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

February 1, 2021

#5E29133-BG63

NMOCD District 1
1625 N. French Dr.
Hobbs, New Mexico 88240

SUBJECT: Remediation Closure Report for the Tomcat 17 Battery Release (NRM2024747616), Lea County, New Mexico

To Whom it May Concern:

On behalf of Devon Energy, 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 Tomcat 17 Battery site. The site is in Unit G, Section 26, Township 25S, Range 34E, Lea 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	Tomcat 17 Battery	Company	Devon Energy
API Number	30-025-34690	Location	32.299103 -103.690276
Tracking Number	NRM2024747616		
Estimated Date of Release	6/29/2020	Date Reported to NMOCD	8/27/2020
Land Owner	Federal	Reported To	NMOCD, BLM
Source of Release	Water transfer line developed a leak.		
Released Volume	68 BBLS	Released Material	Produced Water
Recovered Volume	0 BBLS	Net Release	68 BBLS
NMOCD Closure Criteria	<50 feet to groundwater		
SMA Response Dates	9/28/20		

1.0 Background

On June 29, 2020, a release was discovered at the Tomcat 17 Battery site due to a leak that had developed in a water transfer line. Initial response activities were conducted by Devon Energy, which included asset damage prevention, and source elimination activities. 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 Tomcat 17 Battery is an active production facility located approximately 32 miles northwest of Jal, New Mexico on Federal (BLM) land at an elevation of approximately 3,665 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 556 feet below grade surface (bgs). There are two water wells within 1.3 miles from the release site with depth-to-groundwater information. Well C-03851 POD1 is 1.08 miles from the release site and has a depth-to-groundwater recorded at 713 feet bgs. Well C-02216 is 1.00 miles from the release site and has a depth-to-groundwater recorded at 400 feet. Using depth-to-groundwater data from these wells, and elevational differences, depth to groundwater calculations for this area are included in Table 4.

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 an unnamed playa, located more than 2.5 miles to the northeast.

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 a 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 28, 2020, SMA personnel performed site delineation activities near the water-transfer line, which was the source of the release, located east from the Tomcat 17 Battery site. SMA collected soil samples around the release site, based on assistance from Devon personnel and location provided by nearby facility workers who were present at the time of spill. 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 five sample locations (S1 – S5) were investigated using a hand-auger, from surface level to a depth of one foot bgs. A minimum of two samples were collected at each sampling location and field-screened using the methods above. A total of ten 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).

As summarized in Table 3, results indicate that the areas surrounding the release meet NMOCD closure criteria and no further action is required.

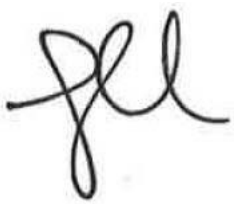
4.0 Scope and Limitations

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) 565-44465.

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 Click or tap to enter a date.

New Mexico Oil Conservation District (NMOCD) online Geographic Information Systems
http://www.emnrd.state.nm.us/OCD/ocdgis.html

ATTACHMENTS:

Figures:

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

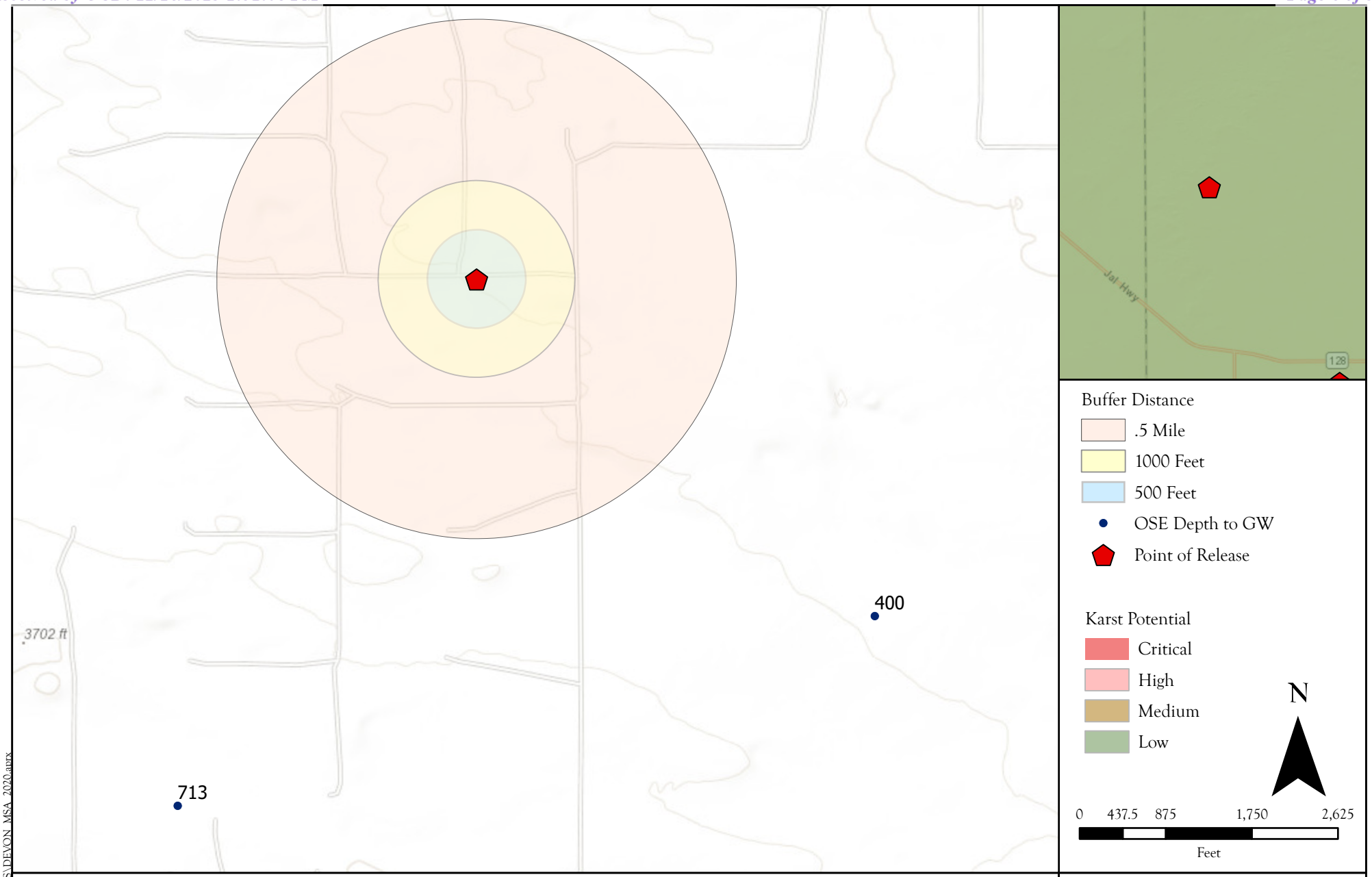
Tables:

Table 2: NMOCD Closure Criteria Justification
Table 3: Summary of Sample Results
Table 4: Depth to Groundwater Calculations

Appendices:

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

FIGURES



Vicinity and Wellhead Protection Map
Tomcat 17 Battery - Devon Energy Production Company
UL: G S: 26 T: 25S R34E ,Lea County, New Mexico

Figure 1

P:\5-Devon MSA 2020 (5E29133)\GIS\DEVON_MSA_2020.aprx
Date Saved: 2/1/2021

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

Drawn P.R. Smith
Date 2/1/2021
Checked
Approved

201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689-7040
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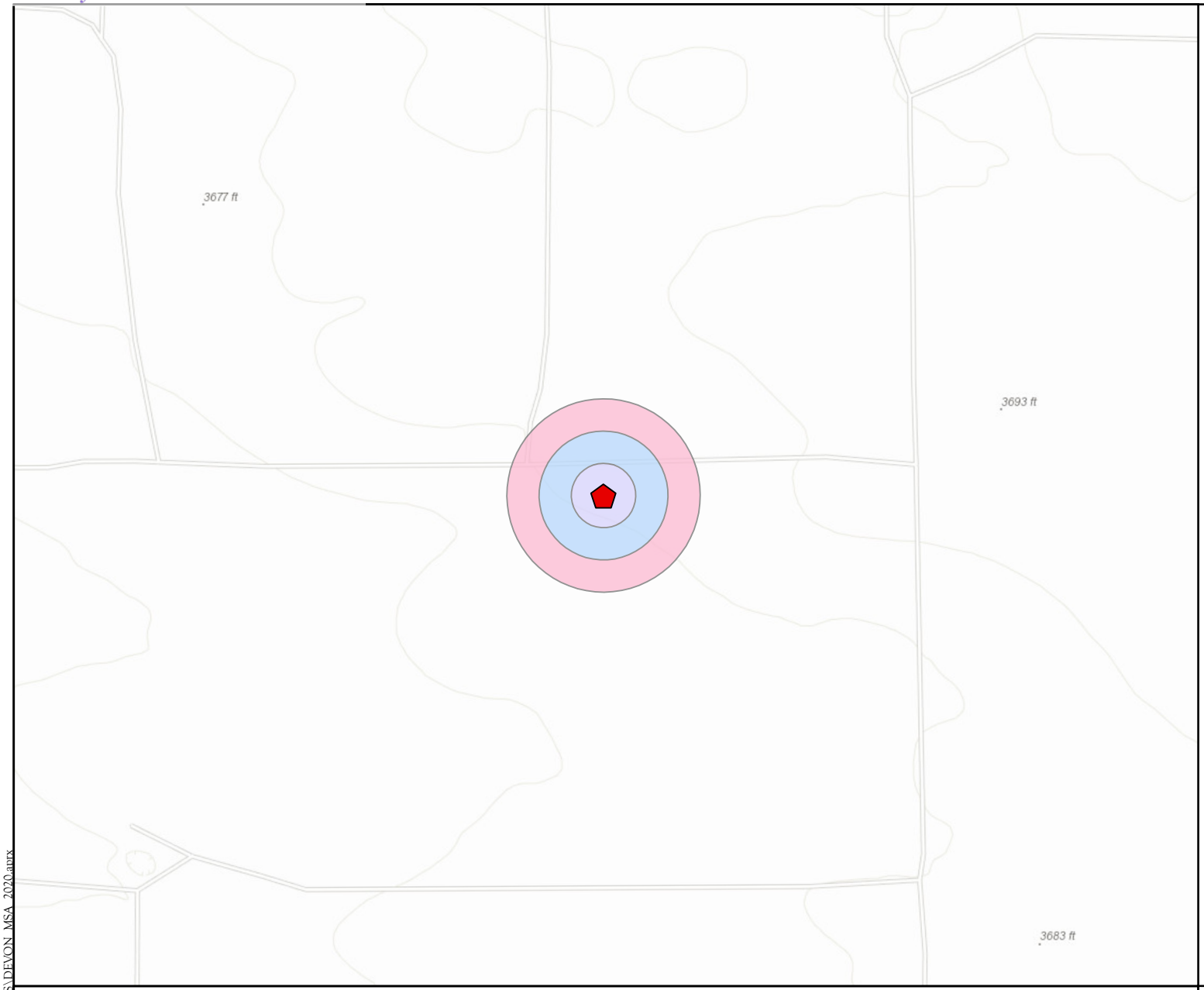

Buffer Distance
- 300 Feet
- 200 Feet
- 100 Feet
- Springs & Seeps
- Streams & Canals
- Rivers
- Flowlines SENM
- NM Wetlands
- Lakes & Playas
- FEMA Flood Zones 2011
- Point of Release

N

0 155 310 620 930

Feet

Surface Water Protection Map
Tomcat 17 Battery - Devon Energy Production Company
UL: G S: 26 T: 25S R: 34E, Lea County, New Mexico

Figure 2

P:\5-Devon MSA 2020 (5E29133)\GIS\DEVON_MSA_2020.aprx
Date Saved: 1/5/2021

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

Drawn P.R. Smith
Date 1/5/2021
Checked
Approved

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Legend:

- Point of Release
- Soil Sample

N

0 10 20 40 60

Feet

Site and Sample Location Map
Tomcat 17 Battery - Devon Energy Production Company
UL: G S: 26 T: 25S R: 34E, Lea County, New Mexico

Figure 3

P:\5-Devon MSA 2020 (5E29133)\GIS\DEVON_MSA_2020.aprx
Date Saved: 1/5/2021

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

Drawn P.R. Smith
Date 1/5/2021
Checked
Approved

SMA

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TABLES

Table 2:
NMOCD Closure Criteria

Devon Energy
Tomcat 17 Battery

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	556 (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)	13,762	Unnamed Draw 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
Tomcat 17 Battery

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 Closure Criteria				50	10	-			100	600
S1	9/28/2020	Surface	In-Situ	<0.215	<0.024	<4.8	<9.4	<47	<61.2	<60
		1	In-Situ	<0.211	<0.023	<4.7	<9.9	<50	<64.6	<60
S2		Surface	In-Situ	<0.215	<0.024	<4.8	<9.9	<49	64.6	<60
		1	In-Situ	<0.224	<0.025	<5.0	<8.8	<44	<57.8	<60
S3		Surface	In-Situ	<0.212	<0.024	<4.7	<9.7	<48	<62.4	<60
		1	In-Situ	<0.217	<0.024	<4.8	<9.8	<49	<63.6	<60
S4		Surface	In-Situ	<0.213	<0.024	<4.7	<9.2	<46	<59.9	<60
		1	In-Situ	<0.216	<0.024	<4.8	<9.5	<47	<61.3	<60
S5		Surface	In-Situ	<0.216	<0.024	<4.8	<9.3	<47	<61.1	<60
		1	In-Situ	<0.219	<0.024	<4.9	<8.5	<42	<55.4	<60

"--" = Not Analyzed
BG: Background sample

SMA #

Table 4:
Potential Depth to Groundwater

Devon Energy Production Company
Tomcat 17 Battery
(NRM2024747616)

Depth To Groundwater			Calculations		
Location Elevation (ft):	3665				
Well Name	Well Elevation (ft)	Well Depth to GW	Groundwater Elevation	Depth to GW at Location	Distance from Release (mi)
C 03851 POD 1	3682	400	3282	383	1.08
C 02216	3692	713	2979	686	1.26
				3665	
Total # of Wells	2			1069	

Potential Depth to GW at Release:	534.5

APPENDIX A
FORM C141

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NRM2024747616
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # *(assigned by OCD)*
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# *(if applicable)*

Unit Letter	Section	Township	Range	County

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

State of New Mexico
Oil Conservation Division

Incident ID	NRM2024747616
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

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

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: _____ Title: _____

Signature: Kendra DeHoyos Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Ramona Marcus Date: 9/3/2020

State of New Mexico
Oil Conservation Division

Incident ID	NRM2024747616
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?	556 (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.

State of New Mexico
Oil Conservation Division

Incident ID	NRM2024747616
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: _____ Title: _____

Signature:_____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Incident ID	NRM2024747616
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Incident ID	NRM2024747616
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: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

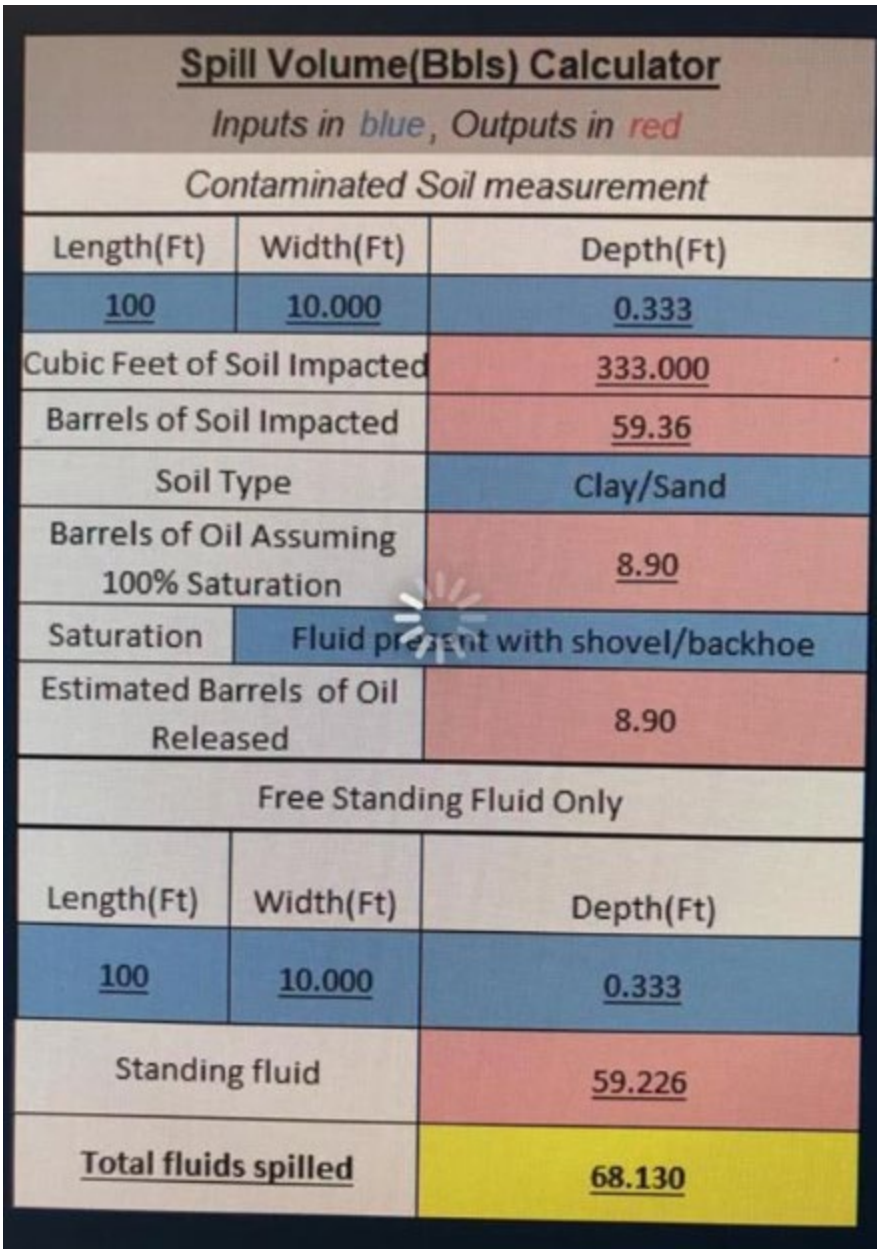
Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

NRM2024747616



Spill Volume(Bbls) Calculator		
Inputs in blue, Outputs in red		
Contaminated Soil measurement		
Length(Ft)	Width(Ft)	Depth(Ft)
100	10.000	0.333
Cubic Feet of Soil Impacted		333.000
Barrels of Soil Impacted		59.36
Soil Type		Clay/Sand
Barrels of Oil Assuming 100% Saturation		8.90
Saturation	Fluid present with shovel/backhoe	
Estimated Barrels of Oil Released		8.90
Free Standing Fluid Only		
Length(Ft)	Width(Ft)	Depth(Ft)
100	10.000	0.333
Standing fluid		59.226
Total fluids spilled		**68.130**

APPENDIX B
NMOSE WELLS REPORT

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 03851 POD1		CUB	LE	3	3	4	20	23S	32E	622880	3572660	1737	1392	713	679
C 02216		CUB	LE	2	2	4	21	23S	32E	625035	3573261*	2034	585	400	185

Average Depth to Water: **556 feet**
Minimum Depth: **400 feet**
Maximum Depth: **713 feet**

Record Count: 2

UTMNAD83 Radius Search (in meters):

Easting (X): 623311.79 **Northing (Y):** 3574342.96 **Radius:** 2500

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

10/6/20 12:14 PM WATER COLUMN/ AVERAGE DEPTH TO WATER

APPENDIX C
SAMPLING PROTOCOL

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

Sampling Protocol

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 ten (10) 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: clients.hallenvironmental.com

October 02, 2020

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

RE: Tomcat 17 Battery OrderNo.: 2009H08

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 10 sample(s) on 9/29/2020 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 **2009H08**
Date Reported: **10/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S1-Surface
Project: Tomcat 17 Battery
Collection Date: 9/28/2020 10:00:00 AM
Lab ID: 2009H08-001 **Matrix:** SOIL
Received Date: 9/29/2020 7:33:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	10/1/2020 3:37:46 PM	55588
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/30/2020 4:10:09 PM	55538
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/30/2020 4:10:09 PM	55538
Surr: DNOP	80.5	30.4-154		%Rec	1	9/30/2020 4:10:09 PM	55538
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/30/2020 7:50:11 PM	55536
Surr: BFB	86.2	75.3-105		%Rec	1	9/30/2020 7:50:11 PM	55536
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/30/2020 7:50:11 PM	55536
Toluene	ND	0.048		mg/Kg	1	9/30/2020 7:50:11 PM	55536
Ethylbenzene	ND	0.048		mg/Kg	1	9/30/2020 7:50:11 PM	55536
Xylenes, Total	ND	0.095		mg/Kg	1	9/30/2020 7:50:11 PM	55536
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	9/30/2020 7:50:11 PM	55536

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

Qualifiers:

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

Analytical Report
Lab Order **2009H08**
Date Reported: **10/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S1-1'
Project: Tomcat 17 Battery
Collection Date: 9/28/2020 10:05:00 AM
Lab ID: 2009H08-002 **Matrix:** SOIL **Received Date:** 9/29/2020 7:33:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	10/1/2020 3:50:11 PM	55588
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/30/2020 4:39:06 PM	55538
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/30/2020 4:39:06 PM	55538
Surr: DNOP	116	30.4-154		%Rec	1	9/30/2020 4:39:06 PM	55538
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/30/2020 5:29:11 PM	55536
Surr: BFB	87.3	75.3-105		%Rec	1	9/30/2020 5:29:11 PM	55536
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	9/30/2020 5:29:11 PM	55536
Toluene	ND	0.047		mg/Kg	1	9/30/2020 5:29:11 PM	55536
Ethylbenzene	ND	0.047		mg/Kg	1	9/30/2020 5:29:11 PM	55536
Xylenes, Total	ND	0.094		mg/Kg	1	9/30/2020 5:29:11 PM	55536
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	9/30/2020 5:29:11 PM	55536

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 **2009H08**
Date Reported: **10/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S2- Surface
Project: Tomcat 17 Battery
Collection Date: 9/28/2020 10:10:00 AM
Lab ID: 2009H08-003 **Matrix:** SOIL **Received Date:** 9/29/2020 7:33:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	10/1/2020 4:02:36 PM	55588
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/30/2020 4:48:44 PM	55538
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/30/2020 4:48:44 PM	55538
Surr: DNOP	87.4	30.4-154		%Rec	1	9/30/2020 4:48:44 PM	55538
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/30/2020 5:52:36 PM	55536
Surr: BFB	86.3	75.3-105		%Rec	1	9/30/2020 5:52:36 PM	55536
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/30/2020 5:52:36 PM	55536
Toluene	ND	0.048		mg/Kg	1	9/30/2020 5:52:36 PM	55536
Ethylbenzene	ND	0.048		mg/Kg	1	9/30/2020 5:52:36 PM	55536
Xylenes, Total	ND	0.095		mg/Kg	1	9/30/2020 5:52:36 PM	55536
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	9/30/2020 5:52:36 PM	55536

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 **2009H08**
Date Reported: **10/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S2-1'
Project: Tomcat 17 Battery
Collection Date: 9/28/2020 10:15:00 AM
Lab ID: 2009H08-004 **Matrix:** SOIL **Received Date:** 9/29/2020 7:33:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	10/1/2020 4:15:00 PM	55588
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	9/30/2020 4:58:21 PM	55538
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	9/30/2020 4:58:21 PM	55538
Surr: DNOP	113	30.4-154		%Rec	1	9/30/2020 4:58:21 PM	55538
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/30/2020 6:16:19 PM	55536
Surr: BFB	83.8	75.3-105		%Rec	1	9/30/2020 6:16:19 PM	55536
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	9/30/2020 6:16:19 PM	55536
Toluene	ND	0.050		mg/Kg	1	9/30/2020 6:16:19 PM	55536
Ethylbenzene	ND	0.050		mg/Kg	1	9/30/2020 6:16:19 PM	55536
Xylenes, Total	ND	0.099		mg/Kg	1	9/30/2020 6:16:19 PM	55536
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	9/30/2020 6:16:19 PM	55536

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 **2009H08**
Date Reported: **10/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S3- Surface
Project: Tomcat 17 Battery
Collection Date: 9/28/2020 10:20:00 AM
Lab ID: 2009H08-005 **Matrix:** SOIL **Received Date:** 9/29/2020 7:33:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	10/1/2020 4:52:15 PM	55588
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/30/2020 5:07:58 PM	55538
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/30/2020 5:07:58 PM	55538
Surr: DNOP	105	30.4-154		%Rec	1	9/30/2020 5:07:58 PM	55538
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/30/2020 9:47:20 PM	55536
Surr: BFB	85.5	75.3-105		%Rec	1	9/30/2020 9:47:20 PM	55536
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/30/2020 9:47:20 PM	55536
Toluene	ND	0.047		mg/Kg	1	9/30/2020 9:47:20 PM	55536
Ethylbenzene	ND	0.047		mg/Kg	1	9/30/2020 9:47:20 PM	55536
Xylenes, Total	ND	0.094		mg/Kg	1	9/30/2020 9:47:20 PM	55536
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	9/30/2020 9:47:20 PM	55536

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 **2009H08**
Date Reported: **10/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S3-1'
Project: Tomcat 17 Battery
Collection Date: 9/28/2020 10:25:00 AM
Lab ID: 2009H08-006 **Matrix:** SOIL **Received Date:** 9/29/2020 7:33:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	10/1/2020 5:04:39 PM	55588
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/30/2020 5:17:41 PM	55538
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/30/2020 5:17:41 PM	55538
Surr: DNOP	94.0	30.4-154		%Rec	1	9/30/2020 5:17:41 PM	55538
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/30/2020 10:10:48 PM	55536
Surr: BFB	88.1	75.3-105		%Rec	1	9/30/2020 10:10:48 PM	55536
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/30/2020 10:10:48 PM	55536
Toluene	ND	0.048		mg/Kg	1	9/30/2020 10:10:48 PM	55536
Ethylbenzene	ND	0.048		mg/Kg	1	9/30/2020 10:10:48 PM	55536
Xylenes, Total	ND	0.097		mg/Kg	1	9/30/2020 10:10:48 PM	55536
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	9/30/2020 10:10:48 PM	55536

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 **2009H08**
Date Reported: **10/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S4- Surface
Project: Tomcat 17 Battery
Collection Date: 9/28/2020 10:30:00 AM
Lab ID: 2009H08-007 **Matrix:** SOIL **Received Date:** 9/29/2020 7:33:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	10/1/2020 5:17:04 PM	55588
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	9/30/2020 5:27:28 PM	55538
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/30/2020 5:27:28 PM	55538
Surr: DNOP	91.6	30.4-154		%Rec	1	9/30/2020 5:27:28 PM	55538
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/30/2020 10:34:29 PM	55536
Surr: BFB	82.6	75.3-105		%Rec	1	9/30/2020 10:34:29 PM	55536
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/30/2020 10:34:29 PM	55536
Toluene	ND	0.047		mg/Kg	1	9/30/2020 10:34:29 PM	55536
Ethylbenzene	ND	0.047		mg/Kg	1	9/30/2020 10:34:29 PM	55536
Xylenes, Total	ND	0.095		mg/Kg	1	9/30/2020 10:34:29 PM	55536
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	9/30/2020 10:34:29 PM	55536

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 **2009H08**
Date Reported: **10/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S4-1'
Project: Tomcat 17 Battery
Collection Date: 9/28/2020 10:35:00 AM
Lab ID: 2009H08-008 **Matrix:** SOIL **Received Date:** 9/29/2020 7:33:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	10/1/2020 5:29:28 PM	55588
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/30/2020 5:37:20 PM	55538
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/30/2020 5:37:20 PM	55538
Surr: DNOP	114	30.4-154		%Rec	1	9/30/2020 5:37:20 PM	55538
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/30/2020 10:58:10 PM	55536
Surr: BFB	84.0	75.3-105		%Rec	1	9/30/2020 10:58:10 PM	55536
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/30/2020 10:58:10 PM	55536
Toluene	ND	0.048		mg/Kg	1	9/30/2020 10:58:10 PM	55536
Ethylbenzene	ND	0.048		mg/Kg	1	9/30/2020 10:58:10 PM	55536
Xylenes, Total	ND	0.096		mg/Kg	1	9/30/2020 10:58:10 PM	55536
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	9/30/2020 10:58:10 PM	55536

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 **2009H08**
Date Reported: **10/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S5-Surface
Project: Tomcat 17 Battery
Collection Date: 9/28/2020 10:40:00 AM
Lab ID: 2009H08-009 **Matrix:** SOIL **Received Date:** 9/29/2020 7:33:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	10/1/2020 5:41:52 PM	55588
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	9/30/2020 5:47:13 PM	55538
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/30/2020 5:47:13 PM	55538
Surr: DNOP	72.5	30.4-154		%Rec	1	9/30/2020 5:47:13 PM	55538
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/30/2020 11:21:51 PM	55536
Surr: BFB	88.3	75.3-105		%Rec	1	9/30/2020 11:21:51 PM	55536
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/30/2020 11:21:51 PM	55536
Toluene	ND	0.048		mg/Kg	1	9/30/2020 11:21:51 PM	55536
Ethylbenzene	ND	0.048		mg/Kg	1	9/30/2020 11:21:51 PM	55536
Xylenes, Total	ND	0.096		mg/Kg	1	9/30/2020 11:21:51 PM	55536
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	9/30/2020 11:21:51 PM	55536

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 **2009H08**
Date Reported: **10/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S5-1'
Project: Tomcat 17 Battery
Collection Date: 9/28/2020 10:45:00 AM
Lab ID: 2009H08-010 **Matrix:** SOIL
Received Date: 9/29/2020 7:33:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	10/1/2020 5:54:17 PM	55588
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	9/30/2020 5:57:07 PM	55538
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	9/30/2020 5:57:07 PM	55538
Surr: DNOP	92.0	30.4-154		%Rec	1	9/30/2020 5:57:07 PM	55538
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/30/2020 11:45:31 PM	55536
Surr: BFB	83.7	75.3-105		%Rec	1	9/30/2020 11:45:31 PM	55536
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/30/2020 11:45:31 PM	55536
Toluene	ND	0.049		mg/Kg	1	9/30/2020 11:45:31 PM	55536
Ethylbenzene	ND	0.049		mg/Kg	1	9/30/2020 11:45:31 PM	55536
Xylenes, Total	ND	0.097		mg/Kg	1	9/30/2020 11:45:31 PM	55536
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	9/30/2020 11:45:31 PM	55536

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#: **2009H08**

02-Oct-20

Client: Souder, Miller & Associates

Project: Tomcat 17 Battery

Sample ID: **MB-55588**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **55588**	RunNo: **72316**
Prep Date: **10/1/2020**	Analysis Date: **10/1/2020**	SeqNo: **2537364** Units: **mg/Kg**

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

Sample ID: **LCS-55588**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **55588**	RunNo: **72316**
Prep Date: **10/1/2020**	Analysis Date: **10/1/2020**	SeqNo: **2537365** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.8	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#: **2009H08**

02-Oct-20

Client: Souder, Miller & Associates

Project: Tomcat 17 Battery

Sample ID: **2009H08-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **S1-Surface** Batch ID: **55538** RunNo: **72261**

Prep Date: **9/29/2020** Analysis Date: **9/30/2020** SeqNo: **2535539** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.6	48.12	0	98.3	15	184			
Surr: DNOP	3.2		4.812		67.2	30.4	154			

Sample ID: **2009H08-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **S1-Surface** Batch ID: **55538** RunNo: **72261**

Prep Date: **9/29/2020** Analysis Date: **9/30/2020** SeqNo: **2535540** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	49.90	0	94.6	15	184	0.216	23.9	
Surr: DNOP	3.7		4.990		74.6	30.4	154	0	0	

Sample ID: **LCS-55538** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **55538** RunNo: **72261**

Prep Date: **9/29/2020** Analysis Date: **9/30/2020** SeqNo: **2535557** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.5	70	130			
Surr: DNOP	4.9		5.000		97.6	30.4	154			

Sample ID: **MB-55538** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **55538** RunNo: **72261**

Prep Date: **9/29/2020** Analysis Date: **9/30/2020** SeqNo: **2535558** 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		110	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#: **2009H08**

02-Oct-20

Client: Souder, Miller & Associates

Project: Tomcat 17 Battery

Sample ID: **mb-55536**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **55536**	RunNo: **72271**
Prep Date: **9/29/2020**	Analysis Date: **9/30/2020**	SeqNo: **2535225** 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	850		1000		84.7	75.3	105			

Sample ID: **lcs-55536**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **55536**	RunNo: **72271**
Prep Date: **9/29/2020**	Analysis Date: **9/30/2020**	SeqNo: **2535226** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	86.8	72.5	106			
Surr: BFB	990		1000		98.9	75.3	105			

Sample ID: **2009h08-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S1-1'**	Batch ID: **55536**	RunNo: **72271**
Prep Date: **9/29/2020**	Analysis Date: **9/30/2020**	SeqNo: **2535232** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.7	23.41	0	88.6	61.3	114			
Surr: BFB	900		936.3		96.3	75.3	105			

Sample ID: **2009h08-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S1-1'**	Batch ID: **55536**	RunNo: **72271**
Prep Date: **9/29/2020**	Analysis Date: **9/30/2020**	SeqNo: **2535233** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.8	23.92	0	87.2	61.3	114	0.584	20	
Surr: BFB	920		956.9		96.0	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#: **2009H08**

02-Oct-20

Client: Souder, Miller & Associates

Project: Tomcat 17 Battery

Sample ID: **mb-55536**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **55536**	RunNo: **72271**
Prep Date: **9/29/2020**	Analysis Date: **9/30/2020**	SeqNo: **2535263** 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		105	80	120			

Sample ID: **LCS-55536**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **55536**	RunNo: **72271**
Prep Date: **9/29/2020**	Analysis Date: **9/30/2020**	SeqNo: **2535264** 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	90.7	80	120			
Toluene	0.95	0.050	1.000	0	95.4	80	120			
Ethylbenzene	0.97	0.050	1.000	0	97.0	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.4	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID: **2009h08-001ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S1-Surface**	Batch ID: **55536**	RunNo: **72271**
Prep Date: **9/29/2020**	Analysis Date: **9/30/2020**	SeqNo: **2535267** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.024	0.9452	0.01431	93.0	76.3	120			
Toluene	0.96	0.047	0.9452	0.01279	99.9	78.5	120			
Ethylbenzene	0.98	0.047	0.9452	0	104	78.1	124			
Xylenes, Total	3.0	0.095	2.836	0	105	79.3	125			
Surr: 4-Bromofluorobenzene	1.0		0.9452		107	80	120			

Sample ID: **2009h08-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S1-Surface**	Batch ID: **55536**	RunNo: **72271**
Prep Date: **9/29/2020**	Analysis Date: **9/30/2020**	SeqNo: **2535268** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.024	0.9756	0.01431	93.0	76.3	120	3.11	20	
Toluene	0.98	0.049	0.9756	0.01279	98.8	78.5	120	2.03	20	
Ethylbenzene	1.0	0.049	0.9756	0	103	78.1	124	1.72	20	
Xylenes, Total	3.0	0.098	2.927	0	103	79.3	125	1.48	20	
Surr: 4-Bromofluorobenzene	1.0		0.9756		107	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: 2009H08 | RcptNo: 1

Received By: **Cheyenne Cason** 9/29/2020 7:33:00 AM

Completed By: **Juan Rojas** 9/29/2020 8:12:28 AM

Reviewed By: JR 9/29/20

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: CMC 9/29/20

Special Handling (if applicable)

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

Person Notified: Skip Tabor Date 9/29/20

By Whom: Erin Melendrez Via: ☐ eMail ☒ Phone ☐ Fax ☐ In Person

Regarding: Jars dated 9/26 COC dated 9/28.

Client Instructions: COC date of 9/28 is correct.

16. Additional remarks: -ENM 9/29/20

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:
☐ Standard ☒ Rush Data by Oct 2

Project Name: Tomcat 17 Battery

Project #: WO# 208742 45

Project Manager: Ashley Maxwell

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 4.0 +0 = 4.0 (°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. 2009H08	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)
9/28	10:00	Soil	S1 - Surface	402	Cool	-001	✓	✓					✓			
	10:05		S1 - 1'			-002										
	10:10		S2 - Surface			-003										
	10:15		S2 - 1'			-004										
	10:20		S3 - Surface			-005										
	10:25		S3 - 1'			-006										
	10:30		S4 - Surface			-007										
	10:35		S4 - 1'			-008										
	10:40		S5 - Surface			-009										
	10:45		S5 - 1'			-010										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9/28	2:00	Thi Smith			9/28/20	1400
9/28/20	1900			Courier	9/29/20	0733

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


S
120
150
180
210
155°SE (T)
32.298722, -103.685253 ±2 m
1092 m


NW
240
270
300
330
292°W (T) 32.298604, -103.685119 ±2 m 1093 m
01 Feb 2021, 11:11:49


S
W
180
210
240
270
235°SW (T)
32.298653, -103.685093 ±2 m
1093 m


180
210
240
270
224°SW (T)
32.298735, -103.685089 ±2 m
1094 m


90
120
150
180
133°SE (T) 32.298709, -103.685397 ±2 m 1096 m

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

December 18, 2023
SITE NAME: Tomcat 17 Battery
COMPANY: Devon Energy
INCIDENT NUMBER: NRM2024747616

NMOCD C141 Closure Report Questions

1	What is the shallowest depth to groundwater beneath the area affected by the release in ft bgs?	*** Between 500 and 1000
2	What method was used to determine depth to groundwater?	*** NM OSE iWaters Database Search
3	Did the release impact groundwater or surface water?	*** NO
	What is the **minimum distance**, between the closest lateral extents of the release and the following surface areas: (measure on Google Earth or ArcGIS)	
4	A continuously flowing watercourse or any other significant watercourse	*** Greater than 5 Miles
5	Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	*** Between 1 and 5 Miles
6	An occupied permanent residence, school hospital, institution, or church	*** Greater than 5 Miles
7	A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	*** Between 1 and 5 Miles
8	Any other fresh water well or spring	*** Greater than 5 Miles
9	Incorporated municipal boundary or a defined municipal fresh water well field	*** Greater than 5 Miles
10	A wetland	*** Greater than 5 Miles
11	A subsurface mine	*** Greater than 5 Miles
12	An unstable area (non-karst)	*** Greater than 5 Miles
13	Categorize the risk of this well/site being in karst geology	*** Low
14	A 100-year floodplain	*** Greater than 5 Miles
15	Did the release impact areas not on an exploration, development, production, or storage site.	*** YES

Remediation Plan Questions

16	Have the lateral and vertical extents of contamination been fully delineated	*** YES
17	Was this release entirely contained within a lined containment area	*** NO
	Soil Contamination Sampling (provide the highest observable value for each, in mg/kg)	
18	Chloride (EPA 300.0 or SM4500 Cl B)	*** <60
19	TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	*** 64.6
20	GRO+DRO (EPA SW-846 Method 8015M)	*** <14.7
21	BTEX (EPA SW-846 Method 8021B or 8260B)	*** <0.224
22	Benzene (EPA SW-846 Method 8021B or 8260B)	*** <0.025
23	On what estimated date will the remediation commence	*** N/A
24	On what date will (or did) the final sampling or liner inspection occur	*** N/A
25	On what date will (or was) the remediation complete(d)	*** N/A
26	What is the estimated surface area (in sq. ft.) that will be reclaimed	*** N/A
27	What is the estimated volume (in cu. yd.) that will be reclaimed	*** N/A
28	What is the estimated surface area (in sq. ft.) that will be remediated	*** N/A
29	What is the estimated volume (in cu. yd.) that will be remediated	*** N/A
	This remediation will (or is expected to) utilize the following processes to remediate/reduce contaminants: (select all that apply)	
30	(ex situ) excavation and off-site disposal (i.e. dig & haul, hydrovac, etc.)	*** NO
31	(ex situ) excavation and on-site remediation (i.e. on-site land farms)	*** NO
32	(in situ) soil vapor extraction	*** NO
33	(in situ) chemical processing (i.e. soil shredding, potassium permanganate, etc.)	*** NO
34	(in situ) biological processing (i.e. microbes/fertilizer, etc.)	*** NO
35	(in situ) physical processing (i.e. soil washing, gypsum, disking, etc.)	*** NO
36	Ground Water abatement pursuant to 19.15.30 NMAC	*** NO
37	Other (non-listed remedial process)	*** NO; none needed

Attachment Requirements

	Site Characterization Requirement:	Yes/No:
39	Water Sources	***YES
40	Scaled Site Map	***YES
41	Field Data	***NO
42	Soil Contaminant	***YES
43	Water Depth	***YES
44	Boring Logs	***NO
45	Photographs	***YES
46	Topographic & Aerial Maps	***YES
47	Lab Data	***YES
	Remediation Plan Requirement:	**Yes/No:**
48	Proposed Technique	***NO
49	Scaled Site Map	***YES
50	Estimated Volume	***NO
51	Closure Criteria	***YES
52	Proposed Schedule	***NO

Deferral Requests ONLY

53	Requesting a deferral of the remediation closure due date with the approval of this submission	***NO

Remediation Closure Report

54	Requesting a remediation closure approval with this submission	***YES

Waste Disposal

	(ex situ) Off-Site Disposal	Name of Facility or N/A:
55	OCD Approved Facility	*** N/A
56	OCD Approved well (API)	*** N/A
57	Out-of-State disposal site	*** N/A
58	NMED Facility	*** N/A
	(ex situ) On-Site Remediation	**Name of Facility or N/A:**
59	OCD Approved Facility	*** N/A
60	OCD Approved well (API)	*** N/A

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

QUESTIONS

Action 295790

QUESTIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 295790
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nRM2024747616**
Incident Name	**NRM2024747616 TOMCAT 17 BATTERY @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	TOMCAT 17 BATTERY
Date Release Discovered	06/29/2020
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Corrosion | Other (Specify) | Produced Water | Released: 68 BBL | Recovered: 0 BBL | Lost: 68 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 295790
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

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	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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.

I hereby agree and sign off to the above statement	Name: Dale Woodall Title: EHS Professional Email: Dale.Woodall@dvn.com Date: 12/18/2023

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QUESTIONS (continued)

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QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 500 and 1000 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Greater than 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	60
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	64.6
GRO+DRO (EPA SW-846 Method 8015M)	14.7
BTEX (EPA SW-846 Method 8021B or 8260B)	0.2
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	
On what date will (or did) the final sampling or liner inspection occur	
On what date will (or was) the remediation complete(d)	
What is the estimated surface area (in square feet) that will be reclaimed	0
What is the estimated volume (in cubic yards) that will be reclaimed	0
What is the estimated surface area (in square feet) that will be remediated	0
What is the estimated volume (in cubic yards) that will be remediated	0
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	No
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	Yes
Other Non-listed Remedial Process. Please specify	NONE NEEDED
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	

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.

I hereby agree and sign off to the above statement	Name: Dale Woodall Title: EHS Professional Email: Dale.Woodall@dvn.com Date: 12/18/2023

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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QUESTIONS (continued)

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QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS (continued)

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QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**295817**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**09/28/2020**
What was the (estimated) number of samples that were to be gathered	**10**
What was the sampling surface area in square feet	**900**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	0
What was the total volume (cubic yards) remediated	0
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	0
What was the total volume (in cubic yards) reclaimed	0
Summarize any additional remediation activities not included by answers (above)	N/A

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 (in .pdf format) 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.

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.

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QUESTIONS (continued)

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QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 295790

CONDITIONS

Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	6137
	Action Number: 295790
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CONDITIONS

Created By	Condition	Condition Date
nvelez	Operator failed to provide proper Sampling Notification pursuant to 19.15.29.12.D.(1).(a) NMAC. Failure to provide proper sampling notice is a compliance issue and OCD may pursue compliance actions pursuant to 19.15.5 NMAC. Operator shall ensure future compliance with 19.15.29.12.D.(1).(a) NMAC	3/18/2024