

Incident ID	NRM2018258355
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?	<u>315</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	NRM2018258355
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: \_\_\_\_\_ Dale Woodall

Title: \_\_\_\_\_ EHS Professional \_\_\_\_\_

Signature: Dale Woodall Date: 7/27/2023

email: \_\_\_\_\_ Dale.Woodall@dvn.com \_\_\_\_\_ Telephone: \_\_\_\_\_ 575-748-1838 \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Shelly Wells \_\_\_\_\_ Date: 7/28/2023

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## 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: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 7/27/2023

email: Dale.Woodall@dvn.com Telephone: 575-748-1838

**OCD Only**

Received by: Shelly Wells Date: 7/28/2023

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

Signature: Nelson Velez Date: 08/15/2023

Incident ID	NRM2018258355
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: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 7/27/2023

email: Dale.Woodall@dvn.com Telephone: 575-748-1838

### OCD Only

Received by: Shelly Wells Date: 7/28/2023

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: \_\_\_\_\_





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

December 7, 2020

#5E29133-BG27

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

SUBJECT: Remediation Closure Report for the Hognose Viper 23 Federal #001H Release  
(NRM2018258355), Lea 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 Hognose Viper 23 Federal #001H site. The site is in Unit M, Section 23, Township 23S, Range 33E, 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	Hognose Viper 23 Federal #001H	Company	Devon Energy Production Company
API Number	30-02541975	Location	32.2834969, -103.5488968
Tracking Number	NRM2018258355		
Estimated Date of Release	6/20/2020	Date Reported to NMOCD	6/20/2020
Land Owner	Federal	Reported To	NMOCD, BLM
Source of Release	Water pump out of adjustment and not keeping up with the water produced.		
Released Volume	9 BBLS 0.9 BLS	Released Material	Produced Water & Crude Oil
Recovered Volume	3.5 BBLS 0.9 BBLS	Net Release	5.5 BBLS
NMOCD Closure Criteria	<50 feet to groundwater		
SMA Response Dates	7/16/2020, 8/29/2020, 9/5/2020, 11/11/2020, 11/23/2020		

## **1.0 Background**

On June 20, 2020, a release was discovered at the Hognose Viper 23 Federal #001H site due to a water pump being out of adjustment and unable to keep up with the water being produced from the system. Upon a routine site visit the lease operator found water spraying from the pop-off valve on the free water knock out. Initial response activities were conducted by the operator, and included source elimination and site stabilization activities, which recovered approximately 0.9 barrels of crude oil and 3.5 barrels of produced water. 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 Hognose Viper 23 Federal #001H is an active production facility located approximately 40 miles east of Carlsbad, New Mexico on Federal (BLM) land at an elevation of approximately 3685 feet above mean sea level (amsl).

### **Depth to Groundwater**

Based upon New Mexico Office of the State Engineer (NMOSE) online water well database (Appendix B), depth to groundwater in the area is estimated to be 315 feet below grade surface (bgs).

### **Wellhead Protection Area**

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

### **Distance to Nearest Significant Watercourse**

The nearest significant water source is an unnamed water source, located approximately 1.38 miles to the southeast.

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.

Due to the lack of supportable groundwater depth information, 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 July 16, August 29, and September 5, 2020, SMA personnel performed site delineation activities at the Hognose Viper 23 Federal #001H site. SMA collected soil samples around the release site and throughout the visibly stained area. The area(s) of visual impact was located partially within the boundary of the developed storage facility, and partially in the pasture.

Soil samples were field-screened for chloride using an electrical conductivity (EC) meter and/or for hydrocarbon impacts using a calibrated MiniRAE 3000 photoionization detector (PID) equipped with a 10.6 eV lamp.

A total of 15 sample locations (S1-S12, L1-L3) were investigated using a hand-auger, to depths up to four feet bgs. A total of 41 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.

As summarized in Table 3a, results indicated that the two impacted areas measured approximately 56 feet by 58 feet by 0.5 feet deep in the pasture, and 102 feet by 80 feet by 1 foot deep on engineered pad.

Between November 6, and 11, 2020, SMA returned to the site to guide the excavation of contaminated soil. SMA guided the excavation activities by collecting soil samples for field screening. Samples were screened for chloride using an electrical conductivity (EC) meter and/or for hydrocarbon impacts using a calibrated MiniRAE 3000 photoionization detector (PID) equipped with a 10.6 eV lamp. The walls and base were excavated until field screening results indicated that the NMOCD Closure Criteria would be met. NMOCD was notified on November 9 and 19, 2020 that closure samples were expected to be collected in two (2) business days.

On November 11, 2020, SMA collected confirmation samples from the walls and base of the excavation. The excavation was split into four (4) different areas, the area represented by samples L1-L3, located on the northernmost extent of the release (pasture), measuring approximately 30 feet x 40 feet by 0.5 feet in depth. Confirmation samples CS17-CS19 and SW1 & SW9 were collected from the base and sidewalls. The area represented by samples S9 & S10, located on the northernmost extent of the release (on pad), measuring approximately 35 feet x 15 feet x 1 foot in depth. Confirmation samples CS1-CS3 and SW2 & SW8 were collected from the base and sidewalls. The area represented by samples S6-S8, located to the left-hand side of horizontal separators/ heater treaters (on pad), measuring approximately 40 feet x 36 feet x 1 foot in depth. Confirmation samples CS4-CS10 and SW7 were collected from the base and sidewalls. The area represented by samples S1-S5, located in the southernmost portion of the release (on pad), measuring approximately 60 feet x 33 feet x 1 foot in depth. Confirmation samples CS11-CS16 and SW5 & SW6 were collected from the base and sidewalls. The area represented by samples S11 and S12 was not excavated due to the proximity to production equipment, as discussed in Section 4 below. Sample SW3 was collected to define the eastern extent of the deferred area. Each sample represents 200 ft<sup>2</sup> of the impacted area.

A total of 31 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 Cardinal Analytical Laboratories located in Hobbs, New Mexico.

On November 23, 2020, SMA returned to location for further excavation and sample collection. The area around confirmation sample CS5 was excavated an additional half foot, the southern sidewall (SW5) and the excavation in the pasture (SW1) were both extended approximately one foot laterally.

Figure 3(a) shows the initial extent of the release along with initial soil sample locations, Figure 3(b) shows the extent of the final excavation and closure sample locations. All laboratory results are summarized in Tables 3a and 3b. Laboratory reports are included in Appendix D.

#### **4.0 Site Recommendations**

As demonstrated in Table 3b, closure samples at locations (CS1-CS19 and sidewall locations SW1-SW9) meet the Closure Criteria of Table I of 19.15.29.12 NMAC. A deferral is requested for sample locations S11 and S12, due to proximity to production equipment, where remediation activities would cause a major facility shut down. As required, and demonstrated on Table 3 and Figure 3, the deferred area has been fully delineated and does not pose an imminent risk to human health, the environment, or groundwater.

Contaminated soils were removed and replaced with clean backfill material to return the surface to previous contours. The contaminated soil was transported and disposed of at Northern Delaware Basin Landfill, located near Jal, NM, an NMOCD permitted disposal facility.

Hognose Viper 23 Federal 1H Remediation Closure Report (NRM2018258355)  
December 7, 2020

Page 4 of 5

SMA requests a deferral for remediation in the area of locations (S11-S12) for Incident Number NRM2018258355.

## **5.0 Scope and Limitations**

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

If there are any questions regarding this report, please contact either Ashley Maxwell at 505-320-8975 or Shawna Chubbuck at 505-325-7535.

Submitted by:  
SOUDER, MILLER & ASSOCIATES

Reviewed by:

A handwritten signature in black ink, appearing to be 'AM' or 'Ashley Maxwell'.A handwritten signature in blue ink, clearly legible as 'Shawna Chubbuck'.

Ashley Maxwell  
Project Manager

Shawna Chubbuck  
Senior Scientist

Hognose Viper 23 Federal 1H Remediation Closure Report (NRM2018258355)  
December 7, 2020

Page 5 of 5

## REFERENCES:

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

## ATTACHMENTS:

### Figures:

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

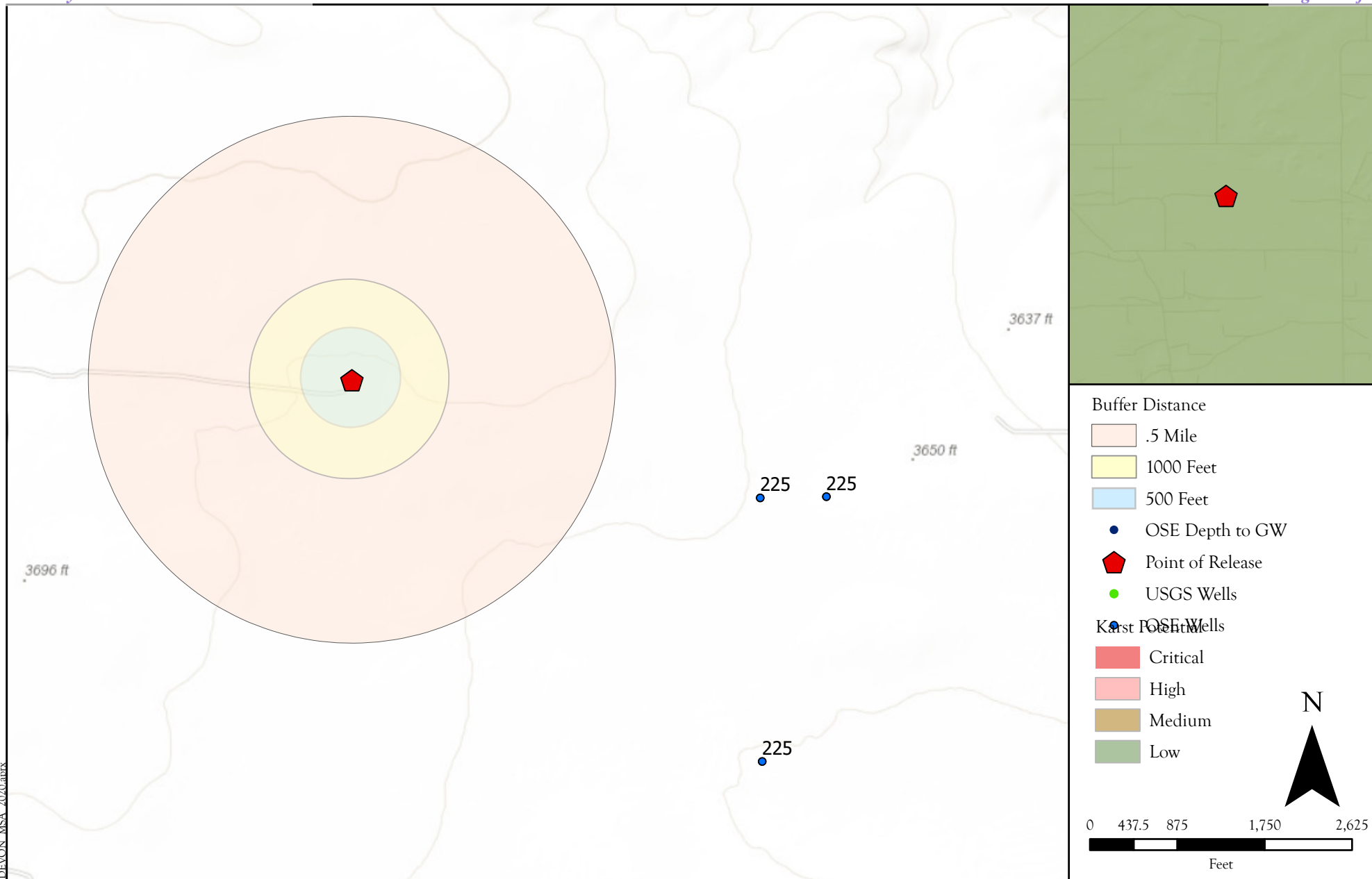
### Tables:

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

### Appendices:

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

# FIGURES



Vicinity and Well Head Protection Map  
 Hognose Viper 23 Federal #001H- Devon Energy Production Company  
 UL: M S:23 T:23S R:33E - Lea County, New Mexico

Figure 1

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 12/4/2020

Revisions

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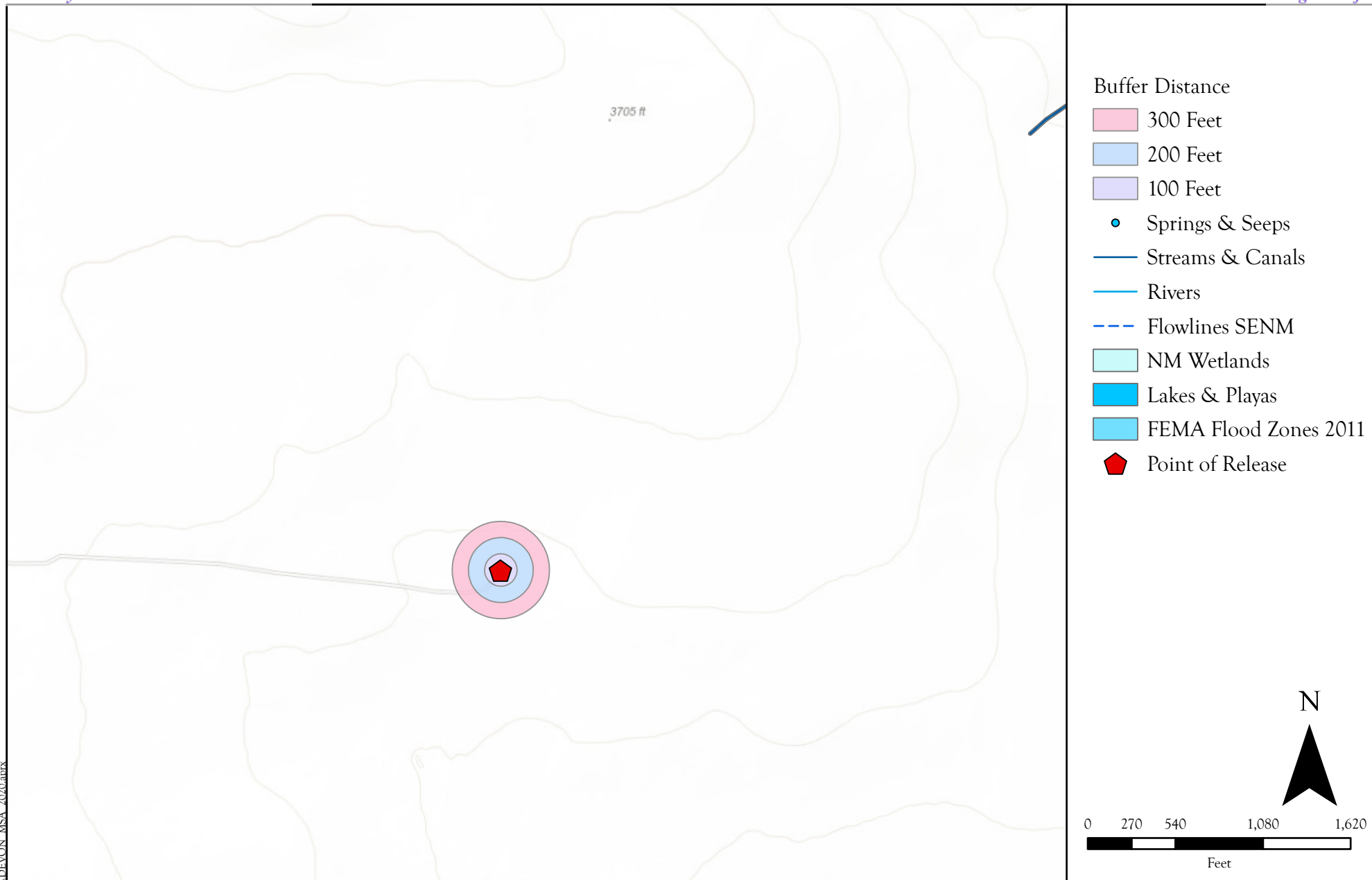
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Drawn  
 Date  
 Checked  
 Approved

Sebastian Orozco  
 12/4/2020  
 \_\_\_\_\_  
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201 South Halaguena Street  
 Carlsbad, New Mexico 88221  
 (575) 689-7040  
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Surface Water Radius Map  
Hognose Viper 23 Federal #001H- Devon Energy  
UL:M S:23 T:23S R:33E - Lea County, New Mexico

Figure 2

## Revisions

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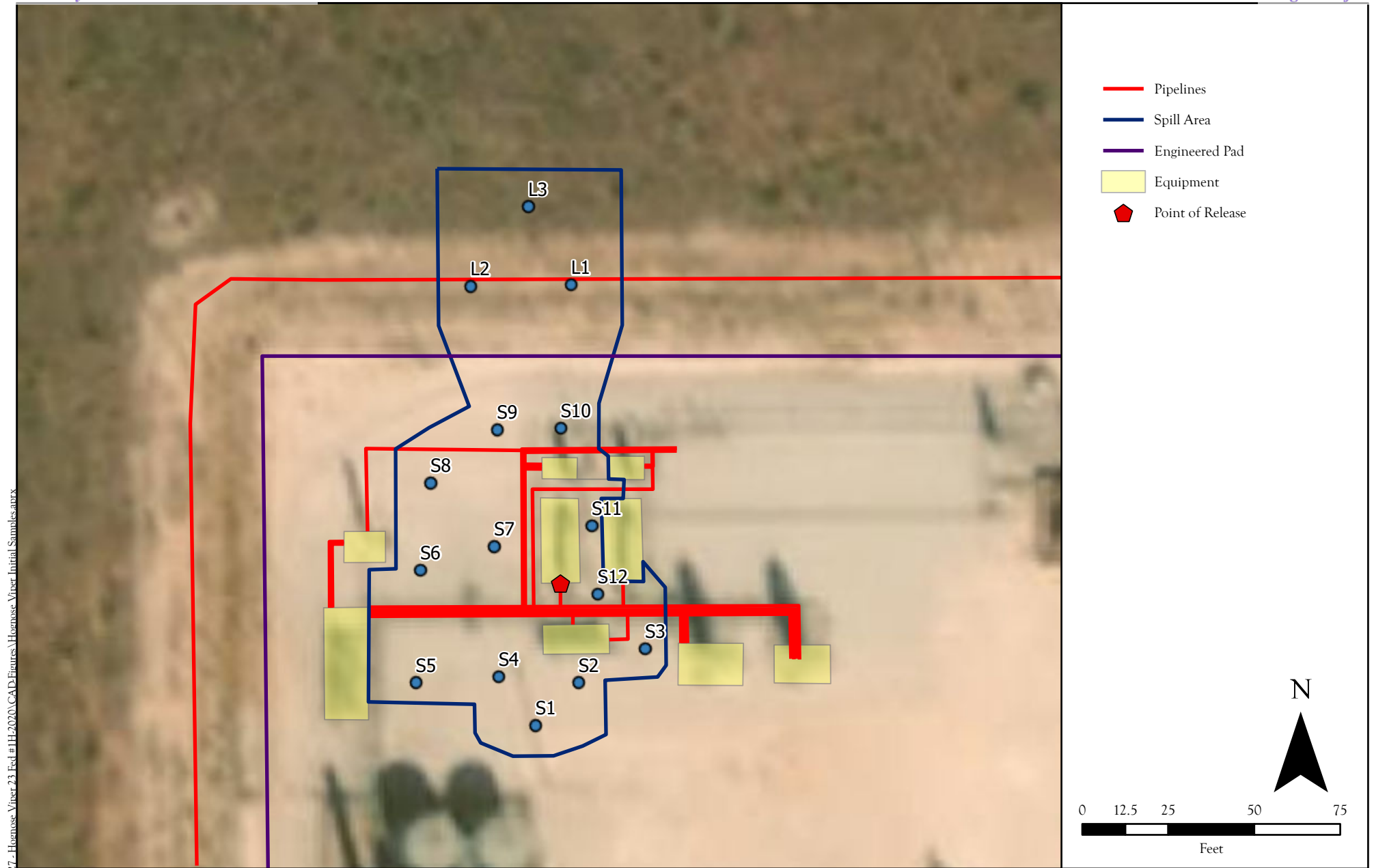
Sebastian Orozco  
12/7/2020  
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Site and Initial Sample Location Map  
Hognose Viper 23 Federal 1H- Devon Energy  
32.2834969, -103.5488968 Lea County, New Mexico

Figure 3a

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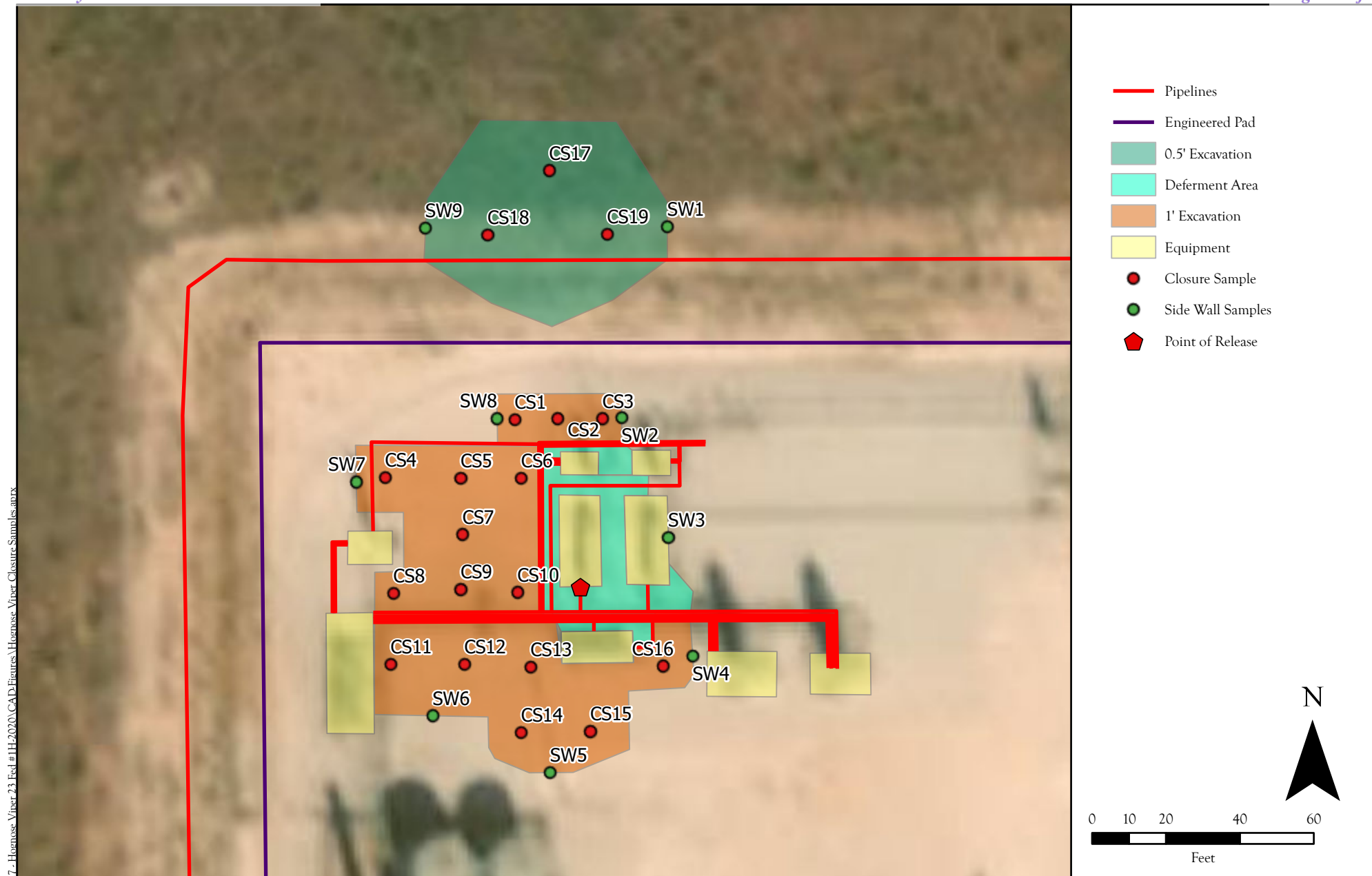
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Drawn	Sebastian Orozco
Date	12/7/2020
Checked	_____
Approved	_____



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Site and Closure Sample Results  
Hognose Viper 23 Federal 1H- Devon Energy  
32.2834969, -103.5488968 Lea County, New Mexico

Figure 3b

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Drawn Sebastian Orozco  
Date 12/9/2020  
Checked \_\_\_\_\_  
Approved \_\_\_\_\_



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Carlsbad, New Mexico 88221  
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# TABLES

Table 2:  
NMOCD Closure Criteria

Devon Energy Company  
Hognose Viper 23 Fed #001H  
NRM2018258355

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	315	Office of the State Engineer (OSE)
Horizontal Distance From All Water Sources Within 1/2 Mile (ft)	N/A	Office of the State Engineer (OSE)
Horizontal Distance to Nearest Significant Watercourse (ft)	7,286	United States Geological Society (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 3a:  
Summary of Initial Sample Results

Devon Energy Production Company  
Hognose Viper 23 Federal #001H  
NRM2018258355

Sample ID	Sample Date	Depth (feet bgs)	Action Taken	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	GRO + DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria				50	10			1000		100	600
Engineered Pad											
S1	7/16/2020	Surface	Excavate	<0.300	<0.050	<10.0	9530	9530	3780	13310	60800
		1		<0.300	<0.050	<10.0	<10.0	<20.0	<10.0	<30.0	6660
	8/29/2020	2	In-Situ	-	-	-	-	-	-	-	208
S2	7/16/2020	Surface	Excavate	<0.300	<0.050	<10.0	11000	11000	3540	14540	38400
		1	In-Situ	<0.300	<0.050	<10.0	<10.0	<20.0	<10.0	<30.0	592
S3	7/16/2020	Surface	Excavate	<0.300	<0.050	<10.0	12500	12500	3790	16290	33600
		1		<0.300	<0.050	<10.0	366	366	114	480	7520
	8/29/2020	2	In-Situ	-	-	<10.0	<10.0	<20.0	<10.0	<30	<16.0
S4	7/16/2020	Surface	Excavate	<0.300	<0.050	<10.0	6,260	6,260	1,660	7,920	45600
		1	In-Situ	<0.300	<0.050	<10.0	<10.0	<20.0	<10.0	<30.0	496
S5	7/16/2020	Surface	Excavate	<0.300	<0.050	<10.0	9130	9130	2300	11430	10000
		1		<0.300	<0.050	<10.0	110	110	83.6	193.6	640
	9/5/2020	2	In-Situ	-	-	-	<10.0	<10.0	<10.0	<30.0	16
	8/29/2020	3		-	-	<10.0	23.3	23.3	<10.0	23.3	1560
	9/5/2020	3		-	-	-	-	-	-	-	<16
	9/5/2020	4		-	-	-	-	-	-	-	<16
S6	7/16/2020	Surface	Excavate	<0.300	<0.050	<50.0	14500	14500	4370	18870	28800
		1		<0.300	<0.050	<10.0	296	296	86	382	2040
	8/29/2020	2	In-Situ	-	-	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
S7	7/16/2020	Surface	Excavate	<0.300	<0.050	<50.0	16500	16500	5100	21600	24400
		1		<0.300	<0.050	<10.0	13.6	13.6	12.4	26	3880
	8/29/2020	2	In-Situ	-	-	<10.0	<10.0	<20.0	<10.0	<30	<16.0
S8	7/16/2020	Surface	Excavate	<0.300	<0.050	<50.0	18900	18900	5800	24700	10600
		1	In-Situ	<0.300	<0.050	<10.0	46.4	46.4	<10.0	46.4	128
S9	7/16/2020	Surface	Excavate	<0.300	<0.050	<10.0	839	839	310	1149	1500
		1	In-Situ	<0.300	<0.050	<10.0	11.9	11.9	14	25.9	160
S10	7/16/2020	Surface	Excavate	<0.300	<0.050	<10.0	8490	8490	2450	10940	1230
		1		<0.300	<0.050	<10.0	103	103	74.4	177.4	48.0
	8/29/2020	2	In-Situ	-	-	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
S11	7/16/2020	Surface	Defer	<0.300	<0.050	<50.0	19400	19400	5910	25310	19400
		1			<0.300	<0.050	<10.0	614	614	156	770
	8/29/2020	2		-	-	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
S12	7/16/2020	Surface			<0.300	<0.050	<50.0	15100	15100	5110	20210
		1		<0.300	<0.050	<10.0	<10.0	<20.0	<10.0	<30.0	3800
	8/29/2020	2	-	-	-	-	-	-	-	<16.0	
Overspray Area											
L1	7/16/2020	Surface	Excavate	<0.300	<0.050	<10.0	84.3	84.3	39.9	124.2	64.0
	8/29/2020	1	In-Situ	-	-	<10.0	<10.0	<20.0	<10.0	<30.0	-
L2	7/16/2020	Surface	Excavate	<0.300	<0.050	<10.0	201	201	86.9	287.9	80.0
	8/29/2020	1	In-Situ	-	-	<10.0	<10.0	<20.0	<10.0	<30.0	-
L3	7/16/2020	Surface	Excavate	<0.300	<0.050	<10.0	89.8	89.8	75.1	164.9	64.0
	8/29/2020	1	In-Situ	-	-	<10.0	<10.0	<20.0	<10.0	<30.0	-

"--" = Not Analyzed

SMA #

Table 3b:  
Summary of Closure Sample Results

Devon Energy Production Company  
Hognose Viper 23 Federal #001H  
NRM2018258355

Sample ID	Sample Date	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 (>4 ft)			50	10				100	600
Confrimation Sampling Event									
CS1	11/11/2020	In-Situ	<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	16.0
CS2	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	64.0
CS3	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	80.0
CS4	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	80.0
CS5	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	96.0
CS6	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	64.0
CS7	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	64.0
CS8	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	96.0
CS9	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	64.0
CS10	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	272
CS11	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	512
CS12	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	112
CS13	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	304
CS14	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	112
CS15	11/11/2020	Excavated	<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	832
	11/23/2020	In-Situ	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	<16.0
CS16	11/11/2020	In-Situ	<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	16.0
CS17	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	<16.0
CS18	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	<16.0
CS19	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	<16.0
SW1	11/11/2020	Excavated	<0.60	<0.050	<10.0	132	44.7	176.7	144
	11/23/2020	In-Situ	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	<16.0
SW2	11/11/2020	In-Situ	<0.60	<0.050	<10.0	47.7	11.8	59.5	112
SW3	11/11/2020		<0.60	<0.050	<10.0	55.9	12.1	68.0	368
SW4	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	288
SW5	11/11/2020	Excavated	<0.60	<0.050	<10.0	20.6	<10.0	20.6	784
	11/23/2020	In-Situ	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	<16.0
SW6	11/11/2020	In-Situ	<0.60	<0.050	<10.0	43.8	14.3	58.1	320
SW7	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	16.0
SW8	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	<16.0
SW9	11/11/2020		<0.60	<0.050	<10.0	<10.0	<10.0	<30.0	<16.0

"--" = Not Analyzed

BG: Background sample

# 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	NRM2018258355
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party <b>Devon Energy</b>	OGRID <b>6137</b>
Contact Name <b>Lupe Carrasco</b>	Contact Telephone <b>575-748-0165</b>
Contact email <b>lupe.carrasco@dvn.com</b>	Incident # (assigned by OCD)
Contact mailing address <b>6488 Seven Rivers Highway Artesia, NM 88210</b>	

### Location of Release Source

Latitude 32.2834969 Longitude -103.5488968  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name <b>Hognose Viper 23 Federal #001H</b>	Site Type <b>Well</b>
Date Release Discovered <b>6/20/20</b>	API# (if applicable) <b>30-025-41975</b>

Unit Letter	Section	Township	Range	County
<b>M</b>	<b>23</b>	<b>23S</b>	<b>33E</b>	<b>Lea</b>

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)

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) <b>0.9</b>	Volume Recovered (bbls) <b>0.9</b>
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) <b>9</b>	Volume Recovered (bbls) <b>3.5</b>
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release **Upon routine visit to location, Lease Operator found water spraying from the pop off valve on the Free Water Knock Out. Cause was due to waer dump out of adjustment and not keeping up with water produced. Vessel was isolated and a vacuum truck dispatched to recover standing fluid.**



Incident ID	NRM2018258355
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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*

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: <u>Lupe Carrasco</u>	Title: <u>EHS Professional</u>
Signature: <u>Lupe Carrasco</u>	Date: <u>6/30/20</u>
email: <u>Lupe.Carrasco@dvn.com</u>	Telephone: <u>575-748-0165</u>
<b><u>OCD Only</u></b>	
Received by: <u>Ramona Marcus</u>	Date: <u>6/30/2020</u>

Incident ID	NRM2018258355
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?	<u>315</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.

Incident ID	NRM2018258355
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: \_\_\_\_\_ Dale Woodall

Title: \_\_\_\_\_ EHS Professional \_\_\_\_\_

Signature: Dale Woodall Date: 7/27/2023email: Dale.Woodall@dvn.com Telephone: 575-748-1838**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	NRM2018258355
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: Dale Woodall Title: EHS ProfessionalSignature: Dale Woodall Date: 7/27/2023email: Dale.Woodall@dvn.com Telephone: 575-748-1838**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	NRM2018258355
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: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 7/27/2023

email: Dale.Woodall@dvn.com Telephone: 575-748-1838

### 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: \_\_\_\_\_

# APPENDIX B

## NMOSE WELLS REPORT



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<a href="#">C 02283</a>	CUB	LE		4	2	2	26	23S	33E	637896	3572431*	1297	325	225	100
<a href="#">C 02282</a>	CUB	LE		3	1	1	25	23S	33E	638098	3572436*	1491	325	225	100
<a href="#">C 02284</a>	CUB	LE		4	2	4	26	23S	33E	637907	3571626*	1711	325	225	100
<a href="#">C 02278</a>	CUB	LE		3	4	2	28	23S	33E	634484	3571989*	2304	650	400	250
<a href="#">C 02280</a>	CUB	LE		3	2	4	28	23S	33E	634489	3571586*	2468	650	400	250
<a href="#">C 02281</a>	CUB	LE		3	4	4	28	23S	33E	634495	3571183*	2682	545	400	145
<a href="#">C 03582 POD1</a>	C	LE		4	1	1	14	23S	33E	636583	3575666	2883	590		
<a href="#">C 04353 POD1</a>	CUB	ED		4	2	2	24	23S	33E	639474	3574098	3117	603	330	273

Average Depth to Water: **315 feet**

Minimum Depth: **225 feet**

Maximum Depth: **400 feet**

**Record Count:** 8

**UTMNA83 Radius Search (in meters):**

**Easting (X):** 636647.34

**Northing (Y):** 3572784.24

**Radius:** 3200

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

7/16/20 10:02 AM

Page 1 of 1

WATER COLUMN/ AVERAGE  
DEPTH TO WATER

# APPENDIX C

## SAMPLING PROTOCOL & FIELD NOTES





## 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 Cardinal Analytical Laboratories in Hobbs, New Mexico for analysis. 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 courier 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.

Hazardous Waste 23 Federal 1H

(32.2834969, -103.5488968)

9:00 am Arrived on location, met w/ MNIX personnel and began excavation. Area on the left hand side of separators was targeted first. Excavated down to 1'.

- Preliminary soil samples were field screened for both Chlorides and hydrocarbons, using handheld PID and TC meters. Field screens indicated that area was clean at one (1) foot.

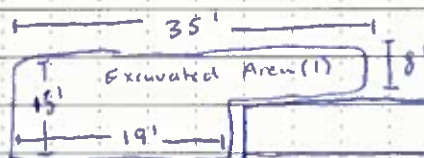
NOV. 9<sup>th</sup> Arrived on location and continued excavation.

48 hr notification to the OCD was placed today. We are expecting to collect confirmation samples on November 11<sup>th</sup>. Contaminated soil underlying separators/gas lines were scraped and cleaned utilizing a hand crew. Additional excavation is required.

• Area (1)

$$\sim 15' \times 35' = 525'$$

$$525/200 = \sim 2.6 \text{ samples.}$$



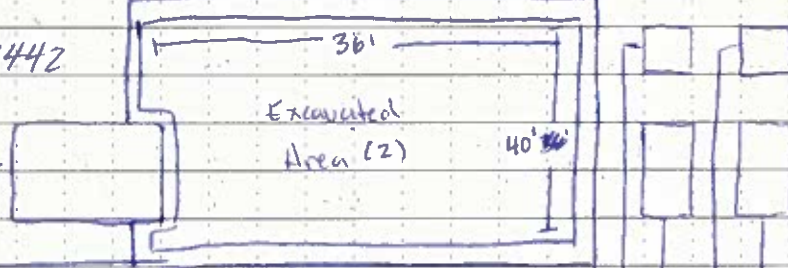
Depth: 1'

• Area (2)

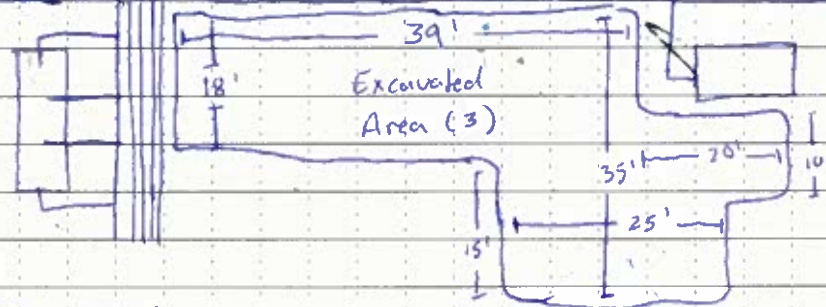
$$\sim 36' \times 40' = 1442'$$

$$1442/200 =$$

$$\sim 7.2 \text{ samples.}$$



NOV 10



• Area (3)

$$\sim 18' \times 39' = 702'$$

$$702/200 = 3.5 \text{ samples.}$$

$$25' \times 15' = 375'$$

$$375/200 = \sim 2 \text{ samples.}$$

$$20' \times 10' = 200'$$

$$= \sim 1 \text{ sample.}$$

• On pad: 200 sq ft calculations indicated ~16 samples (Base Samples) are required for closure. Additional Side wall samples will also be taken.



## NOV 11 - Sampling Event.

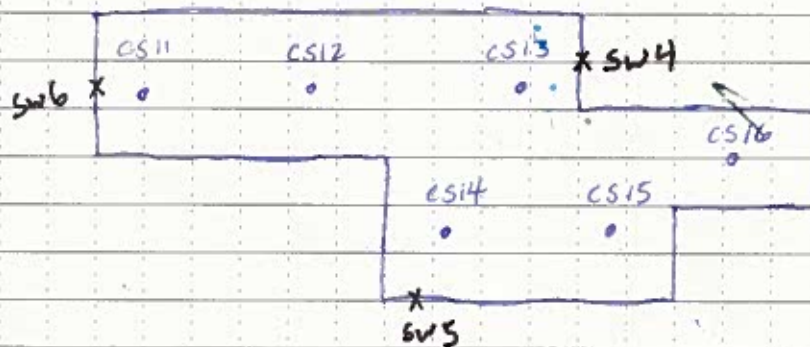
## Area (1).



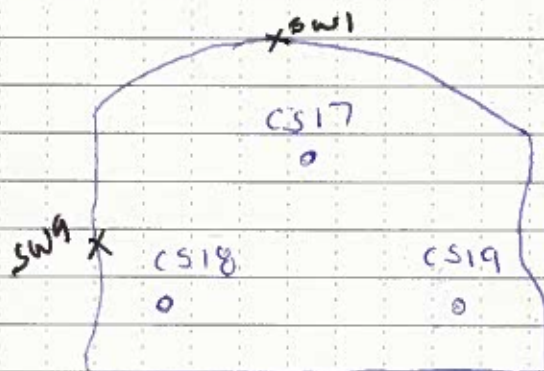
## Area (2)



## Area (3)



## Area (4) - Pasture Excavation.



# APPENDIX D

## LABORATORY ANALYTICAL REPORTS



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 21, 2020

LYNN A ACOSTA

SOUDER MILLER AND ASSOCIATES

201 S. HALAGUENO

CARLSBAD, NM 88220

RE: HOGNOSE VIPER

Enclosed are the results of analyses for samples received by the laboratory on 07/16/20 15:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 1 - SURFACE (H001863-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/18/2020	ND	1.90	95.0	2.00	2.56	
Toluene*	<0.050	0.050	07/18/2020	ND	1.91	95.6	2.00	2.56	
Ethylbenzene*	<0.050	0.050	07/18/2020	ND	1.92	96.1	2.00	2.85	
Total Xylenes*	<0.150	0.150	07/18/2020	ND	5.55	92.5	6.00	2.84	
Total BTEX	<0.300	0.300	07/18/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	60800	16.0	07/20/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/18/2020	ND	209	105	200	2.37	
DRO >C10-C28*	9530	10.0	07/18/2020	ND	228	114	200	0.662	
EXT DRO >C28-C36	3780	10.0	07/18/2020	ND					

Surrogate: 1-Chlorooctane 101 % 44.3-144

Surrogate: 1-Chlorooctadecane 477 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 1 - 1' (H001863-02)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/17/2020	ND	1.90	95.0	2.00	2.56		
Toluene*	<0.050	0.050	07/17/2020	ND	1.91	95.6	2.00	2.56		
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	1.92	96.1	2.00	2.85		
Total Xylenes*	<0.150	0.150	07/17/2020	ND	5.55	92.5	6.00	2.84		
Total BTX	<0.300	0.300	07/17/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.0 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6660	16.0	07/20/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/18/2020	ND	209	105	200	2.37	
DRO >C10-C28*	<10.0	10.0	07/18/2020	ND	228	114	200	0.662	
EXT DRO >C28-C36	<10.0	10.0	07/18/2020	ND					

Surrogate: 1-Chlorooctane 106 % 44.3-144

Surrogate: 1-Chlorooctadecane 111 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 2 - SURFACE (H001863-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/18/2020	ND	1.90	95.0	2.00	2.56		
Toluene*	<0.050	0.050	07/18/2020	ND	1.91	95.6	2.00	2.56		
Ethylbenzene*	<0.050	0.050	07/18/2020	ND	1.92	96.1	2.00	2.85		
Total Xylenes*	<0.150	0.150	07/18/2020	ND	5.55	92.5	6.00	2.84		
Total BTEx	<0.300	0.300	07/18/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.8 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	38400	16.0	07/20/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/18/2020	ND	209	105	200	2.37	
DRO >C10-C28*	11000	10.0	07/18/2020	ND	228	114	200	0.662	
EXT DRO >C28-C36	3540	10.0	07/18/2020	ND					

Surrogate: 1-Chlorooctane 103 % 44.3-144

Surrogate: 1-Chlorooctadecane 631 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 2 - 1' (H001863-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/17/2020	ND	1.90	95.0	2.00	2.56		
Toluene*	<0.050	0.050	07/17/2020	ND	1.91	95.6	2.00	2.56		
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	1.92	96.1	2.00	2.85		
Total Xylenes*	<0.150	0.150	07/17/2020	ND	5.55	92.5	6.00	2.84		
Total BTEx	<0.300	0.300	07/17/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.0 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	592	16.0	07/20/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/18/2020	ND	209	105	200	2.37	
DRO >C10-C28*	<10.0	10.0	07/18/2020	ND	228	114	200	0.662	
EXT DRO >C28-C36	<10.0	10.0	07/18/2020	ND					

Surrogate: 1-Chlorooctane 111 % 44.3-144

Surrogate: 1-Chlorooctadecane 115 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 3 - SURFACE (H001863-05)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/18/2020	ND	1.90	95.0	2.00	2.56		
Toluene*	<0.050	0.050	07/18/2020	ND	1.91	95.6	2.00	2.56		
Ethylbenzene*	<0.050	0.050	07/18/2020	ND	1.92	96.1	2.00	2.85		
Total Xylenes*	<0.150	0.150	07/18/2020	ND	5.55	92.5	6.00	2.84		
Total BTEx	<0.300	0.300	07/18/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.8 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	33600	16.0	07/20/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	07/18/2020	ND	209	105	200	2.37	
DRO >C10-C28*	12500	50.0	07/18/2020	ND	228	114	200	0.662	
EXT DRO >C28-C36	3790	50.0	07/18/2020	ND					

Surrogate: 1-Chlorooctane 95.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 602 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 3 - 1' (H001863-06)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/17/2020	ND	1.90	95.0	2.00	2.56		
Toluene*	<0.050	0.050	07/17/2020	ND	1.91	95.6	2.00	2.56		
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	1.92	96.1	2.00	2.85		
Total Xylenes*	<0.150	0.150	07/17/2020	ND	5.55	92.5	6.00	2.84		
Total BTEx	<0.300	0.300	07/17/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.5 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7520	16.0	07/20/2020	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/18/2020	ND	209	105	200	2.37	
DRO >C10-C28*	366	10.0	07/18/2020	ND	228	114	200	0.662	
EXT DRO >C28-C36	114	10.0	07/18/2020	ND					

Surrogate: 1-Chlorooctane 110 % 44.3-144

Surrogate: 1-Chlorooctadecane 119 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 4 - SURFACE (H001863-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/17/2020	ND	1.90	95.0	2.00	2.56		
Toluene*	<0.050	0.050	07/17/2020	ND	1.91	95.6	2.00	2.56		
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	1.92	96.1	2.00	2.85		
Total Xylenes*	<0.150	0.150	07/17/2020	ND	5.55	92.5	6.00	2.84		
Total BTEX	<0.300	0.300	07/17/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	45600	16.0	07/20/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/18/2020	ND	209	105	200	2.37	
DRO >C10-C28*	6260	10.0	07/18/2020	ND	228	114	200	0.662	
EXT DRO >C28-C36	1660	10.0	07/18/2020	ND					

Surrogate: 1-Chlorooctane 102 % 44.3-144

Surrogate: 1-Chlorooctadecane 351 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 4 - 1' (H001863-08)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/17/2020	ND	1.90	95.0	2.00	2.56		
Toluene*	<0.050	0.050	07/17/2020	ND	1.91	95.6	2.00	2.56		
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	1.92	96.1	2.00	2.85		
Total Xylenes*	<0.150	0.150	07/17/2020	ND	5.55	92.5	6.00	2.84		
Total BTEX	<0.300	0.300	07/17/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	496	16.0	07/20/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/18/2020	ND	209	105	200	2.37	
DRO >C10-C28*	<10.0	10.0	07/18/2020	ND	228	114	200	0.662	
EXT DRO >C28-C36	<10.0	10.0	07/18/2020	ND					

Surrogate: 1-Chlorooctane 119 % 44.3-144

Surrogate: 1-Chlorooctadecane 129 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 5 - SURFACE (H001863-09)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/18/2020	ND	2.00	100	2.00	4.87		
Toluene*	<0.050	0.050	07/18/2020	ND	2.24	112	2.00	5.74		
Ethylbenzene*	<0.050	0.050	07/18/2020	ND	2.13	106	2.00	5.47		
Total Xylenes*	<0.150	0.150	07/18/2020	ND	7.00	117	6.00	5.90		
Total BTEx	<0.300	0.300	07/18/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	10000	16.0	07/20/2020	ND	432	108	400	0.00	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	9130	10.0	07/20/2020	ND	222	111	200	1.73	QM-07
EXT DRO >C28-C36	2300	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 102 % 44.3-144

Surrogate: 1-Chlorooctadecane 447 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 5 - 1' (H001863-10)**

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/17/2020	ND	2.00	100	2.00	4.87		
Toluene*	<0.050	0.050	07/17/2020	ND	2.24	112	2.00	5.74		
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	2.13	106	2.00	5.47		
Total Xylenes*	<0.150	0.150	07/17/2020	ND	7.00	117	6.00	5.90		
Total BTEX	<0.300	0.300	07/17/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 124 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	640	16.0	07/20/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	110	10.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	83.6	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 106 % 44.3-144

Surrogate: 1-Chlorooctadecane 117 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 6 - SURFACE (H001863-11)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/18/2020	ND	2.00	100	2.00	4.87	
Toluene*	<0.050	0.050	07/18/2020	ND	2.24	112	2.00	5.74	
Ethylbenzene*	<0.050	0.050	07/18/2020	ND	2.13	106	2.00	5.47	
Total Xylenes*	<0.150	0.150	07/18/2020	ND	7.00	117	6.00	5.90	
Total BTX	<0.300	0.300	07/18/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	28800	16.0	07/20/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	14500	50.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	4370	50.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 107 % 44.3-144

Surrogate: 1-Chlorooctadecane 658 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 6 - 1' (H001863-12)**

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/17/2020	ND	2.00	100	2.00	4.87		
Toluene*	<0.050	0.050	07/17/2020	ND	2.24	112	2.00	5.74		
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	2.13	106	2.00	5.47		
Total Xylenes*	<0.150	0.150	07/17/2020	ND	7.00	117	6.00	5.90		
Total BTEx	<0.300	0.300	07/17/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 120 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2040	16.0	07/20/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	296	10.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	86.0	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 106 % 44.3-144

Surrogate: 1-Chlorooctadecane 108 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 7 - SURFACE (H001863-13)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/18/2020	ND	2.00	100	2.00	4.87	
Toluene*	<0.050	0.050	07/18/2020	ND	2.24	112	2.00	5.74	
Ethylbenzene*	<0.050	0.050	07/18/2020	ND	2.13	106	2.00	5.47	
Total Xylenes*	<0.150	0.150	07/18/2020	ND	7.00	117	6.00	5.90	
Total BTX	<0.300	0.300	07/18/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	24400	16.0	07/20/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	16500	50.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	5100	50.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 116 % 44.3-144

Surrogate: 1-Chlorooctadecane 738 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 7 - 1' (H001863-14)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2020	ND	2.00	100	2.00	4.87	
Toluene*	<0.050	0.050	07/17/2020	ND	2.24	112	2.00	5.74	
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	2.13	106	2.00	5.47	
Total Xylenes*	<0.150	0.150	07/17/2020	ND	7.00	117	6.00	5.90	
Total BTEx	<0.300	0.300	07/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 124 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3880	16.0	07/20/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	13.6	10.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	12.4	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 101 % 44.3-144

Surrogate: 1-Chlorooctadecane 102 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 8 - SURFACE (H001863-15)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2020	ND	2.00	100	2.00	4.87	
Toluene*	<0.050	0.050	07/17/2020	ND	2.24	112	2.00	5.74	
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	2.13	106	2.00	5.47	
Total Xylenes*	<0.150	0.150	07/17/2020	ND	7.00	117	6.00	5.90	
Total BTX	<0.300	0.300	07/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	10600	16.0	07/20/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	18900	50.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	5800	50.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 120 % 44.3-144

Surrogate: 1-Chlorooctadecane 807 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 8 - 1' (H001863-16)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2020	ND	2.00	100	2.00	4.87	
Toluene*	<0.050	0.050	07/17/2020	ND	2.24	112	2.00	5.74	
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	2.13	106	2.00	5.47	
Total Xylenes*	<0.150	0.150	07/17/2020	ND	7.00	117	6.00	5.90	
Total BTEX	<0.300	0.300	07/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/20/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	46.4	10.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	<10.0	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 105 % 44.3-144

Surrogate: 1-Chlorooctadecane 112 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 9 - SURFACE (H001863-17)**

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/17/2020	ND	2.00	100	2.00	4.87		
Toluene*	<0.050	0.050	07/17/2020	ND	2.24	112	2.00	5.74		
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	2.13	106	2.00	5.47		
Total Xylenes*	<0.150	0.150	07/17/2020	ND	7.00	117	6.00	5.90		
Total BTEx	<0.300	0.300	07/17/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 124 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1500	16.0	07/20/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	839	10.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	310	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 97.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 123 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 9 - 1' (H001863-18)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2020	ND	2.00	100	2.00	4.87	
Toluene*	<0.050	0.050	07/17/2020	ND	2.24	112	2.00	5.74	
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	2.13	106	2.00	5.47	
Total Xylenes*	<0.150	0.150	07/17/2020	ND	7.00	117	6.00	5.90	
Total BTEx	<0.300	0.300	07/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	07/20/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	11.9	10.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	14.0	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 107 % 44.3-144

Surrogate: 1-Chlorooctadecane 116 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 10 - SURFACE (H001863-19)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/18/2020	ND	2.00	100	2.00	4.87	
Toluene*	<0.050	0.050	07/18/2020	ND	2.24	112	2.00	5.74	
Ethylbenzene*	<0.050	0.050	07/18/2020	ND	2.13	106	2.00	5.47	
Total Xylenes*	<0.150	0.150	07/18/2020	ND	7.00	117	6.00	5.90	
Total BTEX	<0.300	0.300	07/18/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1230	16.0	07/20/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	8490	10.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	2450	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 97.5 % 44.3-144

Surrogate: 1-Chlorooctadecane 455 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 10 - 1' (H001863-20)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2020	ND	2.00	100	2.00	4.87	
Toluene*	<0.050	0.050	07/17/2020	ND	2.24	112	2.00	5.74	
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	2.13	106	2.00	5.47	
Total Xylenes*	<0.150	0.150	07/17/2020	ND	7.00	117	6.00	5.90	
Total BTEx	<0.300	0.300	07/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 124 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/20/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	103	10.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	74.4	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 104 % 44.3-144

Surrogate: 1-Chlorooctadecane 119 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 11 - SURFACE (H001863-21)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/18/2020	ND	2.00	100	2.00	4.87		
Toluene*	<0.050	0.050	07/18/2020	ND	2.24	112	2.00	5.74		
Ethylbenzene*	<0.050	0.050	07/18/2020	ND	2.13	106	2.00	5.47		
Total Xylenes*	<0.150	0.150	07/18/2020	ND	7.00	117	6.00	5.90		
Total BTEx	<0.300	0.300	07/18/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	19400	16.0	07/20/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	19400	50.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	5910	50.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 127 % 44.3-144

Surrogate: 1-Chlorooctadecane 869 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 11 - 1' (H001863-22)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2020	ND	2.00	100	2.00	4.87	
Toluene*	<0.050	0.050	07/17/2020	ND	2.24	112	2.00	5.74	
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	2.13	106	2.00	5.47	
Total Xylenes*	<0.150	0.150	07/17/2020	ND	7.00	117	6.00	5.90	
Total BTEx	<0.300	0.300	07/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1360	16.0	07/20/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	614	10.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	156	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 112 % 44.3-144

Surrogate: 1-Chlorooctadecane 122 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 12 - SURFACE (H001863-23)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/18/2020	ND	2.00	100	2.00	4.87		
Toluene*	<0.050	0.050	07/18/2020	ND	2.24	112	2.00	5.74		
Ethylbenzene*	<0.050	0.050	07/18/2020	ND	2.13	106	2.00	5.47		
Total Xylenes*	<0.150	0.150	07/18/2020	ND	7.00	117	6.00	5.90		
Total BTEx	<0.300	0.300	07/18/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	23600	16.0	07/20/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	15100	50.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	5110	50.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 104 % 44.3-144

Surrogate: 1-Chlorooctadecane 706 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S 12 - 1' (H001863-24)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2020	ND	2.00	100	2.00	4.87	
Toluene*	<0.050	0.050	07/17/2020	ND	2.24	112	2.00	5.74	
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	2.13	106	2.00	5.47	
Total Xylenes*	<0.150	0.150	07/17/2020	ND	7.00	117	6.00	5.90	
Total BTEx	<0.300	0.300	07/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 121 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3800	16.0	07/20/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	<10.0	10.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	<10.0	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 108 % 44.3-144

Surrogate: 1-Chlorooctadecane 116 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: L 1 (H001863-25)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2020	ND	2.00	100	2.00	4.87	
Toluene*	<0.050	0.050	07/17/2020	ND	2.24	112	2.00	5.74	
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	2.13	106	2.00	5.47	
Total Xylenes*	<0.150	0.150	07/17/2020	ND	7.00	117	6.00	5.90	
Total BTEX	<0.300	0.300	07/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 119 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/20/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	84.3	10.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	39.9	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 98.0 % 44.3-144

Surrogate: 1-Chlorooctadecane 112 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: L 2 (H001863-26)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2020	ND	2.00	100	2.00	4.87	
Toluene*	<0.050	0.050	07/17/2020	ND	2.24	112	2.00	5.74	
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	2.13	106	2.00	5.47	
Total Xylenes*	<0.150	0.150	07/17/2020	ND	7.00	117	6.00	5.90	
Total BTX	<0.300	0.300	07/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 119 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	07/20/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	201	10.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	86.9	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 96.9 % 44.3-144

Surrogate: 1-Chlorooctadecane 102 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 07/16/2020  
 Reported: 07/21/2020  
 Project Name: HOGNOSE VIPER  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 07/16/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: L 3 (H001863-27)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2020	ND	2.00	100	2.00	4.87	
Toluene*	<0.050	0.050	07/17/2020	ND	2.24	112	2.00	5.74	
Ethylbenzene*	<0.050	0.050	07/17/2020	ND	2.13	106	2.00	5.47	
Total Xylenes*	<0.150	0.150	07/17/2020	ND	7.00	117	6.00	5.90	
Total BTX	<0.300	0.300	07/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 119 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/20/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2020	ND	210	105	200	0.798	
DRO >C10-C28*	89.8	10.0	07/20/2020	ND	222	111	200	1.73	
EXT DRO >C28-C36	75.1	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 103 % 44.3-144

Surrogate: 1-Chlorooctadecane 112 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager





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### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager

Page 30 of 32



101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <b>Souder Miller &amp; Associates</b>				P.O. #:		ANALYSIS REQUEST	
Project Manager: <b>Lynn Acosta</b>				Company:			
Address: <b>201 S. Hidalgo St</b>				Attn:			
City: <b>Carlsbad</b>				Address:			
State: <b>NM</b> Zip: <b>88220</b>				City:			
Phone #: <b>(505) 516-7469</b>				State:			
Project #: <b>516-7469</b>				Zip:			
Project Name: <b>Hogmore Vineer</b>				Phone #:			
Project Location: <b>Jal, NM</b>				Fax #:			
Sample Name: <b>A1/SO</b>				Matrix		SAMPLING	
FOR LAB USE ONLY				PRESERV.			
Lab I.D. <b>Sample I.D.</b>				DATE		TIME	
<div style="display: flex; justify-content: space-between;"> <div> <b>1</b> S1-Surface  <b>2</b> S1-1'  <b>3</b> S2-Surface  <b>4</b> S2-1'  <b>5</b> S3-Surface  <b>6</b> S3-1'  <b>7</b> S4-Surface  <b>8</b> S4-1'  <b>9</b> S5-Surface  <b>10</b> S5-1' </div> <div> <b>7/16/20</b>  <b>906</b>  <b>9108</b>  <b>911</b>  <b>945</b>  <b>957</b>  <b>959</b>  <b>10:00</b>  <b>10:02</b>  <b>10:03</b>  <b>10:05</b> </div> </div>				BTEX (8021)			
				TFH (8015)			
				CI			

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Relinquished By: _____		Received By: _____		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
Relinquished Date: _____		Received Date: _____		All Results are emailed. Please provide Email address:			
Relinquished Time: _____		Received Time: _____		REMARKS: <b>1043</b>			
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C <b>5.6</b>		Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		CHECKED BY: (Initials) <b>AE</b>	
Turnaround Time:		Standard <input type="checkbox"/> Rush <input checked="" type="checkbox"/>		Bacteria (only) <input type="checkbox"/>		Sample Condition Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	
Thermometer ID #113		Correction Factor None		Observed Temp. °C		Corrected Temp. °C	





26 of 26 pages



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

Company Name:		<b>BILL TO</b>		P.O. #:		ANALYSIS REQUEST	
Project Manager:		Company:		Attn:			
Address:		Address:		City:			
City:		State:		Zip:			
Phone #:		Fax #:		Address:			
Project #:		Project Owner:		City:			
Project Name:		State:		Zip:			
Project Location:		Phone #:		Fax #:			
Sampler Name:		FOR LAB USE ONLY		MATRIX		PRESERV. SAMPLING	
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS	
GROUNDWATER		WASTEWATER		SOIL		OIL	
SLUDGE		OTHER :		ACID/BASE:		ICE / COOL	
OTHER :		DATE		TIME			
HDD1863		S11-Surface		X		7/11/20 1047	
21		S11-1'		X		1056	
22		S12-Surface		X		1108	
23		S12-1'		X		1120	
24		C1-		X		1140	
25		C2		X		1145	
26		C3		X		1147	
27							
Relinquished By:		Date:		Time:			
Received By:		Date:		Time:			
Delivered By: (Circle One)		Sample Condition		CHECKED BY:			
Sampler - UPS - Bus - Other:		Cool Intact		(Initials)			
566		Yes		No			
#113		No		No			
REMARKS:		Phone Result:		Fax Result:			
3063		Yes		No			
Lynn.acosta@scodermiller.com		Add'l Phone #:		Add'l Fax #:			



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

---

September 09, 2020

LYNN A ACOSTA

SOUDER MILLER AND ASSOCIATES

201 S. HALAGUENO

CARLSBAD, NM 88220

RE: HOGNOSE VIPER 23 FED #1H

Enclosed are the results of analyses for samples received by the laboratory on 09/08/20 8:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 09/08/2020  
 Reported: 09/09/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 09/05/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: S5 - 2' (H002369-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/08/2020	ND	416	104	400	8.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/08/2020	ND	171	85.5	200	11.8	
DRO >C10-C28*	<10.0	10.0	09/08/2020	ND	191	95.7	200	6.96	
EXT DRO >C28-C36	<10.0	10.0	09/08/2020	ND					
Surrogate: 1-Chlorooctane	91.4 %	44.3-144							
Surrogate: 1-Chlorooctadecane	93.0 %	42.2-156							

**Sample ID: S5 - 3' (H002369-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/08/2020	ND	416	104	400	8.00	

**Sample ID: S5 - 4' (H002369-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/08/2020	ND	416	104	400	8.00	

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Celey D. Keene, Lab Director/Quality Manager

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---

**Notes and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

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A handwritten signature in cursive script, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

*Released to Imaging: 8/15/2023 7:50:31 AM*



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

---

September 03, 2020

LYNN A ACOSTA

SOUDER MILLER AND ASSOCIATES

201 S. HALAGUENO

CARLSBAD, NM 88220

RE: HOGNOSE VIPER 23 FED #1H

Enclosed are the results of analyses for samples received by the laboratory on 09/01/20 11:22.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received:	09/01/2020	Sampling Date:	08/29/2020
Reported:	09/03/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	Cool & Intact
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**Sample ID: S1 - 2' (H002310-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	09/02/2020	ND	432	108	400	3.77	

**Sample ID: S3 - 2' (H002310-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/02/2020	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/02/2020	ND	209	104	200	1.18	
DRO >C10-C28*	<10.0	10.0	09/02/2020	ND	225	113	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/02/2020	ND					

Surrogate: 1-Chlorooctane 92.7 % 44.3-144

Surrogate: 1-Chlorooctadecane 92.2 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 09/01/2020  
 Reported: 09/03/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 08/29/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S5 - 3' (H002310-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1560	16.0	09/02/2020	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/02/2020	ND	209	104	200	1.18	
DRO >C10-C28*	23.3	10.0	09/02/2020	ND	225	113	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/02/2020	ND					
Surrogate: 1-Chlorooctane	91.9 %	44.3-144							
Surrogate: 1-Chlorooctadecane	93.4 %	42.2-156							

**Sample ID: S6 - 2' (H002310-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/02/2020	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/02/2020	ND	209	104	200	1.18	
DRO >C10-C28*	<10.0	10.0	09/02/2020	ND	225	113	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/02/2020	ND					
Surrogate: 1-Chlorooctane	95.4 %	44.3-144							
Surrogate: 1-Chlorooctadecane	95.6 %	42.2-156							

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 09/01/2020  
 Reported: 09/03/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 08/29/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S7 - 2' (H002310-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/02/2020	ND	432	108	400	3.77		

**Sample ID: S10 - 2' (H002310-07)**

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/02/2020	ND	209	104	200	1.18	
DRO >C10-C28*	<10.0	10.0	09/02/2020	ND	225	113	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/02/2020	ND					

Surrogate: 1-Chlorooctane 96.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 94.7 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 09/01/2020  
 Reported: 09/03/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 08/29/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S11 - 2' (H002310-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/02/2020	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/02/2020	ND	209	104	200	1.18	
DRO >C10-C28*	<10.0	10.0	09/02/2020	ND	225	113	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/02/2020	ND					
Surrogate: 1-Chlorooctane	87.6 %	44.3-144							
Surrogate: 1-Chlorooctadecane	87.9 %	42.2-156							

**Sample ID: S12 - 2' (H002310-09)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/02/2020	ND	432	108	400	3.77		

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 09/01/2020  
 Reported: 09/03/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 08/29/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: L1 - 1' (H002310-11)**

TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/02/2020	ND	209	104	200	1.18	
DRO >C10-C28*	<10.0	10.0	09/02/2020	ND	225	113	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/02/2020	ND					
Surrogate: 1-Chlorooctane	86.3 %	44.3-144							
Surrogate: 1-Chlorooctadecane	86.1 %	42.2-156							

**Sample ID: L2 - 1' (H002310-12)**

TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/02/2020	ND	209	104	200	1.18	
DRO >C10-C28*	<10.0	10.0	09/02/2020	ND	225	113	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/02/2020	ND					
Surrogate: 1-Chlorooctane	84.5 %	44.3-144							
Surrogate: 1-Chlorooctadecane	83.3 %	42.2-156							

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 LYNN A ACOSTA  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 09/01/2020  
 Reported: 09/03/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 08/29/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: L3 - 1' (H002310-13)**

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/02/2020	ND	209	104	200	1.18	
DRO >C10-C28*	<10.0	10.0	09/02/2020	ND	225	113	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/02/2020	ND					
Surrogate: 1-Chlorooctane	87.6 %	44.3-144							
Surrogate: 1-Chlorooctadecane	86.2 %	42.2-156							

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### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Scudder Miller &amp; Associates</u>		P.O. #: <u>20835626</u>		ANALYSIS REQUEST	
Project Manager: <u>Cyrus Acosta</u>		Company: <u>Devon Energy</u>			
Address: <u>201 S Halsey St</u>		Attn: <u>Lupe Carrasco</u>			
City: <u>Curkbad</u>		Address:			
Phone #: <u>(505) 516-7469</u>		City:			
Fax #: <u>20835626</u>		State:			
Project #: <u>WD # 20835626</u>		Zip:			
Project Name: <u>Hogues Vineer 23 Fed #1H</u>		Phone #:			
Project Location: <u>Jal, NM</u>		Fax #:			
Sampler Name: <u>LAT</u>					
FOR LAB USE ONLY					
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS		
<u>H002310</u>	1	51-2'	X	DATE	TIME
	2	51-3' (Hold)	X	8/24/20	1:00
	3	53-2'			1:05
	4	55-3'			1:10
	5	56-2'			1:15
	6	57-2'			1:17
	7	510-2'			1:13
	8	511-2'			1:20
	9	512-2'			1:36
	10	51-4' (Hold)			1:36
		MATRIX	PRESERV.	SAMPLING	
		GROUNDWATER			
		WASTEWATER			
		SOIL			
		OIL			
		SLUDGE			
		OTHER :			
		ACID/BASE:			
		ICE / COOL			
		OTHER :			

TPH (8015)  
CS

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Relinquished By: Fun Smith Date: 8/1/20 Received By: Lupe Carrasco Date: 8/24/20

Reinquinshed By: Fun Smith Date: 8/1/20 Received By: Lupe Carrasco Date: 8/24/20

Delivered By: (Circle One) Observed Temp. °C 4.2 Sample Condition Intact CHECKED BY: Lupe Carrasco

Sampler - UPS - Bus - Other: Corrected Temp. °C 4.2 Cool ☒ Intact ☒ Yes ☐ No ☐ No

Turnaround Time: 19 1042 Standard ☒ Rush ☐ Bacteria (only) Sample Condition ☐ Cool ☐ Intact ☐ Yes ☐ No ☐ No

Thermometer ID #113 Correction Factor None

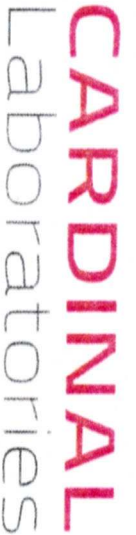
Verbal Result: ☐ Yes ☐ No Add'l Phone #:

All Results are emailed. Please provide Email address:

REMARKS: Cyrus Acosta@scuddermlr.com

FORWARD TO: 10000420

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinalabsnm.com



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 10 of 10





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

---

November 16, 2020

ASHLEY MAXWELL

SOUDER MILLER AND ASSOCIATES

201 S. HALAGUENO

CARLSBAD, NM 88220

RE: HOGNOSE VIPER 23 FED #1H

Enclosed are the results of analyses for samples received by the laboratory on 11/12/20 13:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS1 (H003008-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2020	ND	2.03	101	2.00	3.04	
Toluene*	<0.050	0.050	11/13/2020	ND	1.95	97.7	2.00	2.63	
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.05	103	2.00	2.75	
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.86	97.6	6.00	2.61	
Total BTX	<0.300	0.300	11/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	11/13/2020	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	183	91.3	200	13.7	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	180	89.9	200	22.3	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 89.2 % 44.3-144

Surrogate: 1-Chlorooctadecane 95.8 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS2 (H003008-02)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85		
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71		
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68		
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59		
Total BTX	<0.300	0.300	11/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	11/13/2020	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	183	91.3	200	13.7	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	180	89.9	200	22.3	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 89.9 % 44.3-144

Surrogate: 1-Chlorooctadecane 98.0 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS3 (H003008-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85		
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71		
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68		
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59		
Total BTEX	<0.300	0.300	11/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	11/13/2020	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	183	91.3	200	13.7	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	180	89.9	200	22.3	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 84.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 91.7 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS4 (H003008-04)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85		
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71		
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68		
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59		
Total BTX	<0.300	0.300	11/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	11/13/2020	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	183	91.3	200	13.7	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	180	89.9	200	22.3	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 82.0 % 44.3-144

Surrogate: 1-Chlorooctadecane 86.4 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS5 (H003008-05)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85		
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71		
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68		
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59		
Total BTX	<0.300	0.300	11/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	11/13/2020	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	241	120	200	10.2	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	240	120	200	15.8	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 87.1 % 44.3-144

Surrogate: 1-Chlorooctadecane 81.5 % 42.2-156

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\*=Accredited Analyte

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS6 (H003008-06)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85		
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71		
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68		
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59		
Total BTEX	<0.300	0.300	11/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	11/13/2020	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	241	120	200	10.2	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	240	120	200	15.8	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 85.1 % 44.3-144

Surrogate: 1-Chlorooctadecane 79.1 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS7 (H003008-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85		
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71		
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68		
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59		
Total BTEX	<0.300	0.300	11/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	11/13/2020	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	241	120	200	10.2	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	240	120	200	15.8	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 89.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 83.6 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS8 (H003008-08)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85		
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71		
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68		
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59		
Total BTX	<0.300	0.300	11/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	11/13/2020	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	241	120	200	10.2	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	240	120	200	15.8	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 84.5 % 44.3-144

Surrogate: 1-Chlorooctadecane 79.1 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS9 (H003008-09)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85	
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71	
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68	
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59	
Total BTX	<0.300	0.300	11/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	11/13/2020	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	241	120	200	10.2	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	240	120	200	15.8	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 82.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 77.3 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS10 (H003008-10)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85	
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71	
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68	
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59	
Total BTX	<0.300	0.300	11/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	11/13/2020	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	241	120	200	10.2	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	240	120	200	15.8	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 81.5 % 44.3-144

Surrogate: 1-Chlorooctadecane 76.4 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS11 (H003008-11)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85		
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71		
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68		
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59		
Total BTEX	<0.300	0.300	11/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	512	16.0	11/13/2020	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	241	120	200	10.2	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	240	120	200	15.8	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 90.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 84.9 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS12 (H003008-12)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85	
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71	
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68	
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59	
Total BTEX	<0.300	0.300	11/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	11/13/2020	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	241	120	200	10.2	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	240	120	200	15.8	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 86.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 81.1 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS13 (H003008-13)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85		
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71		
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68		
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59		
Total BTEx	<0.300	0.300	11/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	304	16.0	11/13/2020	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	241	120	200	10.2	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	240	120	200	15.8	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 85.9 % 44.3-144

Surrogate: 1-Chlorooctadecane 80.7 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS14 (H003008-14)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85	
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71	
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68	
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59	
Total BTX	<0.300	0.300	11/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	11/13/2020	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	241	120	200	10.2	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	240	120	200	15.8	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 90.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 84.7 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS15 (H003008-15)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85	
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71	
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68	
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59	
Total BTX	<0.300	0.300	11/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	832	16.0	11/13/2020	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	241	120	200	10.2	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	240	120	200	15.8	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 81.1 % 44.3-144

Surrogate: 1-Chlorooctadecane 77.0 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS16 (H003008-16)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85	
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71	
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68	
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59	
Total BTEx	<0.300	0.300	11/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	11/13/2020	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	241	120	200	10.2	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	240	120	200	15.8	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 87.0 % 44.3-144

Surrogate: 1-Chlorooctadecane 81.7 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS17 (H003008-17)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85		
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71		
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68		
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59		
Total BTEX	<0.300	0.300	11/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/13/2020	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	241	120	200	10.2	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	240	120	200	15.8	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 87.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 81.7 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS18 (H003008-18)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85	
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71	
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68	
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59	
Total BTEx	<0.300	0.300	11/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/13/2020	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	242	121	200	12.4	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	242	121	200	18.7	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 97.0 % 44.3-144

Surrogate: 1-Chlorooctadecane 91.3 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: CS19 (H003008-19)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85		
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71		
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68		
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59		
Total BTEx	<0.300	0.300	11/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/13/2020	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	242	121	200	12.4	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	242	121	200	18.7	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 78.2 % 44.3-144

Surrogate: 1-Chlorooctadecane 72.7 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SW1 (H003008-20)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85	
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71	
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68	
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59	
Total BTEX	<0.300	0.300	11/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	11/13/2020	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	242	121	200	12.4	
DRO >C10-C28*	132	10.0	11/13/2020	ND	242	121	200	18.7	
EXT DRO >C28-C36	44.7	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 81.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 81.9 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SW2 (H003008-21)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2020	ND	1.98	99.2	2.00	1.85	
Toluene*	<0.050	0.050	11/13/2020	ND	1.92	96.0	2.00	1.71	
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	2.68	
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.75	95.8	6.00	2.59	
Total BTEX	<0.300	0.300	11/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	11/13/2020	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	242	121	200	12.4	
DRO >C10-C28*	47.7	10.0	11/13/2020	ND	242	121	200	18.7	
EXT DRO >C28-C36	11.8	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 84.2 % 44.3-144

Surrogate: 1-Chlorooctadecane 80.9 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SW3 (H003008-22)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	0.966	
Toluene*	<0.050	0.050	11/13/2020	ND	1.95	97.3	2.00	1.11	
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.05	102	2.00	1.40	
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.85	97.4	6.00	1.49	
Total BTEX	<0.300	0.300	11/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	11/13/2020	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	242	121	200	12.4	
DRO >C10-C28*	55.9	10.0	11/13/2020	ND	242	121	200	18.7	
EXT DRO >C28-C36	12.1	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 89.5 % 44.3-144

Surrogate: 1-Chlorooctadecane 86.5 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SW4 (H003008-23)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	0.966	
Toluene*	<0.050	0.050	11/13/2020	ND	1.95	97.3	2.00	1.11	
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.05	102	2.00	1.40	
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.85	97.4	6.00	1.49	
Total BTX	<0.300	0.300	11/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	11/13/2020	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	242	121	200	12.4	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	242	121	200	18.7	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 88.7 % 44.3-144

Surrogate: 1-Chlorooctadecane 86.0 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SW5 (H003008-24)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	0.966		
Toluene*	<0.050	0.050	11/13/2020	ND	1.95	97.3	2.00	1.11		
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.05	102	2.00	1.40		
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.85	97.4	6.00	1.49		
Total BTEX	<0.300	0.300	11/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	784	16.0	11/13/2020	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	242	121	200	12.4	
DRO >C10-C28*	20.6	10.0	11/13/2020	ND	242	121	200	18.7	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 83.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 79.4 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SW6 (H003008-25)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	0.966	
Toluene*	<0.050	0.050	11/13/2020	ND	1.95	97.3	2.00	1.11	
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.05	102	2.00	1.40	
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.85	97.4	6.00	1.49	
Total BTEX	<0.300	0.300	11/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	11/13/2020	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	242	121	200	12.4	
DRO >C10-C28*	43.8	10.0	11/13/2020	ND	242	121	200	18.7	
EXT DRO >C28-C36	14.3	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 88.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 84.7 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SW7 (H003008-26)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	0.966	
Toluene*	<0.050	0.050	11/13/2020	ND	1.95	97.3	2.00	1.11	
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.05	102	2.00	1.40	
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.85	97.4	6.00	1.49	
Total BTEX	<0.300	0.300	11/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	11/13/2020	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/13/2020	ND	242	121	200	12.4	
DRO >C10-C28*	<10.0	10.0	11/13/2020	ND	242	121	200	18.7	
EXT DRO >C28-C36	<10.0	10.0	11/13/2020	ND					

Surrogate: 1-Chlorooctane 82.2 % 44.3-144

Surrogate: 1-Chlorooctadecane 77.5 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SW8 (H003008-27)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	0.966		
Toluene*	<0.050	0.050	11/13/2020	ND	1.95	97.3	2.00	1.11		
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.05	102	2.00	1.40		
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.85	97.4	6.00	1.49		
Total BTEx	<0.300	0.300	11/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/13/2020	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/14/2020	ND	242	121	200	12.4	
DRO >C10-C28*	<10.0	10.0	11/14/2020	ND	242	121	200	18.7	
EXT DRO >C28-C36	<10.0	10.0	11/14/2020	ND					

Surrogate: 1-Chlorooctane 88.7 % 44.3-144

Surrogate: 1-Chlorooctadecane 84.4 % 42.2-156

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/12/2020  
 Reported: 11/16/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: WO# 20835626  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/11/2020  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SW9 (H003008-28)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2020	ND	2.01	101	2.00	0.966	
Toluene*	<0.050	0.050	11/13/2020	ND	1.95	97.3	2.00	1.11	
Ethylbenzene*	<0.050	0.050	11/13/2020	ND	2.05	102	2.00	1.40	
Total Xylenes*	<0.150	0.150	11/13/2020	ND	5.85	97.4	6.00	1.49	
Total BTEX	<0.300	0.300	11/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/13/2020	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/14/2020	ND	242	121	200	12.4	
DRO >C10-C28*	<10.0	10.0	11/14/2020	ND	242	121	200	18.7	
EXT DRO >C28-C36	<10.0	10.0	11/14/2020	ND					

Surrogate: 1-Chlorooctane 87.2 % 44.3-144

Surrogate: 1-Chlorooctadecane 82.1 % 42.2-156

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### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Souder Miller &amp; Associates</u>		P.O. #:		ANALYSIS REQUEST	
Project Manager: <u>Ashley Maxwell</u>		Company:			
Address: <u>201 S. Holycross St.</u>		Attn:			
City: <u>Carlsbad</u>		Address:			
State: <u>NM</u> Zip: <u>88220</u>		City:			
Phone #:		State:			
Fax #:		Zip:			
Project #:		Phone #:			
Project Name: <u>Hognose Upper 23 Feeding 1 H</u>		Fax #:			
Project Location:					
Sampler Name: <u>Se</u>					

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.		DATE	TIME	BTGX	TPH	CI
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL					
H003008	CS1											11/11	9:00	X		
	CS2												9:05	X		
	CS3												9:10	X		
	CS4												9:15	X		
	CS5												9:25	X		
	CS6												9:30	X		
	CS7												9:35	X		
	CS8												9:40	X		
	CS9												9:45	X		
	CS10												9:50	X		

Relinquished By: <u>Johnathan C.</u>	Date: <u>11/12/20</u>	Received By: <u>Spencer Miller</u>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #:
Relinquished By:	Date:	Received By:	All Results are emailed. Please provide Email address:
REMARKS:			

Delivered By: (Circle One)	Observed Temp. °C	Sample Condition	CHECKED BY: <u>(initials)</u>	Turnaround Time:	Standard <input type="checkbox"/> Rush <input type="checkbox"/>	Bacteria (only) <input type="checkbox"/>	Sample Condition
Sampler - UPS - Bus - Other:	Corrected Temp. °C	Cool <input type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>		Thermometer ID #113		Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	Observed Temp. °C
FORM 006 Rev. 11/06/04/20				Correction Factor None		Corrected Temp. °C	

† Cardinal cannot accept verbal changes. Please email changes to cely.keene@cardinallabsnm.com





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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:		Sunder Miller & Associates	
Project Manager:		Ashley Maxwell	
Address:		201 S. Holycross St.	
City:		Carkwood	
State:		NM Zip: 88220	
Phone #:		Fax #:	
Project #:		Project Owner:	
Project Name:		Hogwest Upper 85 Railroad 1H	
Project Location:		State: Zip:	
Sample Name:		Phone #: Fax #:	
FOR LAB USE ONLY			
Lab I.D.		Sample I.D.	
HDCSC08		(G)RAB OR (C)OMP.	# CONTAINERS
11	CS11	C 1	X
12	CS12		
13	CS13		
14	CS14		
15	CS15		
16	CS16		
17	CS17		
18	CS18		
19	CS19		
20	SW1		
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Relinquished By:		Date:	Received By:
Relinquished By:		Date:	Received By:
Delivered By: (Circle One)		Observed Temp. °C	Corrected Temp. °C
Sampler - UPS - Bus - Other:		Sample Condition	CHECKED BY:
		Turnaround Time:	Standard Rush
		Bacteria (only)	Sample Condition
		Thermometer ID #113	Observed Temp. °C
		Correction Factor None	Corrected Temp. °C



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(575) 393-2326 FAX (575) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

<b>Company Name:</b> <u>Sawyer Miller &amp; Associates.</u>							<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>							
<b>Project Manager:</b> <u>Ashley Maxwell</u>							<b>P.O. #:</b>									
<b>Address:</b> <u>801 S. Halaguerre St.</u>							<b>Company:</b>									
<b>City:</b> <u>Carlsbad</u>							<b>Attn:</b>									
<b>State:</b> <u>NM</u> <b>Zip:</b> <u>88220</u>							<b>Address:</b>									
<b>Phone #:</b>							<b>City:</b>									
<b>Fax #:</b>							<b>State:</b>									
<b>Project #:</b>							<b>Zip:</b>									
<b>Project Name:</b> <u>Hognose Upper 23 Federal 1H</u>							<b>Phone #:</b>									
<b>Project Location:</b>							<b>Fax #:</b>									
<b>Sampler Name:</b> <u>SO</u>																
<b>FOR LAB USE ONLY</b>																
<b>Lab I.D.</b>		<b>Sample I.D.</b>		<input checked="" type="radio"/> G) RAB OR <input checked="" type="radio"/> C) OMP	<b>MATRIX</b>		<b>PRESERV.</b>	<b>SAMPLING</b>								
				# CONTAINERS												
				GROUNDWATER												
				WASTEWATER												
				SOIL	<input checked="" type="checkbox"/>											
				OIL												
				SLUDGE												
				OTHER :												
				ACID/BASE:												
				ICE / COOL	<input checked="" type="checkbox"/>											
				OTHER :												
				DATE	TIME											
<u>HD03008</u>		<u>SW2</u>		<u>1</u>	<u>11:05</u>		<u>X</u>									
<u>21</u>		<u>SW3</u>		<u>1</u>	<u>11:10</u>		<u>X</u>									
<u>22</u>		<u>SW4</u>		<u>1</u>	<u>11:15</u>		<u>X</u>									
<u>23</u>		<u>SW5</u>		<u>1</u>	<u>11:20</u>		<u>X</u>									
<u>24</u>		<u>SW6</u>		<u>1</u>	<u>11:25</u>		<u>X</u>									
<u>25</u>		<u>SW7</u>		<u>1</u>	<u>11:30</u>		<u>X</u>									
<u>26</u>		<u>SW8</u>		<u>1</u>	<u>11:35</u>		<u>X</u>									
<u>27</u>		<u>SW9</u>		<u>1</u>	<u>11:40</u>		<u>X</u>									
<u>28</u>																

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<b>Relinquished By:</b> _____		<b>Date:</b> _____		<b>Received By:</b> _____		<b>Verbal Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: _____	
<b>Relinquished By:</b> _____		<b>Date:</b> _____		<b>Received By:</b> _____		<b>All Results are emailed. Please provide Email address:</b> _____	
<b>Time:</b> _____		<b>Time:</b> _____		<b>Time:</b> _____		<b>REMARKS:</b>	
<b>Time:</b> _____		<b>Time:</b> _____		<b>Time:</b> _____		<b>Turnaround Time:</b> _____	
<b>Observed Temp. °C:</b> <u>8.8</u>		<b>Corrected Temp. °C:</b> _____		<b>Sample Condition:</b> <input type="checkbox"/> Cool <input checked="" type="checkbox"/> Intact		<b>Standard:</b> <input type="checkbox"/> <b>Rush</b> <input type="checkbox"/>	
<b>Thermometer ID #113</b>		<b>Correction Factor None</b>		<b>Bacteria (only)</b> <input type="checkbox"/> Cool <input checked="" type="checkbox"/> Intact		<b>Sample Condition</b> <input type="checkbox"/> Observed Temp. °C	
<b>Corrected Temp. °C:</b> _____		<b>Corrected Temp. °C:</b> _____		<b>Corrected Temp. °C:</b> _____		<b>Corrected Temp. °C:</b> _____	





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

---

December 01, 2020

ASHLEY MAXWELL

SOUDER MILLER AND ASSOCIATES

201 S. HALAGUENO

CARLSBAD, NM 88220

RE: HOGNOSE VIPER 23 FED #1H

Enclosed are the results of analyses for samples received by the laboratory on 11/25/20 11:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager





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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/25/2020  
 Reported: 12/01/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/23/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: CS 15 (H003119-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/30/2020	ND	1.82	91.2	2.00	8.44	
Toluene*	<0.050	0.050	11/30/2020	ND	1.77	88.5	2.00	8.87	
Ethylbenzene*	<0.050	0.050	11/30/2020	ND	1.82	91.2	2.00	8.68	
Total Xylenes*	<0.150	0.150	11/30/2020	ND	5.28	88.0	6.00	8.33	
Total BTX	<0.300	0.300	11/30/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/30/2020	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/30/2020	ND	231	115	200	6.99	
DRO >C10-C28*	<10.0	10.0	11/30/2020	ND	232	116	200	6.53	
EXT DRO >C28-C36	<10.0	10.0	11/30/2020	ND					

Surrogate: 1-Chlorooctane 111 % 44.3-144

Surrogate: 1-Chlorooctadecane 110 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/25/2020  
 Reported: 12/01/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/23/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SW 1 (H003119-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/30/2020	ND	1.82	91.2	2.00	8.44		
Toluene*	<0.050	0.050	11/30/2020	ND	1.77	88.5	2.00	8.87		
Ethylbenzene*	<0.050	0.050	11/30/2020	ND	1.82	91.2	2.00	8.68		
Total Xylenes*	<0.150	0.150	11/30/2020	ND	5.28	88.0	6.00	8.33		
Total BTEx	<0.300	0.300	11/30/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/30/2020	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/30/2020	ND	231	115	200	6.99	
DRO >C10-C28*	<10.0	10.0	11/30/2020	ND	232	116	200	6.53	
EXT DRO >C28-C36	<10.0	10.0	11/30/2020	ND					

Surrogate: 1-Chlorooctane 120 % 44.3-144

Surrogate: 1-Chlorooctadecane 120 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
 ASHLEY MAXWELL  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220  
 Fax To: NONE

Received: 11/25/2020  
 Reported: 12/01/2020  
 Project Name: HOGNOSE VIPER 23 FED #1H  
 Project Number: NONE GIVEN  
 Project Location: DEVON ENERGY - JAL, NM

Sampling Date: 11/23/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SW 5 (H003119-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/30/2020	ND	1.82	91.2	2.00	8.44		
Toluene*	<0.050	0.050	11/30/2020	ND	1.77	88.5	2.00	8.87		
Ethylbenzene*	<0.050	0.050	11/30/2020	ND	1.82	91.2	2.00	8.68		
Total Xylenes*	<0.150	0.150	11/30/2020	ND	5.28	88.0	6.00	8.33		
Total BTEX	<0.300	0.300	11/30/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/30/2020	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/30/2020	ND	231	115	200	6.99	
DRO >C10-C28*	<10.0	10.0	11/30/2020	ND	232	116	200	6.53	
EXT DRO >C28-C36	<10.0	10.0	11/30/2020	ND					

Surrogate: 1-Chlorooctane 124 % 44.3-144

Surrogate: 1-Chlorooctadecane 123 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



---

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### Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240  
FAX (575) 393-2476

(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

# APPENDIX E PHOTO LOG

W NW N  
O 314°NW (T) ● 32°17'2"N, 103°32'57"W ±147ft ▲ 3688ft





S SW W  
Received by OCD: 7/27/2023 2:24 Page 120 of 130

217°SW (T) 32°17'2"N, 103°32'57"W ±19ft 3688ft



Released to Imaging: 8/15/2023 7:50:31 AM



○ 54°NE (T) ● 32°17'2"N, 103°32'58"W ±13ft ▲ 3690ft



SE S SW  
O 177°S (T) ● 32°17'2"N, 103°32'57"W ±13ft ▲ 3688ft



NE

E

SE

Received by OCD: 7/27/2023 2:24 Page 124 of 130

0 86°E (T) ● 32°17'2"N, 103°32'58"W ±36ft ▲ 3688ft



Released to Imaging: 8/15/2023 7:50:31 AM

○ 142°SE (T) ● 32°17'1"N, 103°32'58"W ±22ft ▲ 3688ft



N NE E  
*Received by OCD: 7/27/2023 2:24 Page 126 of 130*

○ 54°NE (T) ● 32°17'1"N, 103°32'58"W ±26ft ▲ 3685ft



*Released to Imaging: 8/15/2023 7:50:31 AM*



© 148°SE (T) ● 32°17'1"N, 103°32'58"W ±13ft ▲ 3689ft



W NW N  
O 318°NW (T) ● 32°17'1"N, 103°32'57"W ±13ft ▲ 3690ft



○ 237°SW (T) ● 32°17'1"N, 103°32'57"W ±13ft ▲ 3688ft



**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 245276

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 245276
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Deferral request approved. Impacts above the reclamation standards has been left in place and is required to be addressed once site is no longer reasonably needed for production or drilling ops.	8/15/2023