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

June 12, 2019

#5E26816 BG23

NMOCD District 1
1625 N. French Drive
Hobbs, NM 88240

SUBJECT: Amended Remediation Closure Report for the Caudill 8 #002 Release (1RP-4418), Lea County, New Mexico

To Whom It May Concern,

On behalf of Matador Resources, 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 Caudill 8 #002 site. The site is in Unit L, Section 8, Township 16S, Range 37E, Lea County, New Mexico, on private land. Figures 1 and 2 illustrate 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	Caudill 8 #002	Company	Matador Resources
API Number	30-025-30406	Location	32.9348221 -103.278389
Incident Number	1RP-4418		
Estimated Date of Release	8/24/2016	Date Reported to NMOCD	8/24/2016
Land Owner	Private	Reported To	NMOCD District I
Source of Release	Recirculation pump		
Released Volume	56 bbls	Released Material	produced water
Recovered Volume	35 bbls	Net Release	21 bbls
NMOCD Closure Criteria	<50 feet to groundwater		
SMA Response Dates	8/24/2016, 2/24/2017, 3/19/2019, 4/18/2019, 5/27/2019		

1.0 Background

On August 24, 2016, a release was discovered at the Caudill 8 #002 site due to equipment failure. The connection to the water dump valve failed, which caused an excess amount of fluid in the produced water tank. Initial response activities included source elimination and site security. The leak was contained within the bermed containment and all standing fluid was vacuumed up and disposed of at an NMOCD approved facility. Figure 1 illustrates the regional vicinity and well head protection in the area, Figure 2 illustrates the surface water protection in the area, and Figure 3 illustrates the site and sample locations. The C-141 form is included in Appendix A

2.0 Site Information and Closure Criteria

The Caudill 8 #002 site is located approximately 4 miles east of Lovington, New Mexico on private land with a land elevation of approximately 3865 feet above mean sea level.

As summarized in Table 2 and illustrated in Figure 1, depth to groundwater in the area is estimated to be 54 feet below grade surface (bgs). There are two known water sources within 1000 feet 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 11/8/2018). The nearest significant watercourse is an unnamed pond, located approximately 2700 feet to the south. Figure 1 illustrates the site with 1000-foot radii to indicate that it does 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 Activities and Findings

On August 24, 2016, SMA field personnel assessed the release area. A total of 3 sample locations (L1-L3) were established for collection of surface samples. A total of 3 samples were collected for laboratory analysis for motor oil, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D to depths up to six inches. Table 3 itemizes these initial samples and locations are depicted on Figure 3a. This data was submitted to NMOCD by SMA in the form of a remediation work plan dated November 11, 2016 with the proposed work to be the excavation of impacted materials.

After review of the submitted workplan, NMOCD requested further delineation. On June 30, 2017, SMA returned to the Caudill 8 #002 location, at which time an additional sample location (L4) was established and surface samples were recollected from sample locations L1, L2 and L3. A total of 4 samples were collected for laboratory analysis for diesel and gasoline range organics (DRO, and GRO) by EPA Method 8015D.

These results still yielded levels of TPH above NMOCD closure criteria and lacked analysis for all required constituents. An in-situ remediation approach was then taken as the excavation of the release area could cause safety issues or major facility destruction.

4.0 Soil Remediation Summary

On March 19, 2019, SMA returned to the site to guide the application of the bioremediation solution to the release area (Figure 3b). Thirty days after the application, the location was visited on April 18, 2019 to track progress of treatment. NMOCD was notified on May 21, 2019 that closure samples were expected to be collected.

Approximately sixty days after the application, the release area was resampled to ensure proper treatment of contamination. On May 27, 2019, SMA conducted confirmation sampling of the location. The confirmation samples were collected from within the release area in accordance with a systematic sampling approach as defined by SW846 (using Gilbert, 1987 equation 5.2.3 for Stratified Random Sampling which is detailed in Appendix C). This systematic method meets the EPAs data quality assessment standards (DQA) for composite sampling (Myers 1997). Confirmation samples were comprised of five-point composites of the horizontal extents of the release area (SW1 & SW2) and a variety of depths (surface to 2 feet) along the release path and previous sampling locations (L1 - L4) (seen in Figure 3b.)

A total of 8 sample were analyzed 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. Laboratory reports are included in Appendix D.

The sample results in Table 3 indicate that the treatment was effective, and the release meets closure criteria. SMA proposes no further action be taken.

5.0 Scope and Limitations

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

If there are any questions regarding this report, please contact either Melodie Sanjari at 574-370-9782 or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Melodie Sanjari
Staff Scientist

Reviewed by:

Shawna Chubbuck
Senior Scientist

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map
Figure 2: Surface Water Radius Map
Figure 3a: Site and 2016 Sample Location Map
Figure 3b: Closure Sample Location Map

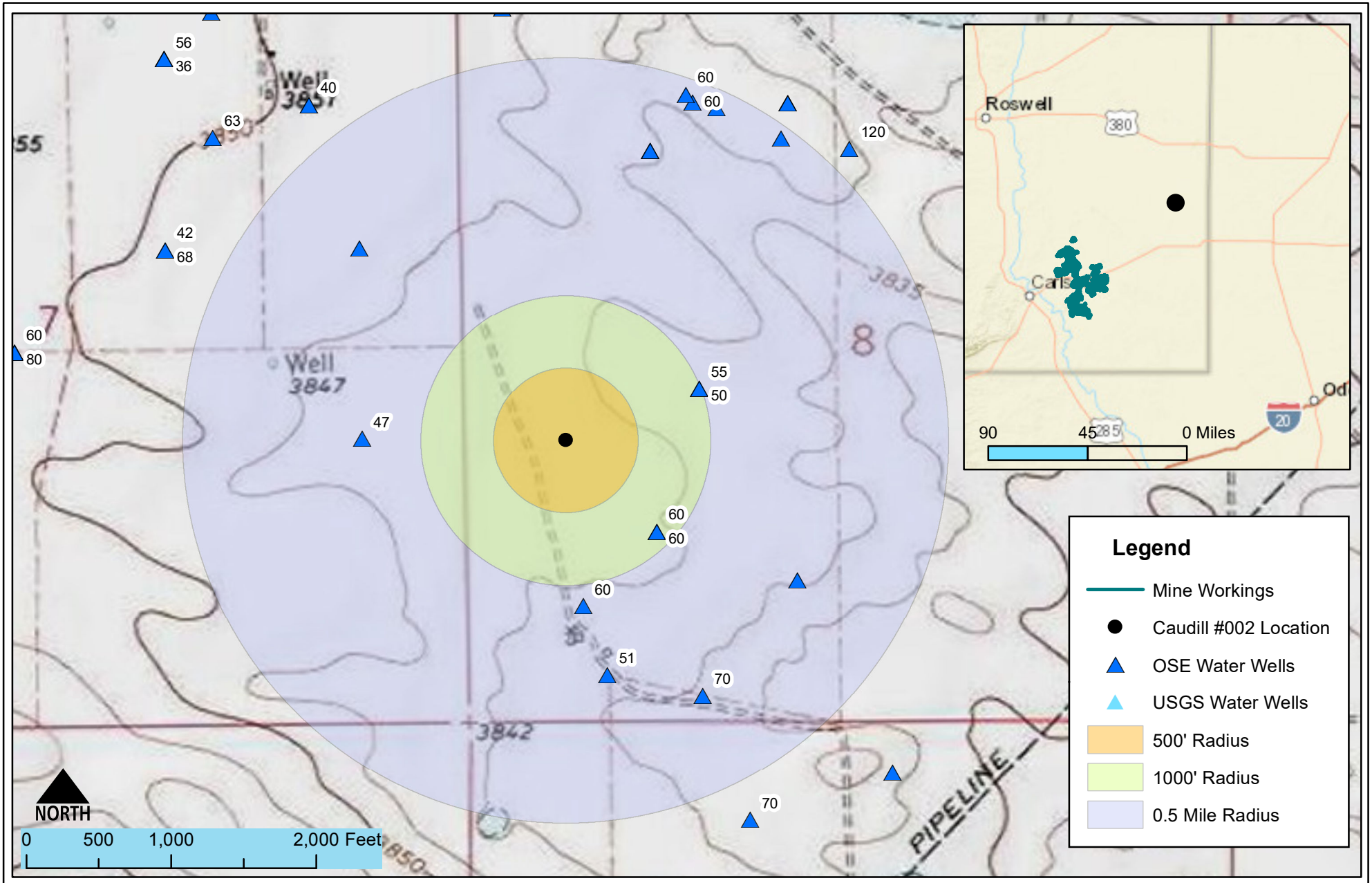
Tables:

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

Appendices:

Appendix A: C141 Forms
Appendix B: NMOSE Wells Report
Appendix C: VSP Closure Sampling Protocol
Appendix D: Laboratory Analytical Reports

FIGURES



Regional Vicinity & Wellhead Protection Map
Caudill #002 - Matador Resources
Sec. 8, T16S, R37E Lea County, New Mexico

Figure 1

Document: C:\Users\mrs.SMA\Documents\GISdata\Maps\Caudill Figure 1.mxd

Date Saved: 11/8/2018

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

Drawn Melodie Sanjari
Checked
Approved

SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
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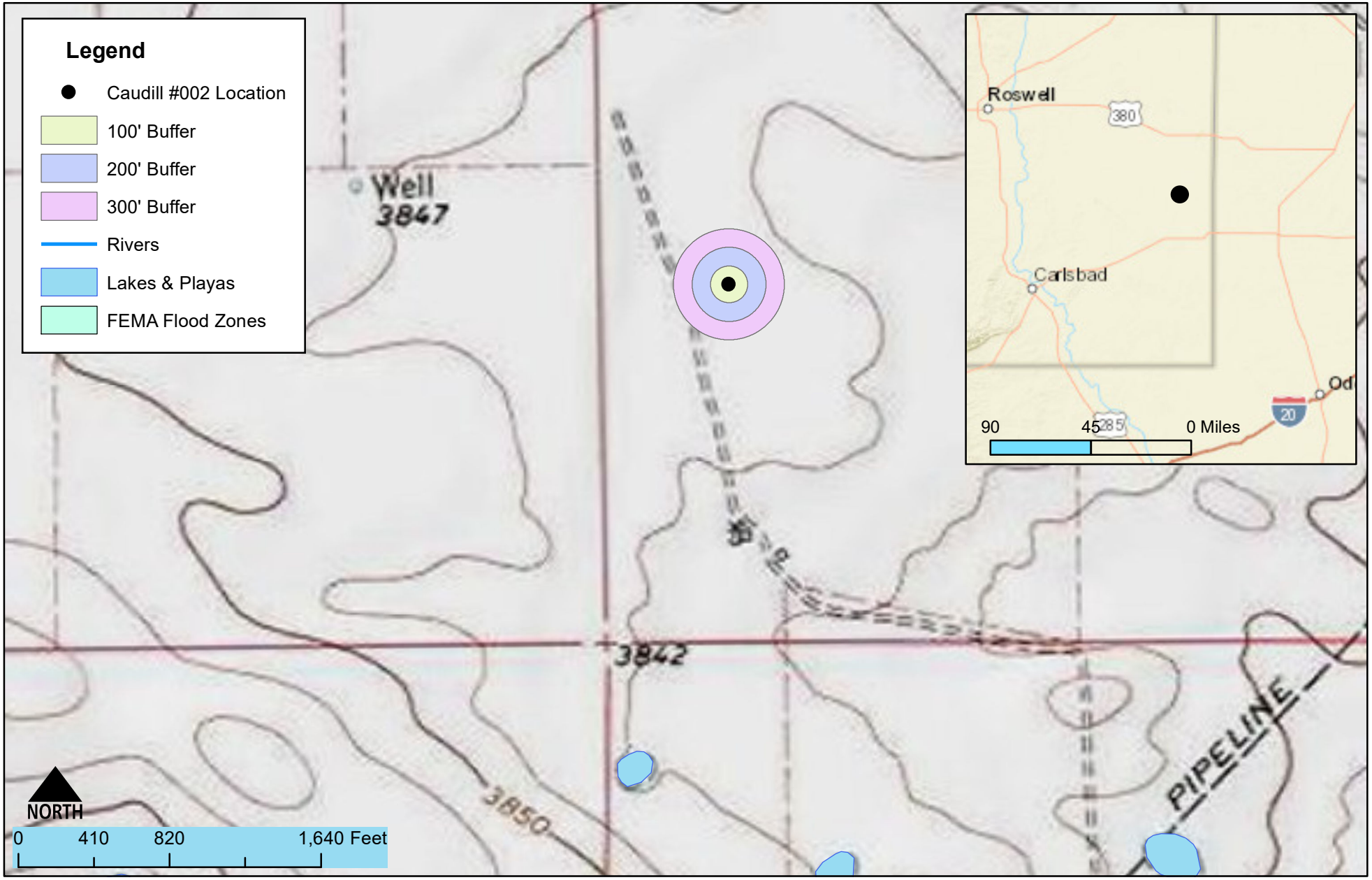

Surface Water Protection Map
Caudill #002 - Matador Resources
Sec. 8, T16S, R37E Lea County, New Mexico

Figure 2

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

Drawn Melodie Sanjari
Checked
Approved

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Date Saved: 11/8/2018

Document: C:\Users\mrs.SMA\Documents\GISdata\Maps\Caudill Figure 2.mxd

Detailed Site and Sample Map
Matador- Caudill # 002
Lovington, New Mexico

Figure 2

Document: C:\Users\lcm.CBO\Documents\GIS DATA\MAPS\Figure 2 caudill.mxd

Date Saved: 7/24/2017

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

Drawn Lucas Middleton
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Approved

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Sample Locations
Representative Sidewalls
Release Area

N

38
Feet

Closure Site & Sample Location Map
Caudill 8 #002 - Matador Resources
Lovington, New Mexico

Figure 3b

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

Date Saved: 6/6/2019

Revisions

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

Drawn
Date 6/6/2019
Checked
Approved

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TABLES

Table 2:
NMOCD Closure Criteria

Matador Resources
Caudill #2 (1RP-4418)

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	54	OSE
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	890 & 960	OSE (POD 05621 & POD 10363 Respectively)
Hortizontal Distance to Nearest Significant Watercourse (ft)	2700	Unnamed pond

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?	yes					
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					

SMA #

Table 3:
Summary of Sample Results

Matador Resources
Caudill #002 (1RP-4418)

Sample ID	Sample Date	Depth (feet bgs)	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			100	600
L1	8/24/2016	surface	--	--	<4.7	65	83	**148**	--
L2		surface	<10.8	<1.2	<240	18000	12000	**30000**	--
L3		surface	--	--	<250	5900	4400	**10300**	--
L1	6/30/2017	surface	--	--	<3.9	2700	--	**2700**	--
L2		surface	--	--	<4.8	15	--	15	--
L3		surface	--	--	<4.0	1900	--	**1900**	--
L4		surface	--	--	<4.3	200	--	**200**	--
60 Days After Application									
L1	5/27/2019	surface	<0.207	<0.023	<4.6	<9.9	<49	<63.5	<60
		1.5	<0.225	<0.025	<5.0	<9.8	<49	<63.8	<60
L2		surface	<0.212	<0.024	<4.7	<9.8	<49	<63.5	<60
		2	<0.208	<0.023	<4.6	<9.9	<50	<64.5	<60
L3		surface	<0.225	<0.025	<5.0	<9.9	<50	<64.9	<60
		1.5	<0.217	<0.024	<4.8	67	55	122	<60
L4		surface	<0.219	<0.024	<4.9	<9.8	<49	<63.7	<60
		2	<0.222	<0.025	<4.9	31	<49	31	<60
SW1		sidewall	<0.221	<0.025	<4.9	<10	<50	<64.9	<60
SW2		sidewall	<0.213	<0.024	<4.7	<9.8	<49	<63.5	<60

"--" = Not Analyzed
* = per Reclamation Standard (19.15.29.13.D(1) NMAC)

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

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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Matador Resources	Contact Casey Snow
Address 500 N Main St Suite 1Roswell NM 88201	Telephone No. (972) 371-5439
Facility Name Caudill # 002	Facility Type Oil Well

Surface Owner	Mineral Owner	API No. 30-025-30406

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	8	16S	37E	1980	FSL	810	FWL	Lea

Latitude_32.9348221___ **Longitude**_ ,-103.278389 _____

NATURE OF RELEASE

Type of Release overflow of produced water tank	Volume of Release ~56 barrels	Volume Recovered 35 barrels
Source of Release Recirculation pump	Date and Hour of Occurrence August 24, 2016	Date and Hour of Discovery August 24, 2016 9am
Was Immediate Notice Given? x☐ Yes ☐ No ☐ Not Required	If YES, To Whom? Catherine Green	
By Whom? Rickie Anguiano	Date and Hour August 24, 2016 10am	
Was a Watercourse Reached? ☐ Yes x☐ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*Connection broke to water dump valve. Gas lost on treater, circulating pump pumped oil out of oil tank to treater putting excess fluid in water tank.

Describe Area Affected and Cleanup Action Taken.*

Leak was contained in containment area. Excess fluid was vacuumed up and removed. Soil containing unsatisfactory levels of BTEX, DROs, and chlorides will be removed and replaced. See attached.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Casey Snow	Approved by Environmental Specialist:	
Title: Manager Regulatory, Environmental, & Safety	Approval Date:	Expiration Date:
E-mail Address: csnow@matadorresources.com	Conditions of Approval:	Attached ☐
Date: August 2, 2017, 2017 Phone: (972) 371-5439		

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
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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	1RP-4418
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)* 1RP-4418
Contact mailing address 5400 LBJ Freeway, Suite 1500 Dallas, TX 75240	

Location of Release Source

Latitude 32.9348221 Longitude -103.278389
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Caudill #002	Site Type oil well
Date Release Discovered 8/24/2016	API# *(if applicable)* 30-025-30406

Unit Letter	Section	Township	Range	County
L	8	16S	37E	Lea

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) 56	Volume Recovered (bbls) 35
	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 (recirculation pump) causing excess fluid in the produced water tank

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? >25
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes. To NMOCD by Catherine Greene on 8/24/2016	

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.

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: 6/24/19

email: JHurt@matadorresources.com Telephone: 972-371-5499

OCD Only

Received by: _____ Date: _____

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?	54 (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.

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: 6/24/19

email: JHurt@matadorresources.com Telephone: 972-371-5499

OCD Only

Received by: Jocelyn Harimon Date: 12/07/2022

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) N/A

☒ 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: John Hurt Title: RES Specialist

Signature: _____ Date: 6/24/19

email: JHurt@matadorresources.com Telephone: 972-371-5499

OCD Only

Received by: Jocelyn Harimon Date: 12/07/2022

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: Ashley Maxwell Date: 2/03/2023

Printed Name: Ashley Maxwell Title: Environmental Specialist

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
L 05621		L	LE			3	08	16S	37E	661147	3645185*	271	94	60	34
L 10903		L	LE			3	08	16S	37E	661147	3645185*	271	128	60	68
L 10363		L	LE	1	2	3	08	16S	37E	661235	3645486*	301	156	50	106
L 10364		L	LE	1	2	3	08	16S	37E	661235	3645486*	301	112	55	57
L 14276 POD1		L	LE	2	3	3	08	16S	37E	660993	3645027	351	155	60	95
L 00823		L	LE		2	4	07	16S	37E	660526	3645376*	427	105	47	58
L 10230		L	LE	4	3	3	08	16S	37E	661045	3644883*	501	100	51	49
L 11615		L	LE	2	4	3	08	16S	37E	661444	3645085*	570	165		
L 14120 POD1		L	LE	3	4	3	08	16S	37E	661246	3644840	610	186	70	116
L 10559		L	LE			1	08	16S	37E	661128	3645985*	633	90		
L 10559 POD2		L	LE			1	08	16S	37E	661128	3645985*	633	113		
L 10561		L	LE	3	2	1	08	16S	37E	661217	3646087*	757	120	60	60
L 12166 POD1		L	LE	3	2	1	08	16S	37E	661267	3646075	766	193		
L 13540 POD1	R	L	LE	3	2	1	08	16S	37E	661203	3646104	769	128	60	68
L 13540 POD2		L	LE	3	1	2	08	16S	37E	661547	3645991	854	202	120	82
L 00702 S		L	LE	3	2	2	07	16S	37E	660410	3646077*	886	120	40	80
L 10124		L	LE		2	1	17	16S	37E	661347	3644580*	888	157	70	87
L 10601		L	LE	1	1	1	08	16S	37E	660816	3646283*	917	120	120	0
L 09568		L	LE		3	2	07	16S	37E	660110	3645770*	931	150	42	108
L 09630		L	LE		3	2	07	16S	37E	660110	3645770*	931	105	68	37
L 13621 POD1		L	LE	4	1	2	07	16S	37E	660208	3646006	975	155	63	92
L 09680		L	LE			1	17	16S	37E	661150	3644372*	1023	144		
L 00702		L	LE		1	2	07	16S	37E	660105	3646171*	1162	118		
L 01889 POD1		L	LE		1	2	07	16S	37E	660105	3646171*	1162	90	36	54
L 09276		L	LE		1	2	07	16S	37E	660105	3646171*	1162	115	56	59
L 08165		L	LE	2	1	2	07	16S	37E	660204	3646270*	1166	103	58	45

***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 Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 00703		L	LE				07	16S	37E	659794	3645553*	1173	125		
L 00703	R	L	LE				07	16S	37E	659794	3645553*	1173	125		
L 00703 POD4		L	LE				07	16S	37E	659794	3645553*	1173	100		
L 00703 S		L	LE				07	16S	37E	659794	3645553*	1173	93	60	33
L 00703 S	R	L	LE				07	16S	37E	659794	3645553*	1173	93	60	33
L 00824		L	LE				07	16S	37E	659794	3645553*	1173	135	80	55
L 00824	R	L	LE				07	16S	37E	659794	3645553*	1173	135	80	55
L 04669		L	LE				07	16S	37E	659794	3645553*	1173	100	75	25
L 06852		L	LE		4	1	07	16S	37E	659705	3645763*	1307	90	65	25
L 13622 POD1		L	LE	1	2	1	08	16S	37E	659930	3646356	1417	190		
L 13910 POD1		L	LE	2	2	1	07	16S	37E	659783	3646285	1482	169	60	109
L 03479		L	LE			1	07	16S	37E	659385	3645956*	1672	85	15	70
L 04853		L	LE			1	07	16S	37E	659385	3645956*	1672	88	78	10
L 13718 POD1		L	LE			1	07	16S	37E	659385	3645956*	1672	92	44	48
L 13719 POD1		L	LE			1	07	16S	37E	659385	3645956*	1672	92	44	48
L 13720 POD1		L	LE			1	07	16S	37E	659385	3645956*	1672	92	46	46
L 13721 POD1		L	LE			1	07	16S	37E	659385	3645956*	1672	80	45	35
L 13722 POD1	R	L	LE			1	07	16S	37E	659385	3645956*	1672	80	45	35
L 13690 POD1		L	LE	2	1	1	07	16S	37E	659459	3646293	1753	164	60	104

Average Depth to Water: **60 feet**

Minimum Depth: **15 feet**

Maximum Depth: **120 feet**

Record Count: 45

UTMNAD83 Radius Search (in meters):

Easting (X): 660953.85 **Northing (Y):** 3645376.3 **Radius:** 1800

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

APPENDIX C
SAMPLING PROTOCOL

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

Sampling Protocol

Representatives from SMA chose the Judgmental Sampling Method as described in EPA's Final Sampling Guidance for SW-846, 2002 to adequately quantify contaminant concentrations on the Wabash 20 Fed Com #1H Location. The utility of this particular method functions on the sufficient knowledge of the contaminant, which we possess. This design is also useful when identifying the composition of a release, which we have documented. In addition, this sampling design was chosen for this project because of the locations uniform soil type, the release being contained within a bermed area thus reducing the possibility of migration, and the several operational considerations (such as the liner within the battery and the construction of a new facility) that precluded the implementation of a different statistical design.

The soil samples were collected in laboratory supplied containers in accordance with this sampling protocol, immediately placed on ice and sent under standard chain-of-custody protocols to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for analysis. A total of fourteen (14) samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D.

Sampling Analysis Field Quality Assurance Procedures

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

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

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

October 19, 2016

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

RE: Caudill #2 OrderNo.: 1610720

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/14/2016 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 qualifers 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 #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1610720**
Date Reported: **10/19/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1
Project: Caudill #2
Collection Date: 8/24/2016 2:00:00 PM
Lab ID: 1610720-001 **Matrix:** SOIL **Received Date:** 10/14/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	65	9.8	H	mg/Kg	1	10/19/2016 12:22:26 AM	28076
Motor Oil Range Organics (MRO)	83	49	H	mg/Kg	1	10/19/2016 12:22:26 AM	28076
Surr: DNOP	103	70-130	H	%Rec	1	10/19/2016 12:22:26 AM	28076
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7	H	mg/Kg	1	10/18/2016 7:43:16 PM	28072
Surr: BFB	85.1	68.3-144	H	%Rec	1	10/18/2016 7:43:16 PM	28072

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
	R	RPD outside accepted recovery limits	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 **1610720**
Date Reported: **10/19/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2
Project: Caudill #2
Collection Date: 8/24/2016 2:00:00 PM
Lab ID: 1610720-002 **Matrix:** SOIL **Received Date:** 10/14/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	18000	1000	H	mg/Kg	100	10/17/2016 8:49:01 PM	28076
Motor Oil Range Organics (MRO)	12000	5000	H	mg/Kg	100	10/17/2016 8:49:01 PM	28076
Surr: DNOP	0	70-130	SH	%Rec	100	10/17/2016 8:49:01 PM	28076
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	240	H D	mg/Kg	50	10/18/2016 8:07:22 PM	28072
Surr: BFB	86.3	68.3-144	H D	%Rec	50	10/18/2016 8:07:22 PM	28072
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.2	H D	mg/Kg	50	10/18/2016 8:07:22 PM	28072
Toluene	ND	2.4	H D	mg/Kg	50	10/18/2016 8:07:22 PM	28072
Ethylbenzene	ND	2.4	H D	mg/Kg	50	10/18/2016 8:07:22 PM	28072
Xylenes, Total	ND	4.8	H D	mg/Kg	50	10/18/2016 8:07:22 PM	28072
Surr: 4-Bromofluorobenzene	100	80-120	H D	%Rec	50	10/18/2016 8:07:22 PM	28072

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
R	RPD outside accepted recovery limits	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 **1610720**
Date Reported: **10/19/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3
Project: Caudill #2
Collection Date: 8/24/2016 2:00:00 PM
Lab ID: 1610720-003 **Matrix:** SOIL **Received Date:** 10/14/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	5900	97	H	mg/Kg	10	10/17/2016 9:34:59 PM	28076
Motor Oil Range Organics (MRO)	4400	480	H	mg/Kg	10	10/17/2016 9:34:59 PM	28076
Surr: DNOP	0	70-130	SH	%Rec	10	10/17/2016 9:34:59 PM	28076
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	250	H D	mg/Kg	50	10/18/2016 8:31:28 PM	28072
Surr: BFB	84.8	68.3-144	H D	%Rec	50	10/18/2016 8:31:28 PM	28072

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
R	RPD outside accepted recovery limits	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#: **1610720**

19-Oct-16

Client: Souder, Miller & Associates

Project: Caudill #2

Sample ID	**LCS-28085**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**28085**		RunNo:	**37982**				
Prep Date:	**10/17/2016**	Analysis Date:	**10/17/2016**		SeqNo:	**1183862**	Units:	**%Rec**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.7		5.000		94.5	70	130			

Sample ID	**MB-28085**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**28085**		RunNo:	**37982**				
Prep Date:	**10/17/2016**	Analysis Date:	**10/17/2016**		SeqNo:	**1183863**	Units:	**%Rec**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.9		10.00		89.5	70	130			

Sample ID	**MB-28076**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**28076**		RunNo:	**37981**				
Prep Date:	**10/14/2016**	Analysis Date:	**10/17/2016**		SeqNo:	**1184449**	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	8.6		10.00		85.7	70	130			

Sample ID	**LCS-28076**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**28076**		RunNo:	**38007**				
Prep Date:	**10/14/2016**	Analysis Date:	**10/18/2016**		SeqNo:	**1184792**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.2	62.6	124			
Surr: DNOP	4.4		5.000		88.8	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
R	RPD outside accepted recovery limits	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#: **1610720**

19-Oct-16

Client: Souder, Miller & Associates

Project: Caudill #2

Sample ID	**MB-28072**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**28072**	RunNo:	**38021**					
Prep Date:	**10/14/2016**	Analysis Date:	**10/18/2016**	SeqNo:	**1185981**	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	840		1000		84.1	68.3	144			

Sample ID	**LCS-28072**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**28072**	RunNo:	**38021**					
Prep Date:	**10/14/2016**	Analysis Date:	**10/18/2016**	SeqNo:	**1185995**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	106	74.6	123			
Surr: BFB	930		1000		92.8	68.3	144			

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
R	RPD outside accepted recovery limits	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#: **1610720**

19-Oct-16

Client: Souder, Miller & Associates

Project: Caudill #2

Sample ID	**MB-28072**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**28072**	RunNo:	**38021**					
Prep Date:	**10/14/2016**	Analysis Date:	**10/18/2016**	SeqNo:	**1186010**	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	0.98		1.000		97.7	80	120			

Sample ID	**LCS-28072**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**28072**	RunNo:	**38021**					
Prep Date:	**10/14/2016**	Analysis Date:	**10/18/2016**	SeqNo:	**1186011**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.0	75.2	115			
Toluene	0.93	0.050	1.000	0	93.5	80.7	112			
Ethylbenzene	0.96	0.050	1.000	0	95.9	78.9	117			
Xylenes, Total	2.8	0.10	3.000	0	94.9	79.2	115			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	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
R	RPD outside accepted recovery limits	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: 1610720 RcptNo: 1

Received by/date: _____

Logged By: **Michelle Garcia** 10/14/2016 8:45:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 10/14/2016 12:48:13 PM Michelle Garcia

Reviewed By: aJ 10/14/16

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☑
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? UPS

Log In

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

Special Handling (if applicable)

16. 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: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes			

Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other ______

☐ EDD (Type) ______

☑ Standard ☐ Rush ______

Project Name: Caudill #2

Project #:

Project Manager: Austin Weyant

Sampler: [signature]

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.7°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 Request ID	Container Type and #	Preservative Type	HEAL No. 1610720	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
2446	2:00	Soil	L1	4 oz		001			X													
			L2			002	X		X													
			L3			003			X													

MRO mg 10/14/16

Date	Time	Relinquished by	Received by	Date	Time
3-16	20	[signature]	[signature]	10/14/16	0845

Remarks: Verified analysis with Austin. Email MRO Results. OK to run out of hold mg 10/14/16

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.

Analytical Report
Lab Order **1707B17**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1
Project: Caudill 2
Collection Date: 6/30/2017 12:00:00 PM
Lab ID: 1707B17-001
Matrix: MEOH (SOIL)
Received Date: 7/21/2017 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	2700	99	H	mg/Kg	10	7/21/2017 1:11:20 PM	32943
Surr: DNOP	0	70-130	SH	%Rec	10	7/21/2017 1:11:20 PM	32943
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.9	H	mg/Kg	1	7/21/2017 12:31:14 PM	R44391
Surr: BFB	84.5	54-150	H	%Rec	1	7/21/2017 12:31:14 PM	R44391

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 **1707B17**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Caudill 2
Lab ID: 1707B17-002

Client Sample ID: L2
Collection Date: 6/30/2017 1:00:00 PM
Matrix: MEOH (SOIL) **Received Date:** 7/21/2017 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	15	9.6	H	mg/Kg	1	7/21/2017 2:44:46 PM	32943
Surr: DNOP	87.0	70-130	H	%Rec	1	7/21/2017 2:44:46 PM	32943
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8	H	mg/Kg	1	7/21/2017 12:55:14 PM	R44391
Surr: BFB	80.7	54-150	H	%Rec	1	7/21/2017 12:55:14 PM	R44391

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 **1707B17**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3
Project: Caudill 2
Collection Date: 6/30/2017 2:00:00 PM
Lab ID: 1707B17-003
Matrix: MEOH (SOIL)
Received Date: 7/21/2017 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	1900	96	H	mg/Kg	10	7/21/2017 1:55:46 PM	32943
Surr: DNOP	0	70-130	SH	%Rec	10	7/21/2017 1:55:46 PM	32943
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.0	H	mg/Kg	1	7/21/2017 1:19:22 PM	R44391
Surr: BFB	84.4	54-150	H	%Rec	1	7/21/2017 1:19:22 PM	R44391

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 **1707B17**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Caudill 2
Lab ID: 1707B17-004
Client Sample ID: L4
Collection Date: 6/30/2017 3:00:00 PM
Matrix: MEOH (SOIL)
Received Date: 7/21/2017 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	200	96	H	mg/Kg	10	7/21/2017 2:17:50 PM	32943
Surr: DNOP	0	70-130	SH	%Rec	10	7/21/2017 2:17:50 PM	32943
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.3	H	mg/Kg	1	7/21/2017 1:43:32 PM	R44391
Surr: BFB	85.7	54-150	H	%Rec	1	7/21/2017 1:43:32 PM	R44391

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

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

June 12, 2019

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

RE: Caudill 5 27 OrderNo.: 1905E76

Dear Melodie Sanjari:

Hall Environmental Analysis Laboratory received 10 sample(s) on 5/31/2019 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued June 05, 2019.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1905E76**
Date Reported: **6/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-Surface
Project: Caudill 5 27
Collection Date: 5/27/2019 8:50:00 AM
Lab ID: 1905E76-001 **Matrix:** SOIL
Received Date: 5/31/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	ND	60		mg/Kg	20	6/7/2019 12:08:07 PM	45437
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/4/2019 1:50:49 PM	45333
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/4/2019 1:50:49 PM	45333
Surr: DNOP	96.7	70-130		%Rec	1	6/4/2019 1:50:49 PM	45333
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	6/3/2019 2:49:38 PM	45310
Surr: BFB	98.9	73.8-119		%Rec	1	6/3/2019 2:49:38 PM	45310
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	6/3/2019 2:49:38 PM	45310
Toluene	ND	0.046		mg/Kg	1	6/3/2019 2:49:38 PM	45310
Ethylbenzene	ND	0.046		mg/Kg	1	6/3/2019 2:49:38 PM	45310
Xylenes, Total	ND	0.092		mg/Kg	1	6/3/2019 2:49:38 PM	45310
Surr: 4-Bromofluorobenzene	111	80-120		%Rec	1	6/3/2019 2:49:38 PM	45310

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 **1905E76**
Date Reported: **6/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-1.5'
Project: Caudill 5 27
Collection Date: 5/27/2019 9:00:00 AM
Lab ID: 1905E76-002 **Matrix:** SOIL
Received Date: 5/31/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	ND	60		mg/Kg	20	6/7/2019 12:20:32 PM	45437
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/4/2019 2:12:45 PM	45333
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/4/2019 2:12:45 PM	45333
Surr: DNOP	90.4	70-130		%Rec	1	6/4/2019 2:12:45 PM	45333
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/3/2019 6:22:36 PM	45310
Surr: BFB	94.3	73.8-119		%Rec	1	6/3/2019 6:22:36 PM	45310
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	6/3/2019 6:22:36 PM	45310
Toluene	ND	0.050		mg/Kg	1	6/3/2019 6:22:36 PM	45310
Ethylbenzene	ND	0.050		mg/Kg	1	6/3/2019 6:22:36 PM	45310
Xylenes, Total	ND	0.10		mg/Kg	1	6/3/2019 6:22:36 PM	45310
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	6/3/2019 6:22:36 PM	45310

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 **1905E76**
Date Reported: **6/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-Surface
Project: Caudill 5 27
Collection Date: 5/27/2019 10:00:00 AM
Lab ID: 1905E76-003 **Matrix:** SOIL
Received Date: 5/31/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	60		mg/Kg	20	6/7/2019 12:57:45 PM	45437
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/4/2019 2:34:48 PM	45333
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/4/2019 2:34:48 PM	45333
Surr: DNOP	70.5	70-130		%Rec	1	6/4/2019 2:34:48 PM	45333
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/3/2019 6:46:09 PM	45310
Surr: BFB	91.0	73.8-119		%Rec	1	6/3/2019 6:46:09 PM	45310
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	6/3/2019 6:46:09 PM	45310
Toluene	ND	0.047		mg/Kg	1	6/3/2019 6:46:09 PM	45310
Ethylbenzene	ND	0.047		mg/Kg	1	6/3/2019 6:46:09 PM	45310
Xylenes, Total	ND	0.094		mg/Kg	1	6/3/2019 6:46:09 PM	45310
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	6/3/2019 6:46:09 PM	45310

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 **1905E76**
Date Reported: **6/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-2'
Project: Caudill 5 27
Collection Date: 5/27/2019 10:15:00 AM
Lab ID: 1905E76-004 **Matrix:** SOIL **Received Date:** 5/31/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	ND	60		mg/Kg	20	6/7/2019 1:34:58 PM	45437
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/4/2019 2:56:59 PM	45333
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/4/2019 2:56:59 PM	45333
Surr: DNOP	122	70-130		%Rec	1	6/4/2019 2:56:59 PM	45333
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	6/3/2019 7:56:47 PM	45310
Surr: BFB	91.2	73.8-119		%Rec	1	6/3/2019 7:56:47 PM	45310
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	6/3/2019 7:56:47 PM	45310
Toluene	ND	0.046		mg/Kg	1	6/3/2019 7:56:47 PM	45310
Ethylbenzene	ND	0.046		mg/Kg	1	6/3/2019 7:56:47 PM	45310
Xylenes, Total	ND	0.093		mg/Kg	1	6/3/2019 7:56:47 PM	45310
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	6/3/2019 7:56:47 PM	45310

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 **1905E76**
Date Reported: **6/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-Surface
Project: Caudill 5 27
Collection Date: 5/27/2019 10:50:00 AM
Lab ID: 1905E76-005 **Matrix:** SOIL
Received Date: 5/31/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	ND	60		mg/Kg	20	6/7/2019 1:47:23 PM	45437
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/4/2019 3:19:08 PM	45333
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/4/2019 3:19:08 PM	45333
Surr: DNOP	87.8	70-130		%Rec	1	6/4/2019 3:19:08 PM	45333
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/3/2019 8:20:20 PM	45310
Surr: BFB	93.8	73.8-119		%Rec	1	6/3/2019 8:20:20 PM	45310
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	6/3/2019 8:20:20 PM	45310
Toluene	ND	0.050		mg/Kg	1	6/3/2019 8:20:20 PM	45310
Ethylbenzene	ND	0.050		mg/Kg	1	6/3/2019 8:20:20 PM	45310
Xylenes, Total	ND	0.10		mg/Kg	1	6/3/2019 8:20:20 PM	45310
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	6/3/2019 8:20:20 PM	45310

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 **1905E76**
Date Reported: **6/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L4-Surface
Project: Caudill 5 27
Collection Date: 5/27/2019 11:10:00 AM
Lab ID: 1905E76-007 **Matrix:** SOIL **Received Date:** 5/31/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	60		mg/Kg	20	6/7/2019 2:37:01 PM	45437
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/4/2019 4:03:05 PM	45333
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/4/2019 4:03:05 PM	45333
Surr: DNOP	95.1	70-130		%Rec	1	6/4/2019 4:03:05 PM	45333
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/3/2019 9:07:23 PM	45310
Surr: BFB	96.2	73.8-119		%Rec	1	6/3/2019 9:07:23 PM	45310
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	6/3/2019 9:07:23 PM	45310
Toluene	ND	0.049		mg/Kg	1	6/3/2019 9:07:23 PM	45310
Ethylbenzene	ND	0.049		mg/Kg	1	6/3/2019 9:07:23 PM	45310
Xylenes, Total	ND	0.097		mg/Kg	1	6/3/2019 9:07:23 PM	45310
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	6/3/2019 9:07:23 PM	45310

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 **1905E76**
Date Reported: **6/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW1
Project: Caudill 5 27
Collection Date: 5/27/2019 12:00:00 PM
Lab ID: 1905E76-009 **Matrix:** SOIL **Received Date:** 5/31/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	60		mg/Kg	20	6/7/2019 3:01:50 PM	45437
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/4/2019 4:47:01 PM	45333
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/4/2019 4:47:01 PM	45333
Surr: DNOP	83.1	70-130		%Rec	1	6/4/2019 4:47:01 PM	45333
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/3/2019 9:54:41 PM	45310
Surr: BFB	94.5	73.8-119		%Rec	1	6/3/2019 9:54:41 PM	45310
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	6/3/2019 9:54:41 PM	45310
Toluene	ND	0.049		mg/Kg	1	6/3/2019 9:54:41 PM	45310
Ethylbenzene	ND	0.049		mg/Kg	1	6/3/2019 9:54:41 PM	45310
Xylenes, Total	ND	0.098		mg/Kg	1	6/3/2019 9:54:41 PM	45310
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	6/3/2019 9:54:41 PM	45310

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 **1905E76**
Date Reported: **6/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW2
Project: Caudill 5 27
Collection Date: 5/27/2019 12:15:00 PM
Lab ID: 1905E76-010 **Matrix:** SOIL **Received Date:** 5/31/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	60		mg/Kg	20	6/7/2019 3:14:14 PM	45437
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/4/2019 5:08:59 PM	45333
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/4/2019 5:08:59 PM	45333
Surr: DNOP	96.4	70-130		%Rec	1	6/4/2019 5:08:59 PM	45333
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/3/2019 10:18:27 PM	45310
Surr: BFB	94.3	73.8-119		%Rec	1	6/3/2019 10:18:27 PM	45310
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	6/3/2019 10:18:27 PM	45310
Toluene	ND	0.047		mg/Kg	1	6/3/2019 10:18:27 PM	45310
Ethylbenzene	ND	0.047		mg/Kg	1	6/3/2019 10:18:27 PM	45310
Xylenes, Total	ND	0.095		mg/Kg	1	6/3/2019 10:18:27 PM	45310
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	6/3/2019 10:18:27 PM	45310

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#: **1905E76**
12-Jun-19

Client: Souder, Miller & Associates
Project: Caudill 5 27

Sample ID: **MB-45437** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **45437** RunNo: **60474**
Prep Date: **6/7/2019** Analysis Date: **6/7/2019** SeqNo: **2047364** Units: **mg/Kg**

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

Sample ID: **LCS-45437** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **45437** RunNo: **60474**
Prep Date: **6/7/2019** Analysis Date: **6/7/2019** SeqNo: **2047365** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.3	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#: **1905E76**
12-Jun-19

Client: Souder, Miller & Associates
Project: Caudill 5 27

Sample ID: **LCS-45333**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **45333**	RunNo: **60392**
Prep Date: **6/3/2019**	Analysis Date: **6/4/2019**	SeqNo: **2042252** 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	4.9		5.000		97.8	70	130			

Sample ID: **MB-45333**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **45333**	RunNo: **60392**
Prep Date: **6/3/2019**	Analysis Date: **6/4/2019**	SeqNo: **2042253** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		105	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#: **1905E76**
12-Jun-19

Client: Souder, Miller & Associates
Project: Caudill 5 27

Sample ID: **1905E76-001AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **L1-Surface** Batch ID: **45310** RunNo: **60347**
Prep Date: **5/31/2019** Analysis Date: **6/3/2019** SeqNo: **2041211** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.8	23.97	0	81.2	69.1	142			
Surr: BFB	1000		958.8		109	73.8	119			

Sample ID: **1905E76-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **L1-Surface** Batch ID: **45310** RunNo: **60347**
Prep Date: **5/31/2019** Analysis Date: **6/3/2019** SeqNo: **2041212** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.34	0	85.6	69.1	142	6.77	20	
Surr: BFB	1000		973.7		105	73.8	119	0	0	

Sample ID: **LCS-45303** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **45303** RunNo: **60347**
Prep Date: **5/31/2019** Analysis Date: **6/3/2019** SeqNo: **2041225** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		109	73.8	119			

Sample ID: **MB-45303** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **45303** RunNo: **60347**
Prep Date: **5/31/2019** Analysis Date: **6/3/2019** SeqNo: **2041226** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	990		1000		98.8	73.8	119			

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#: **1905E76**
12-Jun-19

Client: Souder, Miller & Associates
Project: Caudill 5 27

Sample ID: **1905E76-003AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **L2-Surface** Batch ID: **45310** RunNo: **60347**
Prep Date: **5/31/2019** Analysis Date: **6/3/2019** SeqNo: **2041235** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.025	0.9852	0	81.6	63.9	127			
Toluene	0.89	0.049	0.9852	0.01130	89.4	69.9	131			
Ethylbenzene	0.94	0.049	0.9852	0	95.3	71	132			
Xylenes, Total	2.9	0.099	2.956	0	96.7	71.8	131			
Surr: 4-Bromofluorobenzene	1.0		0.9852		106	80	120			

Sample ID: **1905E76-003AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **L2-Surface** Batch ID: **45310** RunNo: **60347**
Prep Date: **5/31/2019** Analysis Date: **6/3/2019** SeqNo: **2041236** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.72	0.024	0.9434	0	76.8	63.9	127	10.4	20	
Toluene	0.84	0.047	0.9434	0.01130	87.6	69.9	131	6.30	20	
Ethylbenzene	0.90	0.047	0.9434	0	95.6	71	132	3.97	20	
Xylenes, Total	2.8	0.094	2.830	0	97.4	71.8	131	3.68	20	
Surr: 4-Bromofluorobenzene	1.0		0.9434		110	80	120	0	0	

Sample ID: **LCS-45303** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **45303** RunNo: **60347**
Prep Date: **5/31/2019** Analysis Date: **6/3/2019** SeqNo: **2041246** Units: **%Rec**

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

Sample ID: **MB-45303** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **45303** RunNo: **60347**
Prep Date: **5/31/2019** Analysis Date: **6/3/2019** SeqNo: **2041247** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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: **1905E76** RcptNo: **1**

Received By: **Jevon Campisi** **5/31/2019 8:50:00 AM** Jevon Campisi

Completed By: **Leah Baca** **5/31/2019 9:46:24 AM** Leah SBaca

Reviewed By: DAD 5/31/19

Chain of Custody

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

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 preserved 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 ☑

    # of preserved bottles checked for pH: 5 ~~5/31~~ 5/31/19 (<2 or >12 unless noted)

    Adjusted?

    Checked by:

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 ☐

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**

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: Caudill 5-27

Project #:

Project Manager: Melodie Sanjari

Sampler: MRS.

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.8°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. 1905E76	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)
5/27	8:50	soil	L1-surface	4oz		-001										
	9:00		L1-1.5'	baggy 4oz		-002										
	10:00		L2-surface			-003										
	10:15		L2-2'	baggy 4oz		-004										
	10:50		L3-surface			-005										
	11:00		L3-1.5'	baggy 4oz		-006										
	11:10		L4-surface			-007										
	11:30		L4-2'	baggy 4oz		-008										
	12:00		SW1			-009										
	12:15		SW2	4oz		-010										

hold PENDING TPH result.

hold PENDING TPH result.

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
5/30		M Sanjari			5/30/19	1500
5/30/19	1900			Courier	5-31-19	8:50

Remarks: Matador.
Per Mel Remove -006 and -008 from the Report.
* Please run TPH first!!
6/6/19

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

June 14, 2019

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

RE: Caudill Reanalysis OrderNo.: 1906464

Dear Melodie Sanjari:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/8/2019 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 **1906464**
Date Reported: **6/14/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-1.5'
Project: Caudill Reanalysis
Collection Date: 5/27/2019 11:00:00 AM
Lab ID: 1906464-001 **Matrix:** SOIL
Received Date: 6/8/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	6/13/2019 1:41:21 PM	45561
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	70	9.6		mg/Kg	1	6/14/2019 1:24:43 AM	45479
Motor Oil Range Organics (MRO)	68	48		mg/Kg	1	6/14/2019 1:24:43 AM	45479
Surr: DNOP	114	70-130		%Rec	1	6/14/2019 1:24:43 AM	45479
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8	H	mg/Kg	1	6/11/2019 3:37:26 PM	45462
Surr: BFB	109	73.8-119	H	%Rec	1	6/11/2019 3:37:26 PM	45462
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024	H	mg/Kg	1	6/11/2019 3:37:26 PM	45462
Toluene	ND	0.048	H	mg/Kg	1	6/11/2019 3:37:26 PM	45462
Ethylbenzene	ND	0.048	H	mg/Kg	1	6/11/2019 3:37:26 PM	45462
Xylenes, Total	ND	0.097	H	mg/Kg	1	6/11/2019 3:37:26 PM	45462
Surr: 4-Bromofluorobenzene	101	80-120	H	%Rec	1	6/11/2019 3:37:26 PM	45462

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 **1906464**
Date Reported: **6/14/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L4-2'
Project: Caudill Reanalysis
Collection Date: 5/27/2019 11:30:00 AM
Lab ID: 1906464-002 **Matrix:** SOIL **Received Date:** 6/8/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	6/13/2019 1:53:46 PM	45561
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	32	9.8		mg/Kg	1	6/12/2019 7:24:46 PM	45479
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/12/2019 7:24:46 PM	45479
Surr: DNOP	112	70-130		%Rec	1	6/12/2019 7:24:46 PM	45479
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9	H	mg/Kg	1	6/11/2019 4:00:21 PM	45462
Surr: BFB	108	73.8-119	H	%Rec	1	6/11/2019 4:00:21 PM	45462
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025	H	mg/Kg	1	6/11/2019 4:00:21 PM	45462
Toluene	ND	0.049	H	mg/Kg	1	6/11/2019 4:00:21 PM	45462
Ethylbenzene	ND	0.049	H	mg/Kg	1	6/11/2019 4:00:21 PM	45462
Xylenes, Total	ND	0.099	H	mg/Kg	1	6/11/2019 4:00:21 PM	45462
Surr: 4-Bromofluorobenzene	99.2	80-120	H	%Rec	1	6/11/2019 4:00:21 PM	45462

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#: **1906464**
14-Jun-19

Client: Souder, Miller & Associates
Project: Caudill Reanalysis

Sample ID: **MB-45561** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **45561** RunNo: **60629**
Prep Date: **6/13/2019** Analysis Date: **6/13/2019** SeqNo: **2052139** Units: **mg/Kg**

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

Sample ID: **LCS-45561** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **45561** RunNo: **60629**
Prep Date: **6/13/2019** Analysis Date: **6/13/2019** SeqNo: **2052140** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.7	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#: **1906464**
14-Jun-19

Client: Souder, Miller & Associates
Project: Caudill Reanalysis

Sample ID: **MB-45479**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **45479**	RunNo: **60537**
Prep Date: **6/10/2019**	Analysis Date: **6/11/2019**	SeqNo: **2049887** 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	9.5		10.00		94.7	70	130			

Sample ID: **LCS-45479**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **45479**	RunNo: **60580**
Prep Date: **6/10/2019**	Analysis Date: **6/12/2019**	SeqNo: **2050992** 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	105	63.9	124			
Surr: DNOP	4.9		5.000		98.8	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#: **1906464**
14-Jun-19

Client: Souder, Miller & Associates
Project: Caudill Reanalysis

Sample ID: **MB-45462** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **45462** RunNo: **60551**
Prep Date: **6/10/2019** Analysis Date: **6/11/2019** SeqNo: **2049131** 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	1000		1000		104	73.8	119			

Sample ID: **LCS-45462** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **45462** RunNo: **60551**
Prep Date: **6/10/2019** Analysis Date: **6/11/2019** SeqNo: **2049132** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.7	80.1	123			
Surr: BFB	1100		1000		115	73.8	119			

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#: **1906464**
14-Jun-19

Client: Souder, Miller & Associates
Project: Caudill Reanalysis

Sample ID: **MB-45462** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **45462** RunNo: **60551**
Prep Date: **6/10/2019** Analysis Date: **6/11/2019** SeqNo: **2049158** 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	0.99		1.000		98.6	80	120			

Sample ID: **LCS-45462** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **45462** RunNo: **60551**
Prep Date: **6/10/2019** Analysis Date: **6/11/2019** SeqNo: **2049159** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	103	80	120			
Toluene	1.0	0.050	1.000	0	103	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.9	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	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: **1906464** RcptNo: **1**

Received By: **Isaiah Ortiz** **6/8/2019 10:00:00 AM** I-OK

Completed By: **Leah Baca** **6/9/2019 1:49:32 PM** Leah SBaca

Reviewed By: TWN 6-10-19

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: DAD 6/10/19

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	5.4	Good	Yes			

Chain-of-Custody Record

Client: Candill

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 2 day

Project Name: Candill Re-analysis.

Project #:

Project Manager: Melodie Sanjari

Sampler: MS

On Ice: ☒ Yes ☐ No

# of Coolers: 1 (-0.2)

Cooler Temp(including CF): 5.4-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. 1906464	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)
5/27	11:00	rock	L3-1.5	baggy		-001	HOLD	X					HOLD			
5/27	11:30	rock	L4-2'	baggy		-002	HOLD	X				HOLD				
									Analyze all tests per Mel 6/6/19							

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					6/7/19	1030
Date: 6/7/19	Time: 1900	Relinquished by:	Received by:	Via:	Date	Time
			I-C	courier	6/8/19	1000

Remarks: hold for Btex & Cl- pending TPH result. Bill to SMA

Reanalysis - as per Andy.

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 164830

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 164830
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	2/3/2023