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

December 16, 2020

#5E29133-BG54

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

SUBJECT: Remediation Closure Report for the Todd 13H Federal 8 Battery Release (NGEG0800236761), Eddy County, New Mexico

To Whom It May Concern:

On behalf of Devon Energy Production Company, 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 Todd 13H Federal 8 Battery site. The site is in Unit H, Section 13, Township 23S, Range 31E, Eddy County, New Mexico, on Federal land. Figure 1 illustrates the vicinity and site location on an USGS 7.5-minute quadrangle map.

Table 1 summarizes release information and Closure Criteria.

Table 1: Release Information and Closure Criteria			
Name	Todd 13H Federal 8 Battery	Company	Devon Energy Production Company
API Number	30-015-28646	Location	32.3052521, -103.726181
Tracking Number	NGEG0800236761		
Estimated Date of Release	12/5/2007	Date Reported to NMOCD	12/6/2007
Land Owner	Federal	Reported To	NMOCD, BLM
Source of Release	Callout system failed causing water tank to overflow.		
Released Volume	170 BBLS 5 BBLS	Released Material	Crude Oil & Produced Water
Recovered Volume	150 BBLS 4 BBLS	Net Release	21 BBLS
NMOCD Closure Criteria	<50 feet to groundwater		
SMA Response Dates	9/21/2020 & 11/17/2020		

1.0 Background

On December 5, 2007, a release was discovered at the Todd 13H Federal 8 site due to a failure in the callout system that caused a nearby water tank to overflow. Initial response activities were conducted by the operator, and included source elimination and site stabilization activities, which recovered approximately 150 barrels of produced water and 4 barrels of crude oil. Figure 1 illustrates the vicinity and site location; Figure 2 illustrates the release location. The C-141 form is included in Appendix A.

2.0 Site Information and Closure Criteria

The Todd 13H Federal 8 is a storage facility located approximately 30 miles southeast of Carlsbad, New Mexico on Federal (BLM) land at an elevation of approximately 3,499 feet above mean sea level (amsl).

Depth to Groundwater
Based upon OSE well data (Appendix B), depth to groundwater in the area is estimated to be 639 feet below grade surface (bgs).

Wellhead Protection Area
There are no known water sources within ½-mile of the location, according to the New Mexico Office of the State Engineer (NMOSE) online water well database.

Distance to Nearest Significant Watercourse
The nearest significant watercourse is a New Mexico wetland, located approximately 1.5 miles to the northeast of the Todd 13H Federal 8 site.

Table 2 demonstrates the Closure Criteria applicable to this location. Figure 2 illustrates the site with 200 and 300-foot radii to indicate that it does not lie within a sensitive area as described in 19.15.29.12.C(4) NMAC.

Based on the lack of supportable groundwater data, the applicable NMOCD Closure Criteria for this site is for a groundwater depth of less than 50 feet bgs.

3.0 Release Characterization and Remediation Activities

On September 21, 2020, SMA personnel performed site delineation activities at the Todd 13H Federal 8 site. SMA collected soil samples around the release site, which was assumed to be the eastern side of the tank battery based on information provided by Devon personnel. Soil samples were field-screened for chloride using an electrical conductivity (EC) meter and for hydrocarbon impacts using a calibrated MiniRAE 3000 photoionization detector (PID) equipped with a 10.6 eV lamp.

A total of seven sample locations (T1 – T4, SW1 – SW3) were investigated, with one sample collected from the surface at each location and field-screened using the methods above. A total of seven 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. Results indicated that impacted soil was only present in one sample, located on the southern portion of the sampled area (SW3).

On November 17, 2020, SMA returned to the site to guide the excavation of contaminated soil. Samples were screened for chloride using an electrical conductivity (EC) meter and for hydrocarbon impacts using a calibrated MiniRAE 3000 photoionization detector (PID) equipped with a 10.6 eV lamp. The walls and base were excavated until field screening results indicated that the NMOCD Closure Criteria would be

met. NMOCD was notified on November 12, 2020 that closure samples were expected to be collected in two (2) business days.

On November 17, 2020, SMA collected confirmation samples from the walls and base of the excavation, which measured approximately 4 by 12.5 by 1 foot around the location of SW3. Confirmation samples were comprised of five-point composites of the base (CS1) and walls (SW1 – SW4).

A total of five samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D. Laboratory samples were collected in accordance with the sampling protocol included in Appendix C. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico (Appendix D).

Figure 3A shows the extent of the final excavation and closure sample locations. All field screening and laboratory results are summarized in Table 3. Laboratory reports are included in Appendix D.

4.0 Site Recommendations

As demonstrated in Table 3, all closure samples meet the Closure Criteria. The site has been remediated to meet the standards of Table I of 19.15.29.12 NMAC. Contaminated soils were removed and replaced with clean backfill material to return the surface to previous contours. The contaminated soil was transported and disposed of at Northern Delaware Basin Landfill near Jal, NM, an NMOCD-permitted disposal facility.

SMA recommends no further action and requests closure of Incident Number NGEG0800236761.

5.0 Scope and Limitations

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

If there are any questions regarding this report, please contact either Ashley Maxwell at 505-325-7535 or Shawna Chubbuck at 970-565-4465, extension 1604.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:

Ashley Maxwell
Project Scientist

Shawna Chubbuck
Senior Scientist

REFERENCES:

New Mexico Office of the State Engineer (NMOSE) online water well database
https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 12/4/2020

ATTACHMENTS:

Figures:

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

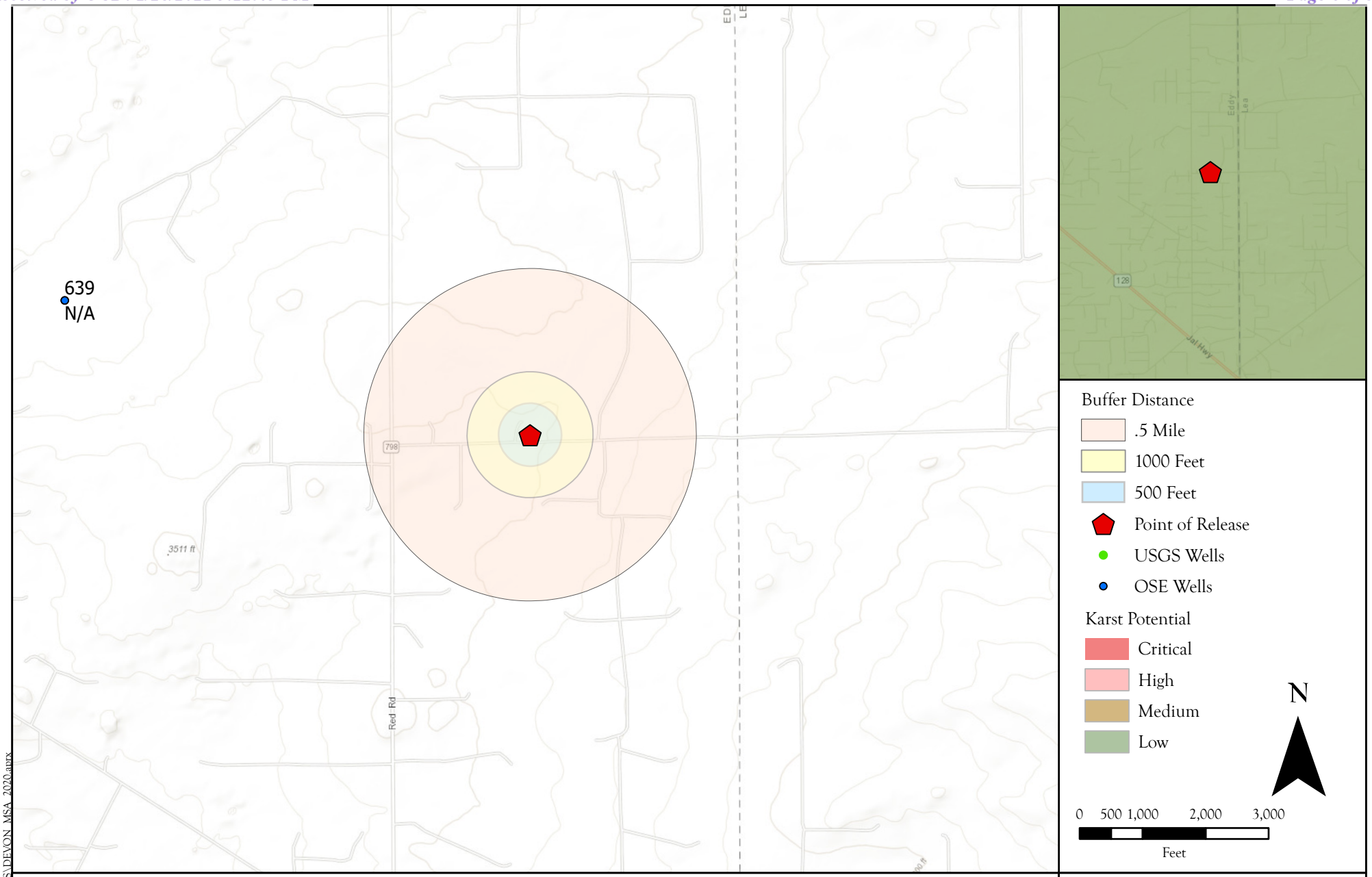
Tables:

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

Appendices:

Appendix A: Form C141
Appendix B: NMOSE Wells Report
Appendix C: Sampling Protocol and Field Notes
Appendix D: Laboratory Analytical Reports
Appendix E: Photo Log

FIGURES



Vicinity and Well Head Protection Map
Todd 13H Federal 8 - Devon Energy Production Company
UL: H S: 13 T: 23S R: 31E, Eddy County, New Mexico

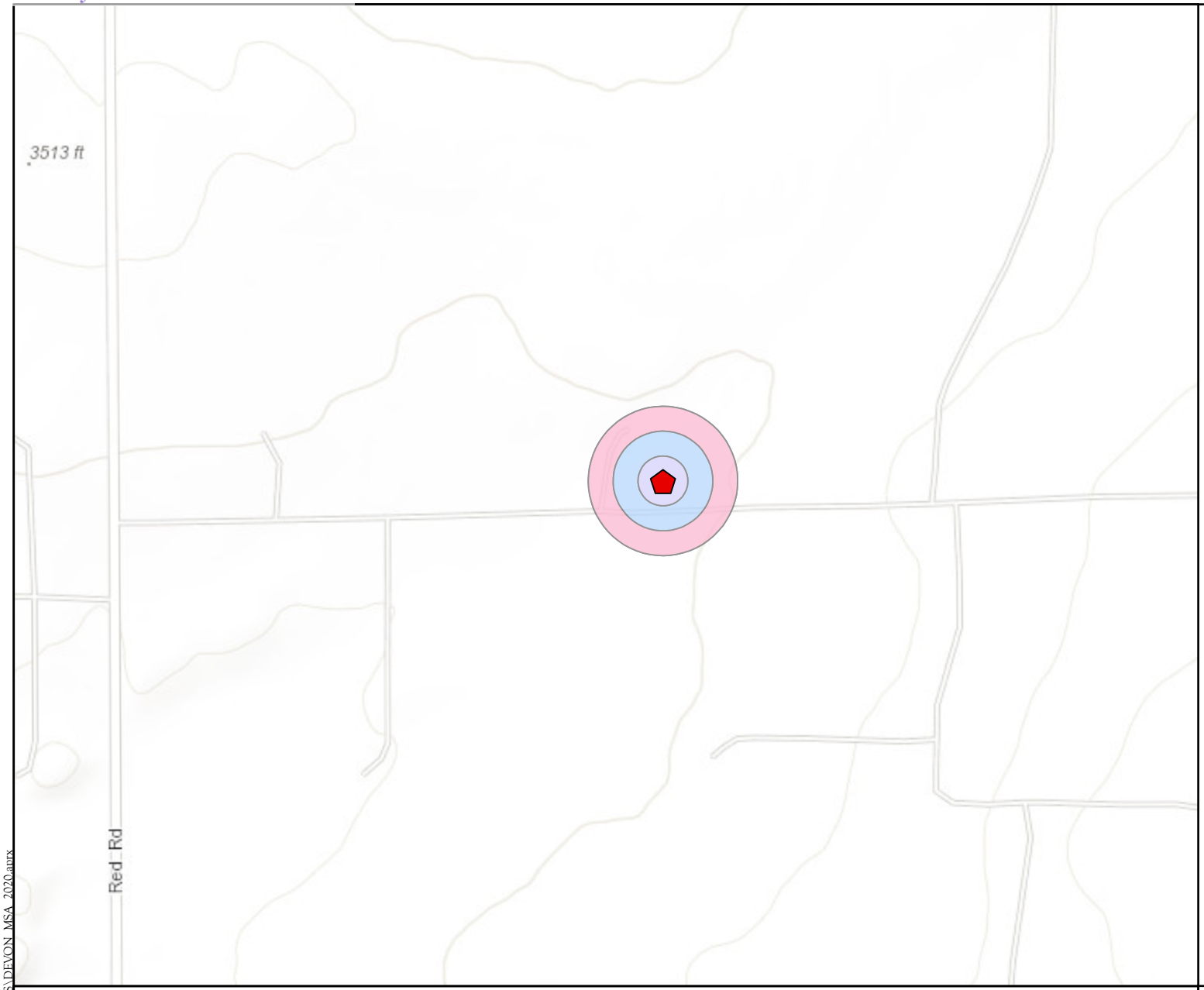
Figure 1

P:\5-Devon MSA 2020 (5E29133)\GIS\DEVON_MSA_2020.aprx
Date Saved: 12/4/2020

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

Drawn P.R. Smith
Date 12/4/2020
Checked
Approved

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



Legend:

Buffer Distance
- 300 Feet
- 200 Feet
- 100 Feet

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

N

0 195 390 780 1,170
Feet

Surface Water Protection Map
Todd 13H Federal 8 - Devon Energy Production Company
UL: H S: 13 T 23S R: 31E, Eddy County, New Mexico

Figure 2

P:\5-Devon MSA 2020 (5E29133)\GIS\DEVON_MSA_2020.aprx
Date Saved: 12/4/2020

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

Drawn P.R. Smith
Date 12/4/2020
Checked
Approved

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

Legend

- Pipelines
- Secondary Containment
- Equipment
- Point of Release
- Initial Soil Sample

N

0 5 10 20 30

Feet

Site and Initial Sample Location Map
Todd 13H Federal 8 - Devon Energy Production Company
UL: H S: 13 T: 23S R: 31E, Eddy County, New Mexico

Figure 3

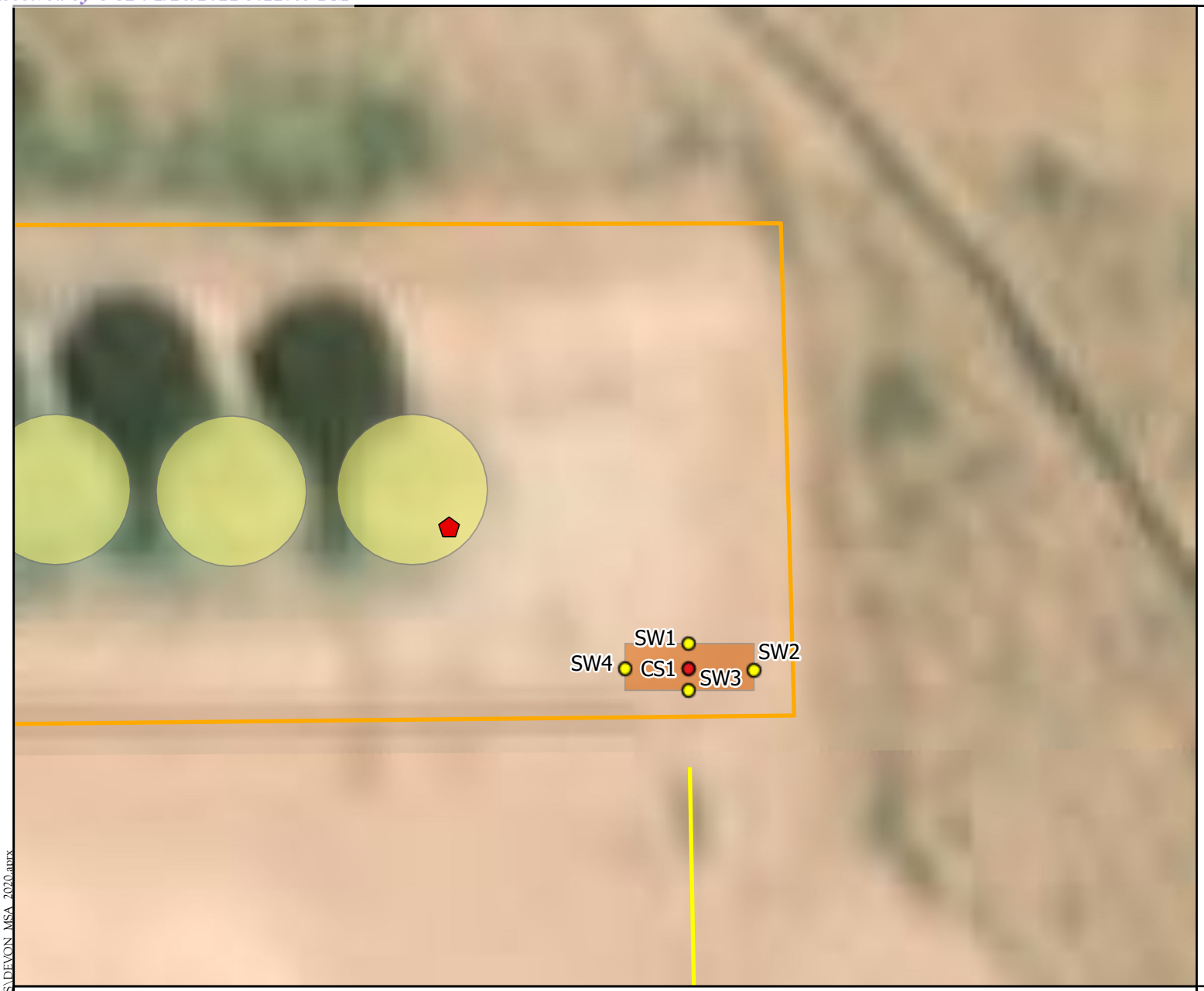
P:\5-Devon MSA 2020 (5E29133)\GIS\DEVON_MSA_2020.mxd
Date Saved: 12/16/2020

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

Drawn P.R. Smith
Date 12/16/2020
Checked
Approved

SMA

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



Legend

- Pipelines
- Secondary Containment
- 1' Excavation
- Equipment
- Point of Release
- Closure Sample
- Closure Sidewall Sample

N

0 5 10 20 30

Feet

Site and Confirmation Sample Location Map
Todd 13H Federal 8 - Devon Energy Production Company
UL: H S: 13 T: 23S R: 31E, Eddy County, New Mexico

Figure 3A

P:\5-Devon MSA 2020 (5E29133)\GIS\DEVON_MSA_2020.mxd
Date Saved: 12/16/2020

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

Drawn P.R. Smith
Date 12/16/2020
Checked
Approved

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

TABLES

Table 2:
NMOCD Closure Criteria

Devon Energy Production Company
Todd 13H Federal 8

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	639 (Estimate)	New Mexico Office of the State Engineer
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	N/A	United States Geological Survey Topo Map
Hortizontal Distance to Nearest Significant Watercourse (ft)	8,124	New Mexico Wetland to the Northeast

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
Depth to Groundwater		**Closure Criteria (units in mg/kg)**				
		Chloride *numerical limit or background, whichever is greater	**TPH**	**GRO + DRO**	**BTEX**	**Benzene**
< 50' BGS	X	600	100		50	10
51' to 100'		10000	2500	1000	50	10
>100'		20000	2500	1000	50	10
Surface Water	**yes or no**	**if yes, then**				
<300' from continuously flowing watercourse or other significant watercourse?	No	600	100		50	10
<200' from lakebed, sinkhole or playa lake?	No					
Water Well or Water Source						
<500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?	No					
<1000' from fresh water well or spring?	No					
Human and Other Areas						
<300' from an occupied permanent residence, school, hospital, institution or church?	No					
within incorporated municipal boundaries or within a defined municipal fresh water well field?	No					
<100' from wetland?	No					
within area overlying a subsurface mine	No					
within an unstable area?	No (Low.Karst)					
within a 100-year floodplain?	No					

SMA #

Table 3:
Sample Results

Devon Energy Production Company
Todd 13H Federal 8

Sample ID	Sample Date	Depth of Sample (feet bgs)	Action Taken	Method 8021B		Method 8015D				Method 300.0
				BTEX	Benzene	GRO	DRO	MRO	Total TPH	Cl-
				mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
NMOCD Reclamation Requirement (0-4 ft)				50	10	-		-	100	600
NMOCD Closure Criteria (>4 ft)				50	10	-		-	100	600
Initial Samples										
T1	9/21/2020	Surface	In-Situ	<0.216	<0.024	<4.8	<8.9	<44	<57.7	<60
T2		Surface	In-Situ	<0.208	<0.023	<4.6	<9.3	<47	<60.9	<60
T3		Surface	In-Situ	<0.224	<0.025	<5.0	<9.9	<50	<64.9	<60
T4		Surface	In-Situ	<0.216	<0.024	<4.8	<8.9	<44	<57.7	<60
SW1		Surface	In-Situ	<0.216	<0.024	<4.8	<8.6	<43	<56.4	<60
SW2		Surface	In-Situ	<0.219	<0.024	<4.9	<9.6	<48	<62.5	<59
SW3		Surface	Excavated	<0.216	<0.024	<4.8	50	220	270	<60
Confirmation Samples										
CS1	11/17/2020	1	In-Situ	<0.215	<0.024	<4.8	<9.1	<46	<59.9	<60
SW1		0 - 1		<0.219	<0.024	<4.9	<9.0	<45	<58.9	<60
SW2				<0.213	<0.024	<4.7	<9.8	<49	<63.5	<61
SW3				<0.225	<0.025	<5.0	<9.1	<45	<59.1	<61
SW4				<0.211	<0.023	<4.7	<9.8	<49	<63.5	<60

SMA #

APPENDIX A
FORM C141

S

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W Grand Avenue, 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

DEC 26 2007
OCD-ARTESIA

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

30-015-28646

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Devon Energy Production Co., L.P.	Contact☐ Jerry Mathews
Address P. O. Box 250, Artesia, NM 88211	Telephone No.☐(575) 748-5234
Facility Name Todd 13 Federal Battery	Facility Type☐ Battery

Surface Owner	Mineral Owner	Lease No.☐

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	13	T23S	31E	2310	North	990	East	Eddy

NATURE OF RELEASE

Type of Release Oil and Produced Water	Volume of Release 5BO,170 BW	Volume Recovered☐4 BO, 150 BW
Source of Release Water tank overflowed	Date and Hour of Occurrence During the night of 12-5-07	Date and Hour of Discovery☐December 6, 2007 – 9:00 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher – OCD -626-0857	
By Whom? ☐ Jerry Chaney	Date and Hour☐December 6, 2007 10:44 AM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

Callout system failed causing water tank to overflow. Water was contained in the dike, called out vacuum truck to pick up liquids, and make sure the alert system is working.

Describe Area Affected and Cleanup Action Taken.*

50'x 50' area – picked up liquids with vacuum truck. Will run soil sample when the weather clears up, and til and fertilize and re-run sample in two weeks.

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: Jerry Mathews	OIL CONSERVATION DIVISION
Printed Name: Jerry Mathews,	Approved by☐District Supervisor:
Title: Production Foreman	Approval Date: JAN 02 2008 Expiration Date:
Date: December 10, 2007 Phone(575)748-5234	Conditions of Approval: See Attached Stipulations Attached ☒

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

Incident ID	NGEG0800236761
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	639 (Estimate) (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NGEG0800236761
District RP	
Facility ID	
Application ID	

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

Printed Name: _____Lupe Carrasco_____ Title: _____EHS Professional_____

Signature: Lupe Carrasco Date: ___1/28/21_____

email: ___Lupe.Carrasco@dvn.com_____ Telephone: ___575-748-0165_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NGEG0800236761
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Lupe Carrasco Title: EHS Professional

Signature: Lupe Carrasco Date: 1/28/21

email: Lupe.Carrasco@dvn.com Telephone: 575-748-0165

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Brittany Hall Date: 1/23/2023

Printed Name: Brittany Hall 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
C 02777	CUB	ED	4	4	4	10	23S	31E	616974	3575662	3026	890		
C 03749 POD1	CUB	ED		2	2	15	23S	31E	616974	3575662	3026	865	639	226

Average Depth to Water: **639 feet**

Minimum Depth: **639 feet**

Maximum Depth: **639 feet**

Record Count: 2

UTMNAD83 Radius Search (in meters):

Easting (X): 619922.954 **Northing (Y):** 3574983.913 **Radius:** 3500

APPENDIX C
SAMPLING PROTOCOL
&
FIELD NOTES

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 Cotton Draw Unit #294H Location. The utility of this particular method functions on the sufficient knowledge of the contaminant, which we possess. This design is also useful when identifying the composition of a release, which we have documented. In addition, this sampling design was chosen for this project because of the locations uniform soil type, and the several operational considerations (such as the liner within the battery and the construction of a new facility) that precluded the implementation of a different statistical design.

The soil samples were collected in laboratory supplied containers in accordance with this sampling protocol, immediately placed on ice and sent under standard chain-of-custody protocols to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for analysis. A total of eight (8) 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.

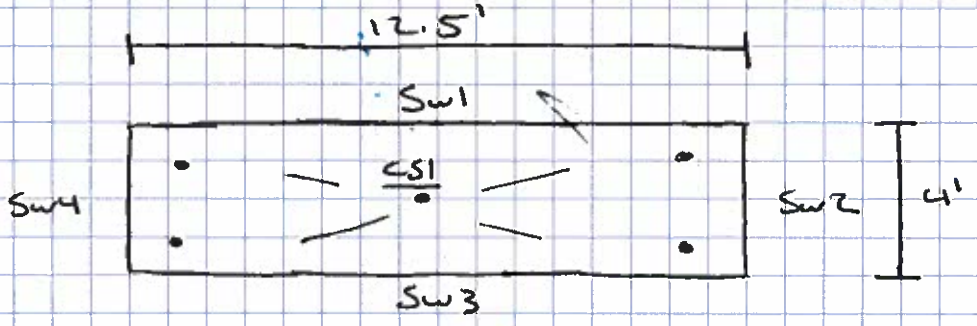
COC procedures implemented for the project provided documentation of the handling of each sample from the time of collection until completion of laboratory analysis. A COC form serves as a legal record of possession of the sample. A sample is considered to be under custody if one or more of the following 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.

SUBJECT Tootel 13H Federal 8 PROJECT Excavation PAGE

CLIENT Devon Energy DATE 11/17/20 BY TR Smith

CHECKED BY

- Excavation + Collection of Confirmation Samples
  - Excavating area where SW3 initial sample was taken. Location of SW3 tested above NMOCD closure criteria for TPH levels.
  - Soil types
    - Initial few inches where comprised of a moderately sorted limestone gravel / sand mix.
    - At depths of 1', the soil becomes a loose and well-sorted / fine-grained sand typical of the sand dune oil field in which Tootel 13H Federal 8 is located.
  - Final excavation measurements
    - 4 x 12.5 x 1-foot.



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: clients.hallenvironmental.com

October 01, 2020

Ashley Maxwell

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

RE: Todd 13 H Federal 008 OrderNo.: 2009D42

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 7 sample(s) on 9/23/2020 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 **2009D42**
Date Reported: **10/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: T1- Surface
Project: Todd 13 H Federal 008
Collection Date: 9/21/2020 11:00:00 AM
Lab ID: 2009D42-001 **Matrix:** SOIL
Received Date: 9/23/2020 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	ND	60		mg/Kg	20	9/29/2020 7:42:33 PM	55541
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	9/24/2020 1:36:05 PM	55398
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	9/24/2020 1:36:05 PM	55398
Surr: DNOP	93.7	30.4-154		%Rec	1	9/24/2020 1:36:05 PM	55398
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/26/2020 6:47:36 AM	55383
Surr: BFB	89.4	75.3-105		%Rec	1	9/26/2020 6:47:36 AM	55383
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	9/26/2020 6:47:36 AM	55383
Toluene	ND	0.048		mg/Kg	1	9/26/2020 6:47:36 AM	55383
Ethylbenzene	ND	0.048		mg/Kg	1	9/26/2020 6:47:36 AM	55383
Xylenes, Total	ND	0.096		mg/Kg	1	9/26/2020 6:47:36 AM	55383
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	9/26/2020 6:47:36 AM	55383

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 **2009D42**
Date Reported: **10/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: T2- Surface
Project: Todd 13 H Federal 008
Collection Date: 9/21/2020 11:05:00 AM
Lab ID: 2009D42-002 **Matrix:** SOIL
Received Date: 9/23/2020 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	ND	60		mg/Kg	20	9/29/2020 7:54:58 PM	55541
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	9/24/2020 1:46:00 PM	55398
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/24/2020 1:46:00 PM	55398
Surr: DNOP	103	30.4-154		%Rec	1	9/24/2020 1:46:00 PM	55398
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/26/2020 7:58:21 AM	55383
Surr: BFB	88.9	75.3-105		%Rec	1	9/26/2020 7:58:21 AM	55383
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	9/26/2020 7:58:21 AM	55383
Toluene	ND	0.046		mg/Kg	1	9/26/2020 7:58:21 AM	55383
Ethylbenzene	ND	0.046		mg/Kg	1	9/26/2020 7:58:21 AM	55383
Xylenes, Total	ND	0.093		mg/Kg	1	9/26/2020 7:58:21 AM	55383
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	9/26/2020 7:58:21 AM	55383

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 **2009D42**
Date Reported: **10/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: T3- Surface
Project: Todd 13 H Federal 008
Collection Date: 9/21/2020 11:10:00 AM
Lab ID: 2009D42-003 **Matrix:** SOIL
Received Date: 9/23/2020 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	9/29/2020 8:07:23 PM	55541
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/24/2020 1:55:54 PM	55398
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/24/2020 1:55:54 PM	55398
Surr: DNOP	93.1	30.4-154		%Rec	1	9/24/2020 1:55:54 PM	55398
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/26/2020 5:41:16 PM	55383
Surr: BFB	94.9	75.3-105		%Rec	1	9/26/2020 5:41:16 PM	55383
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	9/26/2020 5:41:16 PM	55383
Toluene	ND	0.050		mg/Kg	1	9/26/2020 5:41:16 PM	55383
Ethylbenzene	ND	0.050		mg/Kg	1	9/26/2020 5:41:16 PM	55383
Xylenes, Total	ND	0.099		mg/Kg	1	9/26/2020 5:41:16 PM	55383
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	9/26/2020 5:41:16 PM	55383

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 **2009D42**
Date Reported: **10/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: T4- Surface
Project: Todd 13 H Federal 008
Collection Date: 9/21/2020 11:15:00 AM
Lab ID: 2009D42-004 **Matrix:** SOIL **Received Date:** 9/23/2020 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	ND	60		mg/Kg	20	9/29/2020 8:19:48 PM	55541
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	9/24/2020 5:16:26 PM	55398
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	9/24/2020 5:16:26 PM	55398
Surr: DNOP	96.9	30.4-154		%Rec	1	9/24/2020 5:16:26 PM	55398
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/26/2020 6:04:46 PM	55383
Surr: BFB	86.1	75.3-105		%Rec	1	9/26/2020 6:04:46 PM	55383
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	9/26/2020 6:04:46 PM	55383
Toluene	ND	0.048		mg/Kg	1	9/26/2020 6:04:46 PM	55383
Ethylbenzene	ND	0.048		mg/Kg	1	9/26/2020 6:04:46 PM	55383
Xylenes, Total	ND	0.096		mg/Kg	1	9/26/2020 6:04:46 PM	55383
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	9/26/2020 6:04:46 PM	55383

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 **2009D42**
Date Reported: **10/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW1
Project: Todd 13 H Federal 008
Collection Date: 9/21/2020 11:20:00 AM
Lab ID: 2009D42-005 **Matrix:** SOIL **Received Date:** 9/23/2020 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	9/29/2020 8:32:12 PM	55541
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	9/24/2020 2:15:40 PM	55398
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	9/24/2020 2:15:40 PM	55398
Surr: DNOP	106	30.4-154		%Rec	1	9/24/2020 2:15:40 PM	55398
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/26/2020 7:38:38 PM	55383
Surr: BFB	91.0	75.3-105		%Rec	1	9/26/2020 7:38:38 PM	55383
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	9/26/2020 7:38:38 PM	55383
Toluene	ND	0.048		mg/Kg	1	9/26/2020 7:38:38 PM	55383
Ethylbenzene	ND	0.048		mg/Kg	1	9/26/2020 7:38:38 PM	55383
Xylenes, Total	ND	0.096		mg/Kg	1	9/26/2020 7:38:38 PM	55383
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	9/26/2020 7:38:38 PM	55383

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 **2009D42**
Date Reported: **10/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW2
Project: Todd 13 H Federal 008
Collection Date: 9/21/2020 11:25:00 AM
Lab ID: 2009D42-006 **Matrix:** SOIL
Received Date: 9/23/2020 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	ND	59		mg/Kg	20	9/29/2020 8:44:36 PM	55541
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/24/2020 2:25:30 PM	55398
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/24/2020 2:25:30 PM	55398
Surr: DNOP	96.2	30.4-154		%Rec	1	9/24/2020 2:25:30 PM	55398
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/26/2020 8:01:57 PM	55383
Surr: BFB	91.9	75.3-105		%Rec	1	9/26/2020 8:01:57 PM	55383
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	9/26/2020 8:01:57 PM	55383
Toluene	ND	0.049		mg/Kg	1	9/26/2020 8:01:57 PM	55383
Ethylbenzene	ND	0.049		mg/Kg	1	9/26/2020 8:01:57 PM	55383
Xylenes, Total	ND	0.097		mg/Kg	1	9/26/2020 8:01:57 PM	55383
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	9/26/2020 8:01:57 PM	55383

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 **2009D42**
Date Reported: **10/1/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW3
Project: Todd 13 H Federal 008
Collection Date: 9/21/2020 11:30:00 AM
Lab ID: 2009D42-007 **Matrix:** SOIL **Received Date:** 9/23/2020 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	9/29/2020 8:57:00 PM	55541
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	50	9.8		mg/Kg	1	9/25/2020 9:10:27 AM	55398
Motor Oil Range Organics (MRO)	220	49		mg/Kg	1	9/25/2020 9:10:27 AM	55398
Surr: DNOP	126	30.4-154		%Rec	1	9/25/2020 9:10:27 AM	55398
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/26/2020 8:25:25 PM	55383
Surr: BFB	90.2	75.3-105		%Rec	1	9/26/2020 8:25:25 PM	55383
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	9/26/2020 8:25:25 PM	55383
Toluene	ND	0.048		mg/Kg	1	9/26/2020 8:25:25 PM	55383
Ethylbenzene	ND	0.048		mg/Kg	1	9/26/2020 8:25:25 PM	55383
Xylenes, Total	ND	0.096		mg/Kg	1	9/26/2020 8:25:25 PM	55383
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	9/26/2020 8:25:25 PM	55383

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#: **2009D42**
01-Oct-20

Client: Souder, Miller & Associates
Project: Todd 13 H Federal 008

Sample ID: **MB-55541**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **55541**	RunNo: **72232**							
Prep Date: **9/29/2020**	Analysis Date: **9/29/2020**	SeqNo: **2534669**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-55541**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **55541**	RunNo: **72232**							
Prep Date: **9/29/2020**	Analysis Date: **9/29/2020**	SeqNo: **2534670**	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#: **2009D42**
01-Oct-20

Client: Souder, Miller & Associates
Project: Todd 13 H Federal 008

Sample ID: **LCS-55398** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **55398** RunNo: **72109**
Prep Date: **9/23/2020** Analysis Date: **9/24/2020** SeqNo: **2527717** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	114	70	130			
Surr: DNOP	5.3		5.000		106	30.4	154			

Sample ID: **MB-55398** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **55398** RunNo: **72109**
Prep Date: **9/23/2020** Analysis Date: **9/24/2020** SeqNo: **2527718** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		111	30.4	154			

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#: **2009D42**
01-Oct-20

Client: Souder, Miller & Associates
Project: Todd 13 H Federal 008

Sample ID: **mb-55383** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **55383** RunNo: **72151**
Prep Date: **9/23/2020** Analysis Date: **9/26/2020** SeqNo: **2530060** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		91.2	75.3	105			

Sample ID: **lcs-55383** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **55383** RunNo: **72151**
Prep Date: **9/23/2020** Analysis Date: **9/26/2020** SeqNo: **2530061** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.3	72.5	106			
Surr: BFB	1000		1000		102	75.3	105			

Sample ID: **2009d42-001ams** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **T1- Surface** Batch ID: **55383** RunNo: **72151**
Prep Date: **9/23/2020** Analysis Date: **9/26/2020** SeqNo: **2530063** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.51	0	93.6	61.3	114			
Surr: BFB	990		980.4		101	75.3	105			

Sample ID: **2009d42-001amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **T1- Surface** Batch ID: **55383** RunNo: **72151**
Prep Date: **9/23/2020** Analysis Date: **9/26/2020** SeqNo: **2530064** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.9	24.27	0	84.4	61.3	114	11.3	20	
Surr: BFB	920		970.9		94.4	75.3	105	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical 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#: **2009D42**
01-Oct-20

Client: Souder, Miller & Associates
Project: Todd 13 H Federal 008

Sample ID: **mb-55383** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **55383** RunNo: **72151**
Prep Date: **9/23/2020** Analysis Date: **9/26/2020** SeqNo: **2530090** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID: **LCS-55383** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **55383** RunNo: **72151**
Prep Date: **9/23/2020** Analysis Date: **9/26/2020** SeqNo: **2530091** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	96.9	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID: **2009d42-002ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **T2- Surface** Batch ID: **55383** RunNo: **72151**
Prep Date: **9/23/2020** Analysis Date: **9/26/2020** SeqNo: **2530094** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.024	0.9542	0	89.6	76.3	120			
Toluene	0.93	0.048	0.9542	0.01215	95.9	78.5	120			
Ethylbenzene	0.95	0.048	0.9542	0	99.9	78.1	124			
Xylenes, Total	2.9	0.095	2.863	0	99.8	79.3	125			
Surr: 4-Bromofluorobenzene	0.95		0.9542		99.8	80	120			

Sample ID: **2009d42-002amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **T2- Surface** Batch ID: **55383** RunNo: **72151**
Prep Date: **9/23/2020** Analysis Date: **9/26/2020** SeqNo: **2530095** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.023	0.9302	0	92.1	76.3	120	0.209	20	
Toluene	0.92	0.047	0.9302	0.01215	97.3	78.5	120	1.13	20	
Ethylbenzene	0.94	0.047	0.9302	0	101	78.1	124	1.86	20	
Xylenes, Total	2.8	0.093	2.791	0	101	79.3	125	1.35	20	
Surr: 4-Bromofluorobenzene	0.94		0.9302		101	80	120	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical 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: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: Souder, Miller & Associates | Work Order Number: 2009D42 | RcptNo: 1

Received By: **Cheyenne Cason** 9/23/2020 7:40:00 AM

Completed By: **Juan Rojas** 9/23/2020 8:21:51 AM

Reviewed By: ENM 9/23/20

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. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

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

Adjusted? _____

Checked by: ENM 9/23/20

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.0	Good				

Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 days
☑ Standard ☐ Rush

Project Name: Todd 13 H Federal #008

Project #:

Project Manager: Ashley Maxwell

Sampler: PS

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.1-0.1=4.8 (°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. 2009042	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9/21/20	11:00	Soil	T1 - Surface	4oz	Cool	-001										
	11:05		T2 - Surface			-002										
	11:10		T3 - Surface			-003										
	11:15		T4 - Surface			-004										
	11:20		SW1			-005										
	11:25		SW2			-006										
	11:30		SW3			-007										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9/21/20	1300	Phil Smith				
9/22/20	1900			Courier	9/23/20	0740

Remarks: Devon

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: clients.hallenvironmental.com

November 25, 2020

Ashley Maxwell

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

RE: Todd 13H Federal 8 OrderNo.: 2011964

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 5 sample(s) on 11/19/2020 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 **2011964**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CS1
Project: Todd 13H Federal 8
Collection Date: 11/17/2020 1:45:00 PM
Lab ID: 2011964-001 **Matrix:** SOIL **Received Date:** 11/19/2020 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	11/24/2020 1:11:51 PM	56627
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	11/20/2020 4:08:34 PM	56557
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/20/2020 4:08:34 PM	56557
Surr: DNOP	89.8	30.4-154		%Rec	1	11/20/2020 4:08:34 PM	56557
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/20/2020 9:55:02 PM	56553
Surr: BFB	89.8	75.3-105		%Rec	1	11/20/2020 9:55:02 PM	56553
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	11/20/2020 9:55:02 PM	56553
Toluene	ND	0.048		mg/Kg	1	11/20/2020 9:55:02 PM	56553
Ethylbenzene	ND	0.048		mg/Kg	1	11/20/2020 9:55:02 PM	56553
Xylenes, Total	ND	0.095		mg/Kg	1	11/20/2020 9:55:02 PM	56553
Surr: 4-Bromofluorobenzene	96.7	80-120		%Rec	1	11/20/2020 9:55:02 PM	56553

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 **2011964**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW1
Project: Todd 13H Federal 8
Collection Date: 11/17/2020 1:55:00 PM
Lab ID: 2011964-002 **Matrix:** SOIL **Received Date:** 11/19/2020 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	11/24/2020 1:49:04 PM	56627
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	11/20/2020 4:37:51 PM	56557
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	11/20/2020 4:37:51 PM	56557
Surr: DNOP	97.3	30.4-154		%Rec	1	11/20/2020 4:37:51 PM	56557
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/20/2020 11:05:16 PM	56553
Surr: BFB	92.6	75.3-105		%Rec	1	11/20/2020 11:05:16 PM	56553
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	11/20/2020 11:05:16 PM	56553
Toluene	ND	0.049		mg/Kg	1	11/20/2020 11:05:16 PM	56553
Ethylbenzene	ND	0.049		mg/Kg	1	11/20/2020 11:05:16 PM	56553
Xylenes, Total	ND	0.097		mg/Kg	1	11/20/2020 11:05:16 PM	56553
Surr: 4-Bromofluorobenzene	99.6	80-120		%Rec	1	11/20/2020 11:05:16 PM	56553

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 **2011964**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW2
Project: Todd 13H Federal 8
Collection Date: 11/17/2020 2:05:00 PM
Lab ID: 2011964-003 **Matrix:** SOIL **Received Date:** 11/19/2020 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	61		mg/Kg	20	11/24/2020 2:01:28 PM	56627
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/20/2020 4:47:34 PM	56557
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/20/2020 4:47:34 PM	56557
Surr: DNOP	113	30.4-154		%Rec	1	11/20/2020 4:47:34 PM	56557
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/21/2020 12:15:38 AM	56553
Surr: BFB	94.0	75.3-105		%Rec	1	11/21/2020 12:15:38 AM	56553
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	11/21/2020 12:15:38 AM	56553
Toluene	ND	0.047		mg/Kg	1	11/21/2020 12:15:38 AM	56553
Ethylbenzene	ND	0.047		mg/Kg	1	11/21/2020 12:15:38 AM	56553
Xylenes, Total	ND	0.095		mg/Kg	1	11/21/2020 12:15:38 AM	56553
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/21/2020 12:15:38 AM	56553

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 **2011964**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW3
Project: Todd 13H Federal 8
Collection Date: 11/17/2020 2:15:00 PM
Lab ID: 2011964-004 **Matrix:** SOIL **Received Date:** 11/19/2020 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	61		mg/Kg	20	11/24/2020 2:13:53 PM	56627
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	11/20/2020 4:57:18 PM	56557
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	11/20/2020 4:57:18 PM	56557
Surr: DNOP	97.5	30.4-154		%Rec	1	11/20/2020 4:57:18 PM	56557
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/21/2020 12:39:08 AM	56553
Surr: BFB	93.0	75.3-105		%Rec	1	11/21/2020 12:39:08 AM	56553
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	11/21/2020 12:39:08 AM	56553
Toluene	ND	0.050		mg/Kg	1	11/21/2020 12:39:08 AM	56553
Ethylbenzene	ND	0.050		mg/Kg	1	11/21/2020 12:39:08 AM	56553
Xylenes, Total	ND	0.10		mg/Kg	1	11/21/2020 12:39:08 AM	56553
Surr: 4-Bromofluorobenzene	99.7	80-120		%Rec	1	11/21/2020 12:39:08 AM	56553

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 **2011964**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW4
Project: Todd 13H Federal 8
Collection Date: 11/17/2020 2:25:00 PM
Lab ID: 2011964-005 **Matrix:** SOIL **Received Date:** 11/19/2020 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	11/24/2020 2:26:18 PM	56627
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/20/2020 5:07:00 PM	56557
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/20/2020 5:07:00 PM	56557
Surr: DNOP	98.2	30.4-154		%Rec	1	11/20/2020 5:07:00 PM	56557
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/21/2020 1:02:48 AM	56553
Surr: BFB	94.5	75.3-105		%Rec	1	11/21/2020 1:02:48 AM	56553
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.023		mg/Kg	1	11/21/2020 1:02:48 AM	56553
Toluene	ND	0.047		mg/Kg	1	11/21/2020 1:02:48 AM	56553
Ethylbenzene	ND	0.047		mg/Kg	1	11/21/2020 1:02:48 AM	56553
Xylenes, Total	ND	0.094		mg/Kg	1	11/21/2020 1:02:48 AM	56553
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/21/2020 1:02:48 AM	56553

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#: **2011964**

25-Nov-20

Client: Souder, Miller & Associates

Project: Todd 13H Federal 8

Sample ID: **MB-56627** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **56627** RunNo: **73617**

Prep Date: **11/24/2020** Analysis Date: **11/24/2020** SeqNo: **2594053** Units: **mg/Kg**

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

Sample ID: **LCS-56627** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **56627** RunNo: **73617**

Prep Date: **11/24/2020** Analysis Date: **11/24/2020** SeqNo: **2594054** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.4	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#: **2011964**

25-Nov-20

Client: Souder, Miller & Associates

Project: Todd 13H Federal 8

Sample ID: **MB-56557**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **56557**	RunNo: **73527**
Prep Date: **11/19/2020**	Analysis Date: **11/20/2020**	SeqNo: **2589786** 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	8.4		10.00		83.7	30.4	154			

Sample ID: **LCS-56557**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **56557**	RunNo: **73527**
Prep Date: **11/19/2020**	Analysis Date: **11/20/2020**	SeqNo: **2589789** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	107	70	130			
Surr: DNOP	4.2		5.000		84.8	30.4	154			

Sample ID: **2011964-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **CS1**	Batch ID: **56557**	RunNo: **73527**
Prep Date: **11/19/2020**	Analysis Date: **11/20/2020**	SeqNo: **2589842** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	9.6	48.08	3.711	99.8	15	184			
Surr: DNOP	4.3		4.808		89.8	30.4	154			

Sample ID: **2011964-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **CS1**	Batch ID: **56557**	RunNo: **73527**
Prep Date: **11/19/2020**	Analysis Date: **11/20/2020**	SeqNo: **2589845** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	9.7	48.54	3.711	102	15	184	3.33	23.9	
Surr: DNOP	4.5		4.854		92.0	30.4	154	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical 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#: **2011964**

25-Nov-20

Client: Souder, Miller & Associates

Project: Todd 13H Federal 8

Sample ID: **2011964-001ams** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **CS1** Batch ID: **56553** RunNo: **73525**

Prep Date: **11/19/2020** Analysis Date: **11/20/2020** SeqNo: **2589691** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.9	24.63	0	98.9	61.3	114			
Surr: BFB	1000		985.2		103	75.3	105			

Sample ID: **2011964-001amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **CS1** Batch ID: **56553** RunNo: **73525**

Prep Date: **11/19/2020** Analysis Date: **11/20/2020** SeqNo: **2589692** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	24.15	0	95.9	61.3	114	5.07	20	
Surr: BFB	1000		966.2		104	75.3	105	0	0	

Sample ID: **lcs-56553** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **56553** RunNo: **73525**

Prep Date: **11/19/2020** Analysis Date: **11/20/2020** SeqNo: **2589713** 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	91.6	72.5	106			
Surr: BFB	1000		1000		101	75.3	105			

Sample ID: **mb-56553** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **56553** RunNo: **73525**

Prep Date: **11/19/2020** Analysis Date: **11/20/2020** SeqNo: **2589715** 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	920		1000		92.4	75.3	105			

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#: **2011964**
25-Nov-20

Client: Souder, Miller & Associates
Project: Todd 13H Federal 8

Sample ID: **2011964-002ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SW1** Batch ID: **56553** RunNo: **73525**
Prep Date: **11/19/2020** Analysis Date: **11/20/2020** SeqNo: **2589744** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.023	0.9217	0	98.5	76.3	120			
Toluene	0.94	0.046	0.9217	0.009515	101	78.5	120			
Ethylbenzene	0.94	0.046	0.9217	0	102	78.1	124			
Xylenes, Total	2.8	0.092	2.765	0	102	79.3	125			
Surr: 4-Bromofluorobenzene	0.92		0.9217		100	80	120			

Sample ID: **2011964-002amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SW1** Batch ID: **56553** RunNo: **73525**
Prep Date: **11/19/2020** Analysis Date: **11/20/2020** SeqNo: **2589745** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.023	0.9337	0	99.8	76.3	120	2.65	20	
Toluene	0.97	0.047	0.9337	0.009515	103	78.5	120	2.36	20	
Ethylbenzene	0.97	0.047	0.9337	0	104	78.1	124	3.95	20	
Xylenes, Total	2.9	0.093	2.801	0	105	79.3	125	3.77	20	
Surr: 4-Bromofluorobenzene	0.94		0.9337		101	80	120	0	0	

Sample ID: **LCS-56553** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **56553** RunNo: **73525**
Prep Date: **11/19/2020** Analysis Date: **11/20/2020** SeqNo: **2589765** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	90.6	80	120			
Toluene	0.94	0.050	1.000	0	94.2	80	120			
Ethylbenzene	0.93	0.050	1.000	0	93.3	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.7	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.5	80	120			

Sample ID: **mb-56553** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **56553** RunNo: **73525**
Prep Date: **11/19/2020** Analysis Date: **11/20/2020** SeqNo: **2589767** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		99.7	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: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **Souder, Miller & Associat** Work Order Number: **2011964** RcptNo: 1

Received By: **Isaiah Ortiz** **11/19/2020 7:30:00 AM** I_OX

Completed By: **Isaiah Ortiz** **11/19/2020 8:22:05 AM** I_OX

Reviewed By: JR 11/19/20

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. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

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

Adjusted?

Checked by: SPA 11.19.20

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	0.8	Good	Not Present			
2	1.2	Good	Not Present			

Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

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

Turn-Around Time: 5 Days
☐ Standard ☐ **Rush**

Project Name: Todd 13H Federal 8

Project #: 20738347

Project Manager: Ashley Maxwell

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 2 0.8°C ±0

Cooler Temp(including CF): 1.2°C ±0 (°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. 2011964	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
11/17/20	1:45	Soil	CS1	4oz	Cool	001	✓	✓					✓			
"	1:55	"	SW1	"	"	002										
"	2:05	"	SW2	"	"	003										
"	2:15	"	SW3	"	"	004										
"	2:25	"	SW4	"	"	005										

Date	Time	Relinquished by	Received by	Via	Date	Time
11/18/20	1100	Tml Smith	A Cummings		11/18/20	1100
11/18/20	1900	A Cummings				
					11/19/20	0730

Remarks: Bill to Devon

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.

APPENDIX E
PHOTO LOG


NW
240
270
300
330
284°W (T)
32.305718, -103.733098 ±1 m
1040 m


E
30
60
90
120
85°E (T) 32.305717, -103.733156 ±2 m 1040 m
17 Nov 2020 13:09:12


E
SE
60
90
120
150
105°E (T) 32.305724, -103.733155 ±1 m 1041 m
17 Nov 2020, 13:09:12

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 16100

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 16100
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	1/23/2023