Kg	20	1/9/2019 3:31:17 PM	42508

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

Qualifiers:

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

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH 1-1
Project: Oil CPD
Collection Date: 1/3/2019 10:15:00 AM
Lab ID: 1901145-004 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	31	30		mg/Kg	20	1/9/2019 3:43:41 PM	42508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	1/9/2019 11:05:54 PM	42480
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/9/2019 11:05:54 PM	42480
Surr: DNOP	84.3	50.6-138		%Rec	1	1/9/2019 11:05:54 PM	42480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/8/2019 8:09:49 PM	42476
Surr: BFB	103	73.8-119		%Rec	1	1/8/2019 8:09:49 PM	42476

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

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

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH 1-2
Project: Oil CPD
Collection Date: 1/3/2019 10:20:00 AM
Lab ID: 1901145-005 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	41	30		mg/Kg	20	1/9/2019 3:56:06 PM	42508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	1/9/2019 11:29:47 PM	42480
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/9/2019 11:29:47 PM	42480
Surr: DNOP	89.1	50.6-138		%Rec	1	1/9/2019 11:29:47 PM	42480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/8/2019 8:32:24 PM	42476
Surr: BFB	104	73.8-119		%Rec	1	1/8/2019 8:32:24 PM	42476
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/8/2019 8:32:24 PM	42476
Toluene	ND	0.048		mg/Kg	1	1/8/2019 8:32:24 PM	42476
Ethylbenzene	ND	0.048		mg/Kg	1	1/8/2019 8:32:24 PM	42476
Xylenes, Total	ND	0.095		mg/Kg	1	1/8/2019 8:32:24 PM	42476
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	1/8/2019 8:32:24 PM	42476

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

Qualifiers:

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

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH 2-Sur
Project: Oil CPD
Collection Date: 1/3/2019 10:30:00 AM
Lab ID: 1901145-006 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	100	30		mg/Kg	20	1/9/2019 4:33:19 PM	42508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	18	9.5		mg/Kg	1	1/9/2019 11:53:50 PM	42480
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/9/2019 11:53:50 PM	42480
Surr: DNOP	82.7	50.6-138		%Rec	1	1/9/2019 11:53:50 PM	42480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/8/2019 8:54:57 PM	42476
Surr: BFB	105	73.8-119		%Rec	1	1/8/2019 8:54:57 PM	42476

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

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

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH 2-1
Project: Oil CPD
Collection Date: 1/3/2019 10:35:00 AM
Lab ID: 1901145-007 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	100	30		mg/Kg	20	1/9/2019 4:45:44 PM	42508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	1/10/2019 12:17:47 AM	42480
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/10/2019 12:17:47 AM	42480
Surr: DNOP	86.1	50.6-138		%Rec	1	1/10/2019 12:17:47 AM	42480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/8/2019 9:17:32 PM	42476
Surr: BFB	106	73.8-119		%Rec	1	1/8/2019 9:17:32 PM	42476
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	1/8/2019 9:17:32 PM	42476
Toluene	ND	0.049		mg/Kg	1	1/8/2019 9:17:32 PM	42476
Ethylbenzene	ND	0.049		mg/Kg	1	1/8/2019 9:17:32 PM	42476
Xylenes, Total	ND	0.098		mg/Kg	1	1/8/2019 9:17:32 PM	42476
Surr: 4-Bromofluorobenzene	116	80-120		%Rec	1	1/8/2019 9:17:32 PM	42476

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

Qualifiers:

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

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH 3-2
Project: Oil CPD
Collection Date: 1/3/2019 11:15:00 AM
Lab ID: 1901145-008 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	110	30		mg/Kg	20	1/9/2019 4:58:08 PM	42508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	1/10/2019 12:41:54 AM	42480
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/10/2019 12:41:54 AM	42480
Surr: DNOP	84.0	50.6-138		%Rec	1	1/10/2019 12:41:54 AM	42480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/8/2019 9:40:05 PM	42476
Surr: BFB	107	73.8-119		%Rec	1	1/8/2019 9:40:05 PM	42476

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

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

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH 3-4
Project: Oil CPD
Collection Date: 1/3/2019 11:20:00 AM
Lab ID: 1901145-009 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	30		mg/Kg	20	1/9/2019 5:10:32 PM	42508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/10/2019 1:05:54 AM	42480
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/10/2019 1:05:54 AM	42480
Surr: DNOP	84.7	50.6-138		%Rec	1	1/10/2019 1:05:54 AM	42480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/8/2019 10:02:35 PM	42476
Surr: BFB	107	73.8-119		%Rec	1	1/8/2019 10:02:35 PM	42476
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	1/8/2019 10:02:35 PM	42476
Toluene	ND	0.049		mg/Kg	1	1/8/2019 10:02:35 PM	42476
Ethylbenzene	ND	0.049		mg/Kg	1	1/8/2019 10:02:35 PM	42476
Xylenes, Total	ND	0.098		mg/Kg	1	1/8/2019 10:02:35 PM	42476
Surr: 4-Bromofluorobenzene	116	80-120		%Rec	1	1/8/2019 10:02:35 PM	42476

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 Detection Limit
W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH 4-1
Project: Oil CPD
Collection Date: 1/3/2019 11:45:00 AM
Lab ID: 1901145-010 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	30		mg/Kg	20	1/9/2019 5:22:56 PM	42508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	2600	98		mg/Kg	10	1/10/2019 12:11:29 PM	42480
Motor Oil Range Organics (MRO)	720	490		mg/Kg	10	1/10/2019 12:11:29 PM	42480
Surr: DNOP	0	50.6-138	S	%Rec	10	1/10/2019 12:11:29 PM	42480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	260	4.9		mg/Kg	1	1/8/2019 11:32:33 PM	42476
Surr: BFB	1320	73.8-119	S	%Rec	1	1/8/2019 11:32:33 PM	42476

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

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

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH 4-2
Project: Oil CPD
Collection Date: 1/3/2019 11:50:00 AM
Lab ID: 1901145-011 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	30		mg/Kg	20	1/9/2019 5:35:20 PM	42508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	520	9.4		mg/Kg	1	1/10/2019 12:33:24 PM	42480
Motor Oil Range Organics (MRO)	220	47		mg/Kg	1	1/10/2019 12:33:24 PM	42480
Surr: DNOP	103	50.6-138		%Rec	1	1/10/2019 12:33:24 PM	42480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	26	4.6		mg/Kg	1	1/8/2019 11:54:56 PM	42476
Surr: BFB	330	73.8-119	S	%Rec	1	1/8/2019 11:54:56 PM	42476

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

Qualifiers:

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

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH 4-3
Project: Oil CPD
Collection Date: 1/3/2019 11:55:00 AM
Lab ID: 1901145-012 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	30		mg/Kg	20	1/10/2019 11:35:31 AM	42529
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	64	9.9		mg/Kg	1	1/10/2019 1:17:33 PM	42480
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/10/2019 1:17:33 PM	42480
Surr: DNOP	103	50.6-138		%Rec	1	1/10/2019 1:17:33 PM	42480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/9/2019 12:17:23 AM	42476
Surr: BFB	140	73.8-119	S	%Rec	1	1/9/2019 12:17:23 AM	42476

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

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

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH 4-6
Project: Oil CPD
Collection Date: 1/3/2019 12:00:00 PM
Lab ID: 1901145-013 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	30		mg/Kg	20	1/10/2019 12:12:45 PM	42529
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/10/2019 2:41:54 AM	42480
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/10/2019 2:41:54 AM	42480
Surr: DNOP	85.2	50.6-138		%Rec	1	1/10/2019 2:41:54 AM	42480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/9/2019 12:39:49 AM	42476
Surr: BFB	117	73.8-119		%Rec	1	1/9/2019 12:39:49 AM	42476

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

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

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH 4-12
Project: Oil CPD
Collection Date: 1/3/2019 12:05:00 PM
Lab ID: 1901145-014 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	430	30		mg/Kg	20	1/10/2019 12:25:09 PM	42529
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	1/10/2019 3:05:54 AM	42480
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/10/2019 3:05:54 AM	42480
Surr: DNOP	86.4	50.6-138		%Rec	1	1/10/2019 3:05:54 AM	42480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/9/2019 1:02:13 AM	42476
Surr: BFB	122	73.8-119	S	%Rec	1	1/9/2019 1:02:13 AM	42476
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/9/2019 1:02:13 AM	42476
Toluene	ND	0.047		mg/Kg	1	1/9/2019 1:02:13 AM	42476
Ethylbenzene	ND	0.047		mg/Kg	1	1/9/2019 1:02:13 AM	42476
Xylenes, Total	ND	0.094		mg/Kg	1	1/9/2019 1:02:13 AM	42476
Surr: 4-Bromofluorobenzene	135	80-120	S	%Rec	1	1/9/2019 1:02:13 AM	42476

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

Qualifiers:

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

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH 5-1
Project: Oil CPD
Collection Date: 1/3/2019 1:10:00 PM
Lab ID: 1901145-015 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	30		mg/Kg	20	1/10/2019 12:37:34 PM	42529
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	610	9.3		mg/Kg	1	1/10/2019 3:29:49 AM	42480
Motor Oil Range Organics (MRO)	240	47		mg/Kg	1	1/10/2019 3:29:49 AM	42480
Surr: DNOP	100	50.6-138		%Rec	1	1/10/2019 3:29:49 AM	42480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	28	4.9		mg/Kg	1	1/9/2019 1:24:39 AM	42476
Surr: BFB	328	73.8-119	S	%Rec	1	1/9/2019 1:24:39 AM	42476

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

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

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH 5-2
Project: Oil CPD
Collection Date: 1/3/2019 1:15:00 PM
Lab ID: 1901145-016 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	50	30		mg/Kg	20	1/10/2019 12:49:59 PM	42529
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	100	9.8		mg/Kg	1	1/10/2019 1:39:38 PM	42480
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/10/2019 1:39:38 PM	42480
Surr: DNOP	107	50.6-138		%Rec	1	1/10/2019 1:39:38 PM	42480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/9/2019 1:47:03 AM	42476
Surr: BFB	139	73.8-119	S	%Rec	1	1/9/2019 1:47:03 AM	42476

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

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

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH 5-4
Project: Oil CPD
Collection Date: 1/3/2019 1:25:00 PM
Lab ID: 1901145-017 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	51	30		mg/Kg	20	1/10/2019 1:02:22 PM	42529
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	77	9.7		mg/Kg	1	1/10/2019 4:17:48 AM	42480
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/10/2019 4:17:48 AM	42480
Surr: DNOP	96.5	50.6-138		%Rec	1	1/10/2019 4:17:48 AM	42480
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	7.5	4.7		mg/Kg	1	1/9/2019 2:09:26 AM	42476
Surr: BFB	166	73.8-119	S	%Rec	1	1/9/2019 2:09:26 AM	42476
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/9/2019 2:09:26 AM	42476
Toluene	ND	0.047		mg/Kg	1	1/9/2019 2:09:26 AM	42476
Ethylbenzene	ND	0.047		mg/Kg	1	1/9/2019 2:09:26 AM	42476
Xylenes, Total	ND	0.094		mg/Kg	1	1/9/2019 2:09:26 AM	42476
Surr: 4-Bromofluorobenzene	145	80-120	S	%Rec	1	1/9/2019 2:09:26 AM	42476

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 Detection Limit
W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1901145**
Date Reported: **1/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH 5-8
Project: Oil CPD
Collection Date: 1/3/2019 1:30:00 PM
Lab ID: 1901145-018 **Matrix:** SOIL **Received Date:** 1/5/2019 11:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	280	30		mg/Kg	20	1/10/2019 1:39:36 PM	42529
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	22	10		mg/Kg	1	1/10/2019 4:42:06 AM	42480
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	1/10/2019 4:42:06 AM	42480
Surr: DNOP	87.0	50.6-138		%Rec	1	1/10/2019 4:42:06 AM	42480
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/9/2019 2:31:50 AM	42476
Surr: BFB	129	73.8-119	S	%Rec	1	1/9/2019 2:31:50 AM	42476

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

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1901145**
11-Jan-19

Client: Souder, Miller & Associates
Project: Oil CPD

Sample ID	**MB-42529**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**42529**	RunNo:	**56924**					
Prep Date:	**1/10/2019**	Analysis Date:	**1/10/2019**	SeqNo:	**1904618**	Units:	**mg/Kg**			

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

Sample ID	**LCS-42529**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**42529**	RunNo:	**56924**					
Prep Date:	**1/10/2019**	Analysis Date:	**1/10/2019**	SeqNo:	**1904619**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1901145**

11-Jan-19

Client: Souder, Miller & Associates

Project: Oil CPD

Sample ID	**LCS-42480**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**42480**		RunNo:	**56854**				
Prep Date:	**1/8/2019**	Analysis Date:	**1/9/2019**		SeqNo:	**1903633**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	50.00	0	79.3	70	130			
Surr: DNOP	4.1		5.000		81.9	50.6	138			

Sample ID	**MB-42480**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**42480**		RunNo:	**56854**				
Prep Date:	**1/8/2019**	Analysis Date:	**1/9/2019**		SeqNo:	**1903634**	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	9.0		10.00		90.2	50.6	138			

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

Sample ID	**MB-42516**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**42516**		RunNo:	**56890**				
Prep Date:	**1/9/2019**	Analysis Date:	**1/10/2019**		SeqNo:	**1903682**	Units:	**%Rec**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.5		10.00		85.2	50.6	138			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1901145**

11-Jan-19

Client: Souder, Miller & Associates

Project: Oil CPD

Sample ID	**MB-42476**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**42476**	RunNo:	**56843**					
Prep Date:	**1/7/2019**	Analysis Date:	**1/8/2019**	SeqNo:	**1902347**	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	910		1000		91.4	73.8	119			

Sample ID	**LCS-42476**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**42476**	RunNo:	**56843**					
Prep Date:	**1/7/2019**	Analysis Date:	**1/8/2019**	SeqNo:	**1902348**	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	102	80.1	123			
Surr: BFB	1000		1000		102	73.8	119			

Sample ID	**MB-42491**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**42491**	RunNo:	**56872**					
Prep Date:	**1/8/2019**	Analysis Date:	**1/9/2019**	SeqNo:	**1903162**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	980		1000		98.0	73.8	119			

Sample ID	**LCS-42491**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**42491**	RunNo:	**56872**					
Prep Date:	**1/8/2019**	Analysis Date:	**1/9/2019**	SeqNo:	**1903163**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		110	73.8	119			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1901145**

11-Jan-19

Client: Souder, Miller & Associates

Project: Oil CPD

Sample ID	**MB-42476**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**42476**	RunNo:	**56843**					
Prep Date:	**1/7/2019**	Analysis Date:	**1/8/2019**	SeqNo:	**1902380**	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	0.92		1.000		91.9	80	120			

Sample ID	**LCS-42476**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**42476**	RunNo:	**56843**					
Prep Date:	**1/7/2019**	Analysis Date:	**1/8/2019**	SeqNo:	**1902381**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	92.7	80	120			
Toluene	0.97	0.050	1.000	0	96.9	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.7	80	120			
Xylenes, Total	3.0	0.10	3.000	0	98.8	80	120			
Surr: 4-Bromofluorobenzene	0.94		1.000		94.0	80	120			

Sample ID	**MB-42491**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**42491**	RunNo:	**56872**					
Prep Date:	**1/8/2019**	Analysis Date:	**1/9/2019**	SeqNo:	**1903187**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		99.9	80	120			

Sample ID	**LCS-42491**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**42491**	RunNo:	**56872**					
Prep Date:	**1/8/2019**	Analysis Date:	**1/9/2019**	SeqNo:	**1903188**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD Work Order Number: 1901145 RcptNo: 1

Received By: Anne Thorne 1/5/2019 11:50:00 AM

Completed By: Erin Melendrez 1/7/2019 8:58:33 AM

Reviewed By: VVZ 1/7/19
LB, DAD 1/7/19

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: DAD 1/7/19

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	1.2	Good	Yes			

Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☐ Rush 5 day

Project Name: Oil CPD

Project #:

Project Manager: A. Weyant

Sampler: MRS

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.6-CF-0.4=1.2°

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. 1901145	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO3, NO2, PO4, SO4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
1-3	9:30	soil	Pad BG - Sur	4oz		-001							X			
	9:35		Pad BG - 1			-002							X			
	9:40		Pad BG - 2			-003							X			
	10:15		BH 1 - 1			-004		X					X			
	10:20		BH 1 - 2			-005	X	X					X			
	10:30		BH 2 - Sur			-006		X					X			
	10:35		BH 2 - 1			-007	X	X					X			
	11:15		BH 3 - 2			-008		X					X			
	11:20		BH 3 - 4			-009	X	X					X			
	11:45		BH 4 - 1			-010		X					X			
	11:50		BH 4 - 2			-011		X					X			
↓	11:55	↓	BH 4 - 3	↓		-012		X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
1-4	9:30	Samantha Watson				
1/4/19	1900				1/4/19	1400

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					01/05/19	1150

Remarks: Matador

1 of 2

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

Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day
☐ Standard ☐ Rush

Project Name: OilCPD

Project #:

Project Manager: A. Weyant

Sampler: MRS

On Ice: ☒ Yes ☐ No

# of Coolers: 1 @ 01105119

Cooler Temp (including CF): 1.4+0.4=1.2 °C

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Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1901145	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)
1.3	12:00	soil	BH 4 - 6	4oz		-013		X					X			
	11:57		BH 4 - 4				X	X					X			
	12:05		BH 4 - 12			-014	X	X					X			
	1:10		BH 5 - 1			-015		X					X			
	1:15		BH 5 - 2			-016		X					X			
	1:20		BH 5 - 3					X					X			
	1:25		BH 5 - 4			-017	X	X					X			
↓	1:30	↓	BH 5 - 8	↓		-018		X					X			

Date	Time	Relinquished by	Received by	Via	Date	Time
1.4.19	9:40	Samantha Watson			1/4/19	1400
1/4/19	1900				01105119	1150

Remarks: Matador

2 of 2

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 291646

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 291646
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Historical document upload.	12/6/2023