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

September 9, 2020

#5E29133-BG55

NMOCD District 1
1625 N. French Dr.
Hobbs, NM 88240B

SUBJECT: Remediation Closure Report for the Warthog 2 State #002 Release, 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 Warthog 2 State #002 site. The site is in Unit H, Section 2, Township 23S, Range 28E, Eddy County, New Mexico, on State land. Figure 1 illustrates the vicinity and site location on an USGS 7.5 minute quadrangle map.

Table 1 summarizes release information and Closure Criteria.

Table 1: Release Information and Closure Criteria			
Name	Warthog 2 State #002	Company	Devon Energy Company
API Number	30-025-30986	Location	32.3365402, -104.0514221
Incident Number	NLLB0631147792		
Estimated Date of Release	3/13/2006	Date Reported to NMOCD	3/13/2006
Land Owner	State	Reported To	NMOCD, NMSLO
Source of Release	Illegal Dumping		
Released Volume	Unknown	Released Material	Unknown
Recovered Volume	Unknown	Net Release	Unknown
NMOCD Closure Criteria	<50 feet to groundwater		
SMA Response Dates	8/24/2020		

1.0 Background

On March 13, 2006, a release was discovered at the Warthog 2 State #002 site due to an illegal dumping event by a water hauler. Initial response activities were conducted by Devon personnel, and included source elimination and site containment 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 Warthog 2 State #002 is located approximately 4.33 miles from Loving, New Mexico on State land at an elevation of approximately 3,068 feet above mean sea level (amsl).

Based upon OSE well data (Appendix B), depth to groundwater in the area is estimated to be 50 feet below grade surface (bgs). There are no known water sources within ½-mile of the location, according to the New Mexico Office of the State Engineer (NMOSE) online water well database (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 9/8/2020). The nearest significant watercourse is an unnamed draw, located approximately 1,685 feet to the north- west. Figure 2 illustrates the site with 200 and 300-foot radii to indicate that it does not lie within a sensitive area as described in 19.15.29.12.C(4) NMAC.

Based on the information presented herein, the applicable NMOCD Closure Criteria for this site is for a groundwater depth of less than 50 feet bgs. Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

3.0 Release Characterization and Remediation Activities

August 24, 2020, SMA personnel arrived on site in response to the release associated with Warthog 2 State #002. SMA performed site delineation activities by collecting soil samples around the release site. 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 eight (8) sample locations (S1-S8) were investigated. 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 closure report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Ashley Maxwell at 505-320-9241 or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Ashley Maxwell
Project Manager

Reviewed by:

Shawna Chubbuck
Senior Scientist

ATTACHMENTS:

Figures:

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

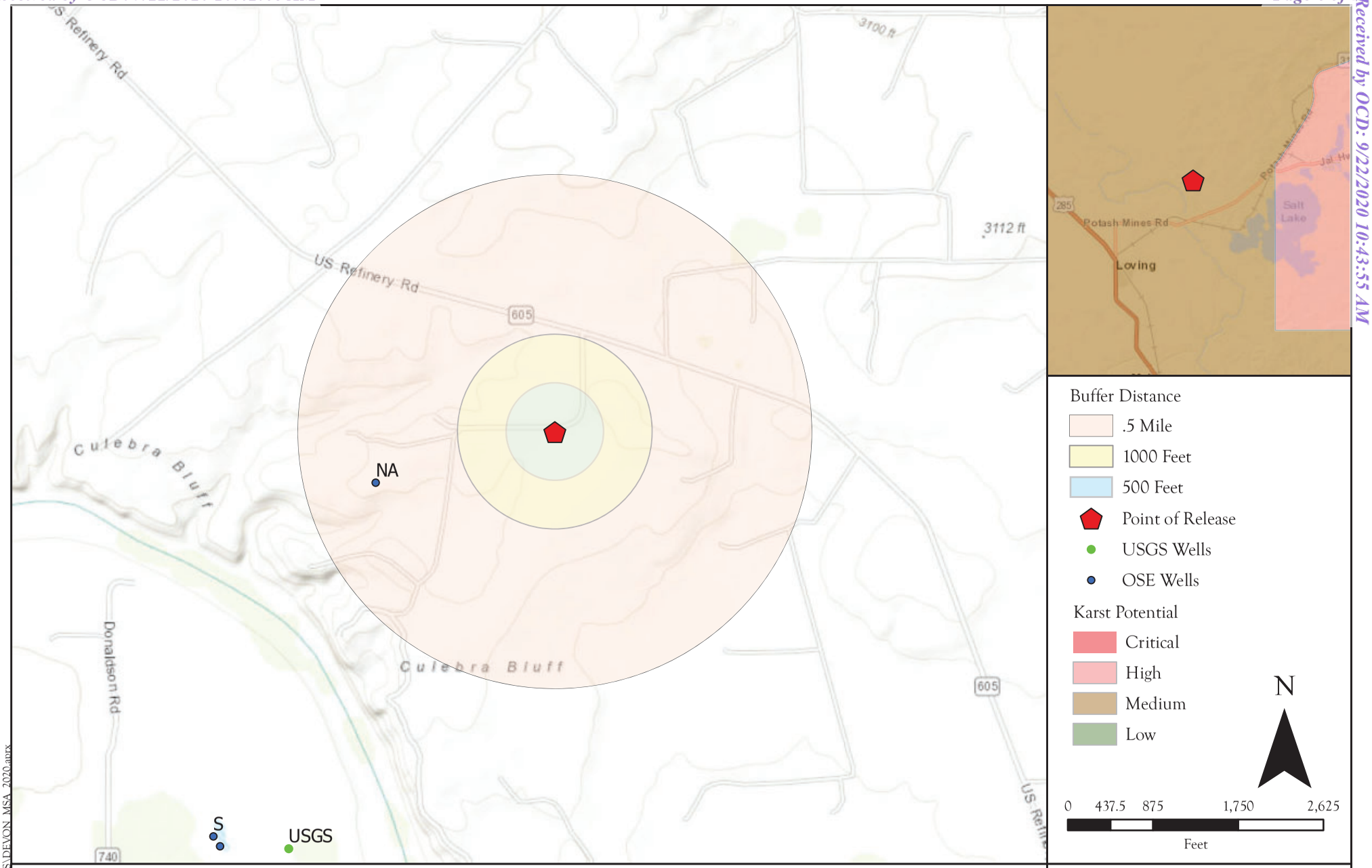
Tables:

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

Appendices:

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

FIGURES



Site Map
Warthog 2 State #002- Devon Energy Production Company
32.3365402, -104.0514221 Eddy County, New Mexico

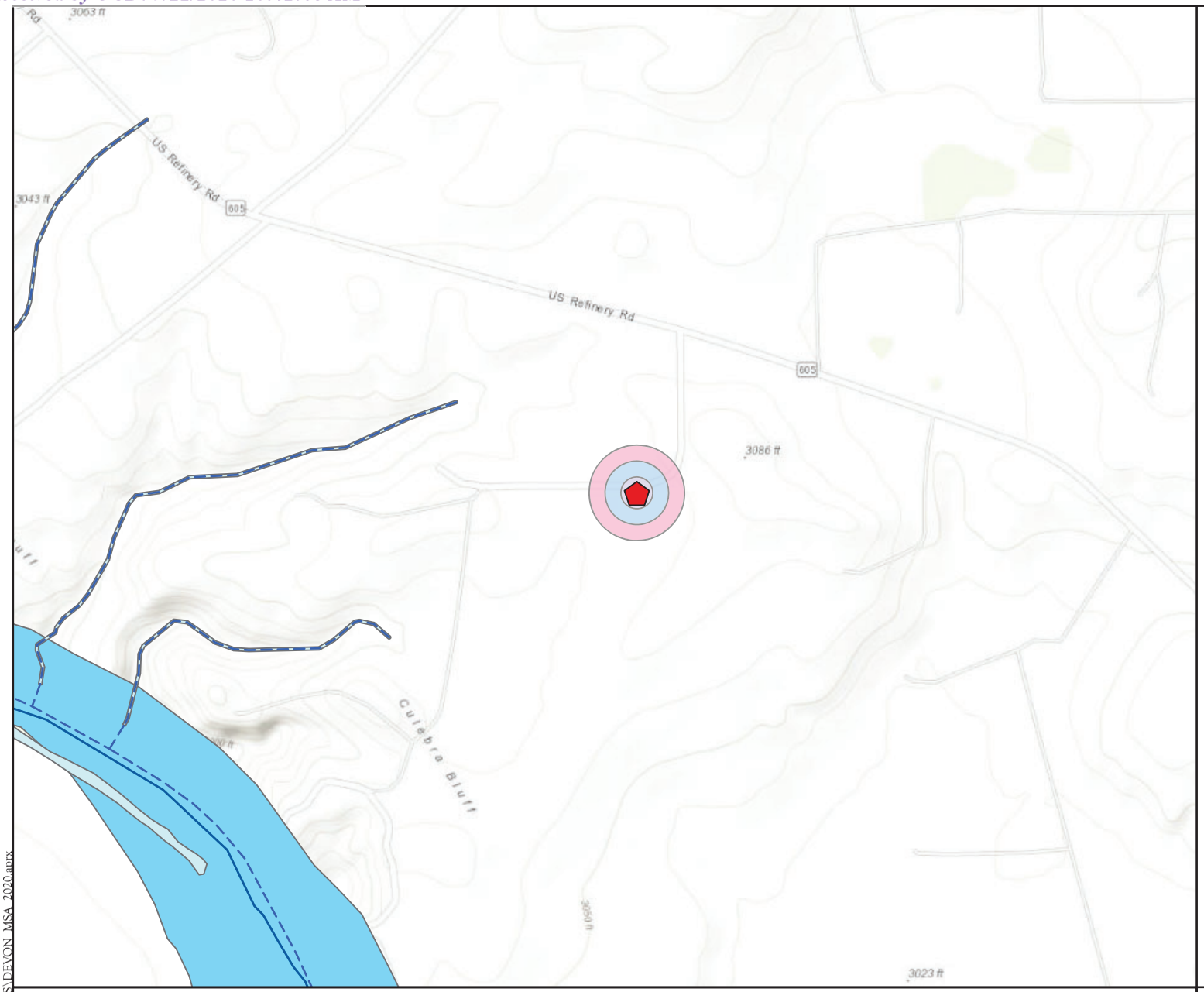
Figure 1

P:\5-Devon MSA 2020 (5E29133)\GIS\DEVON_MSA_2020.aprx
Date Saved: 9/3/2020

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

Drawn Sebastian Orozco
Date 9/8/2020
Checked
Approved

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



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

0 305 610 1,220 1,830

Feet

Surface Water Protection Map
Warthog 2 State #002- Devon Energy Production Company
32.3365402, -104.0514221 Eddy County, New Mexico

Figure 2

P:\5-Devon MSA 2020 (5E29133)\GIS\DEVON_MSA_2020.aprx
Date Saved: 9/3/2020

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

Drawn Sebastian Orozco
Date 9/8/2020
Checked
Approved

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Sample Points

- Initial Soil Samples
- Point of Release

N

0 25 50 100 150

Feet

Site and Sample Location Map
Worthog 2 State #002- Devon Energy
32.3365402, -104.0514221, New Mexico

Figure 3

P:\5-Devon MSA 2020 (5E29133)\GIS\DEVON_MSA_2020.mxd
Date Saved: 9/1/2020

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

Drawn Sebastian Orozco
Date 9/2/2020
Checked
Approved

SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689.7040
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TABLES

Table 2:
NMOCD Closure Criteria

Devon Energy
Worthog 2 State 2

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	<50	New Mexico Office of the State Engineer
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	1685	NMOSE & USGS
Hortizontal Distance to Nearest Significant Watercourse (ft)	1685	NMOSE & USGS

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					
within a 100-year floodplain?	No					

SMA #

Table 3:
Sample Results

Devon Energy
Warthog 2 State #002

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				2,500	20,000
S1	8/24/2020	Surface	In-situ	<0.216	<0.024	<4.8	<9.2	<46	<60	<60
S2				<0.216	<0.024	<4.8	<8.7	<44	<57.5	<60
S3				<0.213	<0.024	<4.7	<9.7	<48	<62.4	<59
S4				<0.225	<0.025	<5.0	<9.1	<45	<59.1	<60
S5				<0.222	<0.025	<4.9	<9.8	<49	<63.7	<60
S6				<0.222	<0.025	<4.9	<9.5	<48	<62.4	<60
S7				<0.219	<0.024	<4.9	<9.6	<48	<62.5	<60
S8				<0.220	<0.024	<4.9	<9.7	<48	<62.6	<60

"--" = Not Analyzed
BG: Background sample

SMA #

APPENDIX A
FORM C141

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

Form C-141
Revised October 10, 2003

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

AP# 30-015-27180
nLLB0631147792

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Devon Energy Production Co., LP 6137	Contact: Jennifer Van Curen
Address: PO Box 250; Artesia, NM 88211	Telephone No. 505-748-0160
Facility Name Warthog 2 State Well #002	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
H	2	23S	28E	1980	North	660	East	Eddy

Latitude_____ **Longitude**_____

NATURE OF RELEASE

Type of Release: Water	Volume of Release: unknown	Volume Recovered: 0 bbls
Source of Release: Water Hauler	Date and Hour of Occurrence: AM sometime	Date and Hour of Discovery: ~~3-27-06~~ @ 7:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher--OCD	3/13/06
By Whom? David Purdy; Lease Operator	Date and Hour: ~~3-27-06~~ 3/13/06 11:04 AM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
When Lease Operator went to check on battery, he found that there was a spill on the South side of the battery. After inspection, lease operator discovered that a water hauler had dumped fluids to the south of the location in the pasture.

Describe Area Affected and Cleanup Action Taken.*
The area affected was 70' X 200'. Water Dump was called into the OCD by Roy White and BJ Cathey. BJ talked to Mike Bratcher. Will visit with OCD to see what clean up action needs to take place.

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: Jennifer Van Curen	OIL CONSERVATION DIVISION	
Printed Name: Jennifer Van Curen	Approved by District Supervisor: TIM GUM by MB Mike Bratcher	
Title: Production Field Tech	Approval Date: 4/9/07	Expiration Date:
E-mail Address: Jennifer.Vancuren@dvn.com	Conditions of Approval:	Attached ☐
Date: 3/27/06 Phone: 748-0160		

* Attach Additional Sheets If Necessary

Incident ID	NLLB0631147792
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?	<50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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	NLLB0631147792
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: Tom Bynum Title: EHS Consultant

Signature: Tom Bynum Date: 9/10/2020

email: tom.bynum@dvn.com Telephone: 575-748-2663

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NLLB0631147792
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: Tom Bynum Title: EHS Consultant

Signature: Tom Bynum Date: 9/10/2020

email: tom.bynum@dvn.com Telephone: 575-748-2663

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NLLB0631147792
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: Tom Bynum Title: EHS Consultant

Signature: Tom Bynum Date: 9/10/2020

email: tom.bynum@dvn.com Telephone: 575-748-2663

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: 1/25/2023

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

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

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 589271.21 **Northing (Y):** 3578134.9 **Radius:** 805

9/8/20 1:01 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 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.

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

September 02, 2020

Lynn A. Acosta

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

RE: Worthog 2 Stete 2 OrderNo.: 2008D85

Dear Lynn A. Acosta:

Hall Environmental Analysis Laboratory received 8 sample(s) on 8/26/2020 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 **2008D85**
Date Reported: **9/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S1-Surface
Project: Worthog 2 Stete 2
Collection Date: 8/24/2020 12:00:00 PM
Lab ID: 2008D85-001 **Matrix:** SOIL
Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	8/31/2020 5:15:49 PM	54813
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/28/2020 7:18:58 PM	54729
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/28/2020 7:18:58 PM	54729
Surr: DNOP	69.2	30.4-154		%Rec	1	8/28/2020 7:18:58 PM	54729
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/27/2020 11:31:35 PM	54720
Surr: BFB	100	75.3-105		%Rec	1	8/27/2020 11:31:35 PM	54720
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	8/27/2020 11:31:35 PM	54720
Toluene	ND	0.048		mg/Kg	1	8/27/2020 11:31:35 PM	54720
Ethylbenzene	ND	0.048		mg/Kg	1	8/27/2020 11:31:35 PM	54720
Xylenes, Total	ND	0.096		mg/Kg	1	8/27/2020 11:31:35 PM	54720
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/27/2020 11:31:35 PM	54720

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 **2008D85**
Date Reported: **9/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Worthog 2 Stete 2
Lab ID: 2008D85-002 **Matrix:** SOIL

Client Sample ID: S2-Surface
Collection Date: 8/24/2020 12:05:00 PM
Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	ND	60		mg/Kg	20	8/31/2020 5:28:13 PM	54813
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	8/28/2020 7:28:58 PM	54729
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/28/2020 7:28:58 PM	54729
Surr: DNOP	73.3	30.4-154		%Rec	1	8/28/2020 7:28:58 PM	54729
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/27/2020 11:54:57 PM	54720
Surr: BFB	101	75.3-105		%Rec	1	8/27/2020 11:54:57 PM	54720
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	8/27/2020 11:54:57 PM	54720
Toluene	ND	0.048		mg/Kg	1	8/27/2020 11:54:57 PM	54720
Ethylbenzene	ND	0.048		mg/Kg	1	8/27/2020 11:54:57 PM	54720
Xylenes, Total	ND	0.096		mg/Kg	1	8/27/2020 11:54:57 PM	54720
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	8/27/2020 11:54:57 PM	54720

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 **2008D85**
Date Reported: **9/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S3-Surface
Project: Worthog 2 Stete 2
Collection Date: 8/24/2020 12:10:00 PM
Lab ID: 2008D85-003 **Matrix:** SOIL
Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	59		mg/Kg	20	8/31/2020 5:40:37 PM	54813
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/28/2020 7:38:55 PM	54729
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/28/2020 7:38:55 PM	54729
Surr: DNOP	66.4	30.4-154		%Rec	1	8/28/2020 7:38:55 PM	54729
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/28/2020 12:18:18 AM	54720
Surr: BFB	97.8	75.3-105		%Rec	1	8/28/2020 12:18:18 AM	54720
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	8/28/2020 12:18:18 AM	54720
Toluene	ND	0.047		mg/Kg	1	8/28/2020 12:18:18 AM	54720
Ethylbenzene	ND	0.047		mg/Kg	1	8/28/2020 12:18:18 AM	54720
Xylenes, Total	ND	0.095		mg/Kg	1	8/28/2020 12:18:18 AM	54720
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/28/2020 12:18:18 AM	54720

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 **2008D85**
Date Reported: **9/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S4-Surface
Project: Worthog 2 Stete 2
Collection Date: 8/24/2020 12:15:00 PM
Lab ID: 2008D85-004 **Matrix:** SOIL **Received Date:** 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	ND	60		mg/Kg	20	8/31/2020 5:53:01 PM	54813
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/28/2020 7:48:57 PM	54729
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/28/2020 7:48:57 PM	54729
Surr: DNOP	38.7	30.4-154		%Rec	1	8/28/2020 7:48:57 PM	54729
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/28/2020 12:41:40 AM	54720
Surr: BFB	95.8	75.3-105		%Rec	1	8/28/2020 12:41:40 AM	54720
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	8/28/2020 12:41:40 AM	54720
Toluene	ND	0.050		mg/Kg	1	8/28/2020 12:41:40 AM	54720
Ethylbenzene	ND	0.050		mg/Kg	1	8/28/2020 12:41:40 AM	54720
Xylenes, Total	ND	0.10		mg/Kg	1	8/28/2020 12:41:40 AM	54720
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/28/2020 12:41:40 AM	54720

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 **2008D85**
Date Reported: **9/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S5-Surface
Project: Worthog 2 Stete 2
Collection Date: 8/24/2020 12:20:00 PM
Lab ID: 2008D85-005 **Matrix:** SOIL
Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	ND	60		mg/Kg	20	8/31/2020 6:05:26 PM	54813
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/28/2020 7:58:50 PM	54729
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/28/2020 7:58:50 PM	54729
Surr: DNOP	49.1	30.4-154		%Rec	1	8/28/2020 7:58:50 PM	54729
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/28/2020 1:05:08 AM	54720
Surr: BFB	97.3	75.3-105		%Rec	1	8/28/2020 1:05:08 AM	54720
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	8/28/2020 1:05:08 AM	54720
Toluene	ND	0.049		mg/Kg	1	8/28/2020 1:05:08 AM	54720
Ethylbenzene	ND	0.049		mg/Kg	1	8/28/2020 1:05:08 AM	54720
Xylenes, Total	ND	0.099		mg/Kg	1	8/28/2020 1:05:08 AM	54720
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	8/28/2020 1:05:08 AM	54720

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 **2008D85**
Date Reported: **9/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Worthog 2 Stete 2
Lab ID: 2008D85-006 **Matrix:** SOIL

Client Sample ID: S6-Surface
Collection Date: 8/24/2020 12:25:00 PM
Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	ND	60		mg/Kg	20	8/31/2020 6:17:51 PM	54813
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/28/2020 8:08:52 PM	54729
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/28/2020 8:08:52 PM	54729
Surr: DNOP	16.7	30.4-154	S	%Rec	1	8/28/2020 8:08:52 PM	54729
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/28/2020 1:28:28 AM	54720
Surr: BFB	99.8	75.3-105		%Rec	1	8/28/2020 1:28:28 AM	54720
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	8/28/2020 1:28:28 AM	54720
Toluene	ND	0.049		mg/Kg	1	8/28/2020 1:28:28 AM	54720
Ethylbenzene	ND	0.049		mg/Kg	1	8/28/2020 1:28:28 AM	54720
Xylenes, Total	ND	0.099		mg/Kg	1	8/28/2020 1:28:28 AM	54720
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/28/2020 1:28:28 AM	54720

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 **2008D85**
Date Reported: **9/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S7-Surface
Project: Worthog 2 Stete 2
Collection Date: 8/24/2020 12:30:00 PM
Lab ID: 2008D85-007 **Matrix:** SOIL **Received Date:** 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	8/31/2020 6:55:05 PM	54828
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/28/2020 8:18:51 PM	54729
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/28/2020 8:18:51 PM	54729
Surr: DNOP	12.2	30.4-154	S	%Rec	1	8/28/2020 8:18:51 PM	54729
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/28/2020 1:51:59 AM	54720
Surr: BFB	99.4	75.3-105		%Rec	1	8/28/2020 1:51:59 AM	54720
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	8/28/2020 1:51:59 AM	54720
Toluene	ND	0.049		mg/Kg	1	8/28/2020 1:51:59 AM	54720
Ethylbenzene	ND	0.049		mg/Kg	1	8/28/2020 1:51:59 AM	54720
Xylenes, Total	ND	0.097		mg/Kg	1	8/28/2020 1:51:59 AM	54720
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/28/2020 1:51:59 AM	54720

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 **2008D85**
Date Reported: **9/2/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Worthog 2 Stete 2
Lab ID: 2008D85-008 **Matrix:** SOIL

Client Sample ID: S8-Surface
Collection Date: 8/24/2020 12:35:00 PM
Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	ND	60		mg/Kg	20	8/31/2020 7:57:09 PM	54828
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/28/2020 8:28:53 PM	54729
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/28/2020 8:28:53 PM	54729
Surr: DNOP	24.5	30.4-154	S	%Rec	1	8/28/2020 8:28:53 PM	54729
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/28/2020 2:15:23 AM	54720
Surr: BFB	97.0	75.3-105		%Rec	1	8/28/2020 2:15:23 AM	54720
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	8/28/2020 2:15:23 AM	54720
Toluene	ND	0.049		mg/Kg	1	8/28/2020 2:15:23 AM	54720
Ethylbenzene	ND	0.049		mg/Kg	1	8/28/2020 2:15:23 AM	54720
Xylenes, Total	ND	0.098		mg/Kg	1	8/28/2020 2:15:23 AM	54720
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/28/2020 2:15:23 AM	54720

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#: **2008D85**

02-Sep-20

Client: Souder, Miller & Associates

Project: Worthog 2 Stete 2

Sample ID: **MB-54813** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **54813** RunNo: **71527**

Prep Date: **8/31/2020** Analysis Date: **8/31/2020** SeqNo: **2498376** Units: **mg/Kg**

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

Sample ID: **LCS-54813** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **54813** RunNo: **71527**

Prep Date: **8/31/2020** Analysis Date: **8/31/2020** SeqNo: **2498377** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.5	90	110			

Sample ID: **MB-54828** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **54828** RunNo: **71527**

Prep Date: **8/31/2020** Analysis Date: **8/31/2020** SeqNo: **2498406** Units: **mg/Kg**

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

Sample ID: **LCS-54828** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **54828** RunNo: **71527**

Prep Date: **8/31/2020** Analysis Date: **8/31/2020** SeqNo: **2498407** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.9	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2008D85**

02-Sep-20

Client: Souder, Miller & Associates

Project: Worthog 2 Stete 2

Sample ID: **LCS-54739**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **54739**	RunNo: **71513**
Prep Date: **8/27/2020**	Analysis Date: **8/28/2020**	SeqNo: **2497971** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		92.7	30.4	154			

Sample ID: **MB-54739**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **54739**	RunNo: **71513**
Prep Date: **8/27/2020**	Analysis Date: **8/28/2020**	SeqNo: **2497972** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.3		10.00		92.8	30.4	154			

Sample ID: **LCS-54729**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **54729**	RunNo: **71513**
Prep Date: **8/27/2020**	Analysis Date: **8/28/2020**	SeqNo: **2498054** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	101	70	130			
Surr: DNOP	4.8		5.000		96.0	30.4	154			

Sample ID: **MB-54729**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **54729**	RunNo: **71513**
Prep Date: **8/27/2020**	Analysis Date: **8/28/2020**	SeqNo: **2498056** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		90.0	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#: **2008D85**

02-Sep-20

Client: Souder, Miller & Associates

Project: Worthog 2 Stete 2

Sample ID: **lcs-54699** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **54699** RunNo: **71413**

Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494653** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		111	75.3	105			S

Sample ID: **lcs-54720** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **54720** RunNo: **71413**

Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494654** 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	91.5	72.5	106			
Surr: BFB	1100		1000		110	75.3	105			S

Sample ID: **MB-54699** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **54699** RunNo: **71413**

Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494655** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	930		1000		93.5	75.3	105			

Sample ID: **mb-54720** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **54720** RunNo: **71413**

Prep Date: **8/26/2020** Analysis Date: **8/27/2020** SeqNo: **2494656** 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	980		1000		97.9	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#: **2008D85**

02-Sep-20

Client: Souder, Miller & Associates

Project: Worthog 2 Stete 2

Sample ID: **LCS-54699**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **54699**	RunNo: **71413**
Prep Date: **8/26/2020**	Analysis Date: **8/27/2020**	SeqNo: **2494691** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID: **LCS-54720**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **54720**	RunNo: **71413**
Prep Date: **8/26/2020**	Analysis Date: **8/27/2020**	SeqNo: **2494692** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	87.3	80	120			
Toluene	0.86	0.050	1.000	0	86.5	80	120			
Ethylbenzene	0.87	0.050	1.000	0	86.8	80	120			
Xylenes, Total	2.6	0.10	3.000	0	87.4	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID: **MB-54699**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **54699**	RunNo: **71413**
Prep Date: **8/26/2020**	Analysis Date: **8/27/2020**	SeqNo: **2494693** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.99		1.000		98.6	80	120			

Sample ID: **mb-54720**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **54720**	RunNo: **71413**
Prep Date: **8/26/2020**	Analysis Date: **8/27/2020**	SeqNo: **2494694** 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		101	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 & Associates | Work Order Number: 2008D85 | RcptNo: 1

Received By: **Cheyenne Cason** 8/26/2020 8:00:00 AM

Completed By: **Juan Rojas** 8/26/2020 9:21:07 AM

Reviewed By: SPA 8.26.20

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: CM 8/26/20

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	5.2	Good				
2	5.4	Good				
3	2.2	Good				
4	0.30	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: 5day

☑ Standard ☐ Rush ____

Project Name: Worthog 2 State 2

Project #:

Project Manager: Lynn Acosta

Sampler:

On Ice: ☒ Yes ☐ No

\# of Coolers: 1

Cooler Temp(including CF): See Remarks (°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. 2008D85	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)						
8/24/20	12:00	Soil	S1 - Surface	4oz	Cool	-001	|	|					|									
|	12:05	|	S2 - Surface	|	|	-002	|	|					|									
|	12:10	|	S3 - Surface	|	|	-003	|	|					|									
|	12:15	|	S4 - Surface	|	|	-004	|	|					|									
|	12:20	|	S5 - Surface	|	|	-005	|	|					|									
|	12:25	|	S6 - Surface	|	|	-006	|	|					|									
|	12:30	|	S7 - Surface	|	|	-007	|	|					|									
|	12:35	|	S8 - Surface	|	|	-008	|	|					|									

Date	Time	Relinquished by	Received by	Via	Date	Time
8/25/20	1315	Phil Smith	[signature]		8/25/20	1400
8/25/20	1900	[signature]	[signature]	Courier	8/26/20	0800

Remarks: Bill Devon

5.3 - 0.1 = 5.2

5.5 - 0.1 = 5.4

2.3 - 0.1 = 2.2

0.4 - 0.1 = 0.3

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

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

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

CONDITIONS

Action 10308

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 10308
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	1/25/2023