

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?	_ 315 _ (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

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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

Incident ID	NRM2018258355
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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
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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.

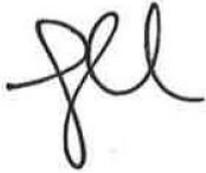
## **5.0 Scope and Limitations**

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:



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

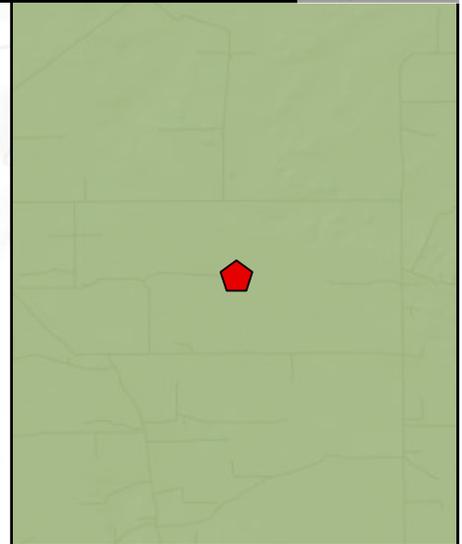
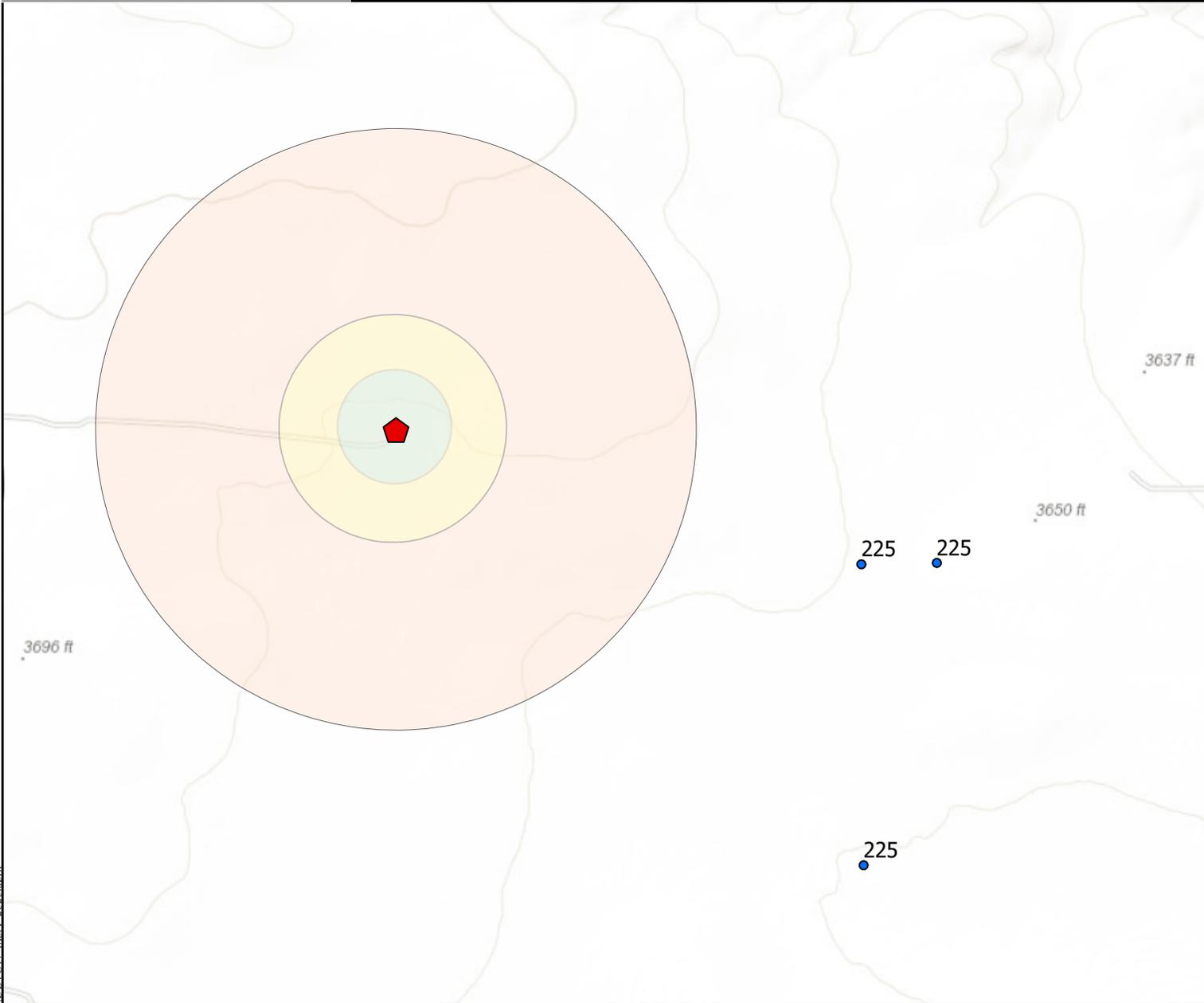
**Tables:**

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



**Buffer Distance**

- .5 Mile
- 1000 Feet
- 500 Feet

OSE Depth to GW

Point of Release

USGS Wells

Karst Pools

**Karst Pools**

- Critical
- High
- Medium
- Low

N

0 437.5 875 1,750 2,625  
Feet

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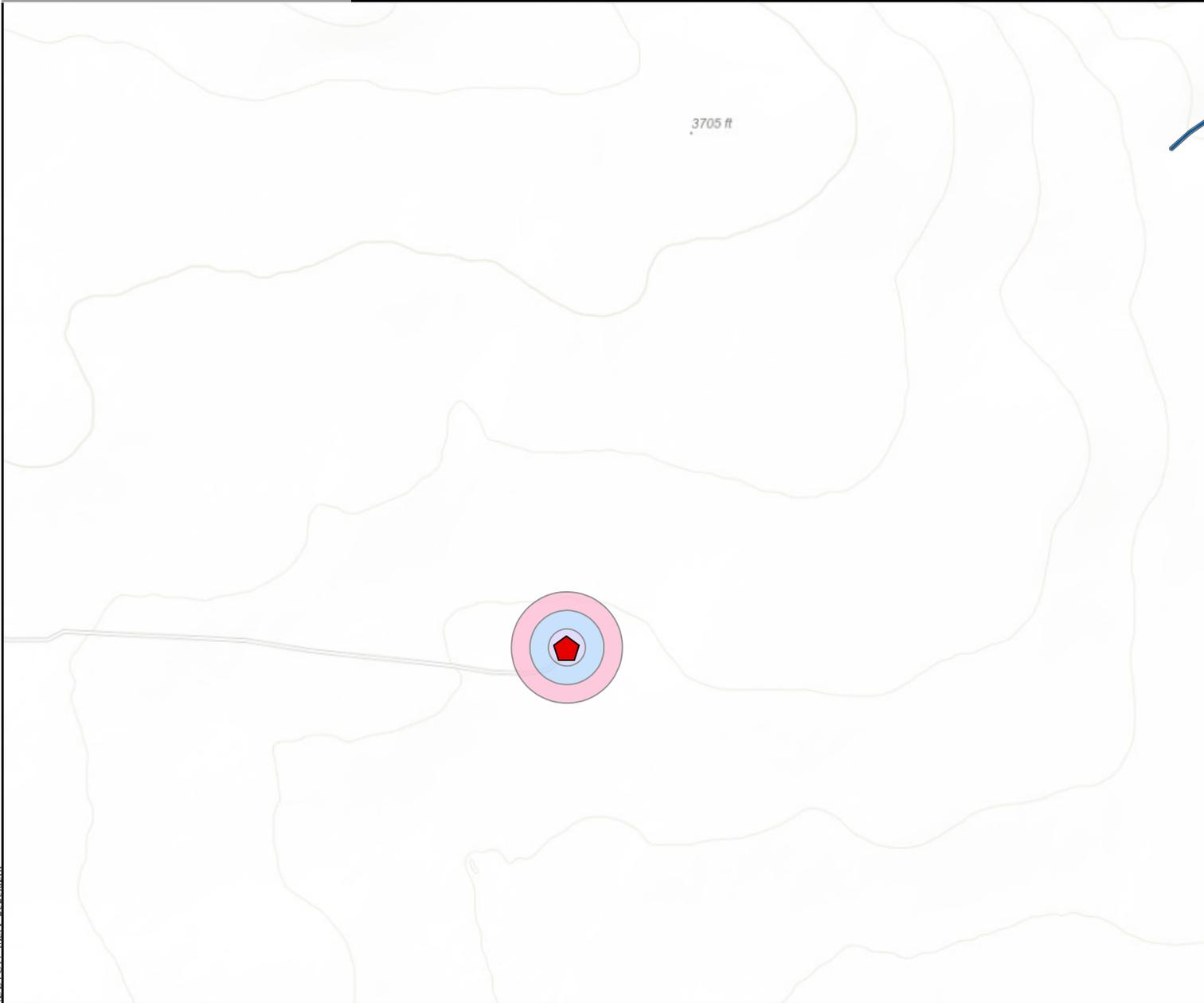
Revisions		
By: _____	Date: _____	Descr: _____
By: _____	Date: _____	Descr: _____

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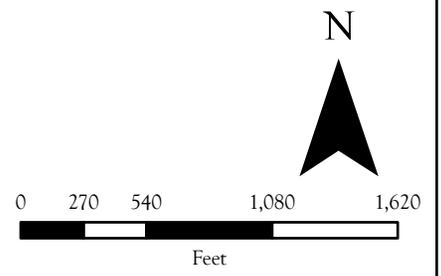
Drawn	Sebastian Orozco
Date	12/4/2020
Checked	_____
Approved	_____



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



*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

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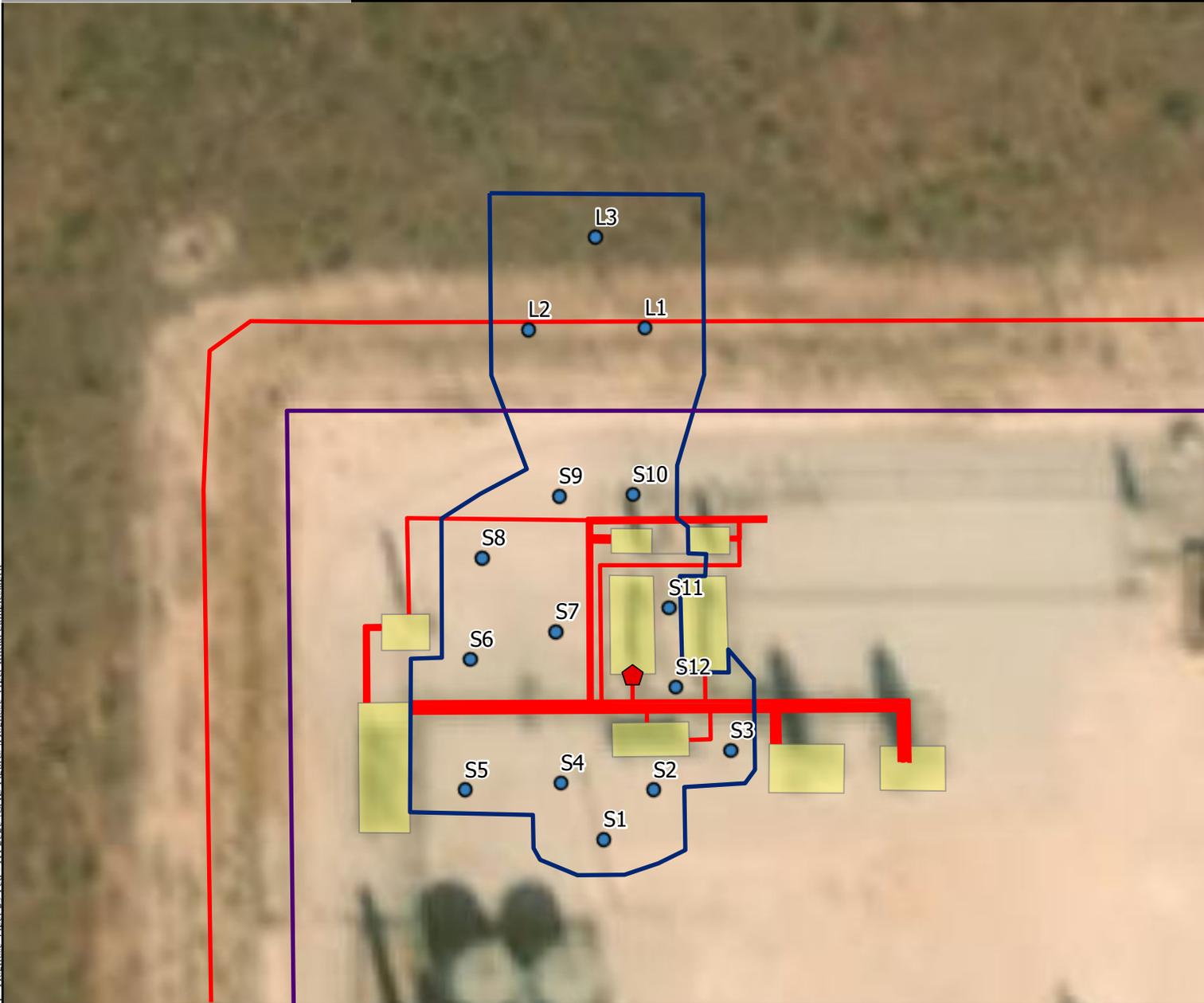
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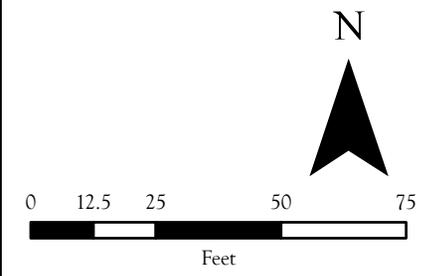
Drawn	Sebastian Orozco
Date	12/7/2020
Checked	_____
Approved	_____



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- Pipelines
- Spill Area
- Engineered Pad
- Equipment
- ⬠ Point of Release



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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Date Saved: 12/4/2020

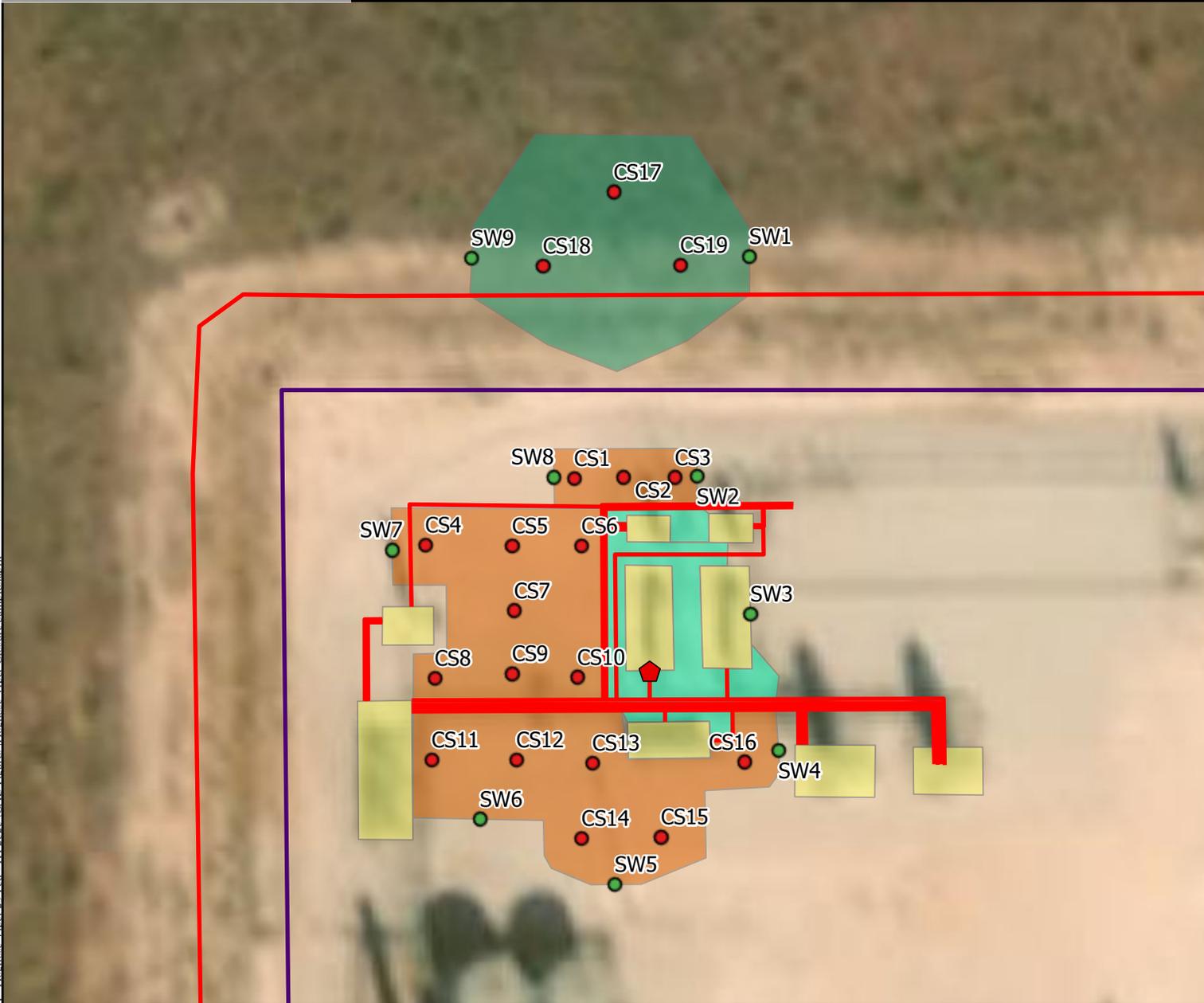
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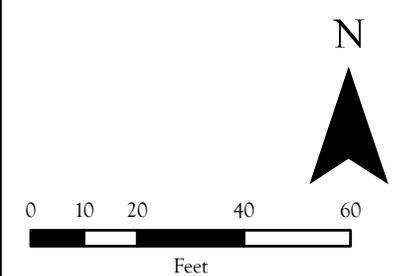
Drawn	Sebastian Orozco
Date	12/7/2020
Checked	_____
Approved	_____



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- Pipelines
- Engineered Pad
- 0.5' Excavation
- Deferment Area
- 1' Excavation
- Equipment
- Closure Sample
- Side Wall Samples
- ⬠ Point of Release



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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 Date Saved: 12/7/2020

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

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Drawn	Sebastian Orozco
Date	12/9/2020
Checked	_____
Approved	_____



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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 <small>*numerical limit or background, whichever is greater</small>	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
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
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
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
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	1360
	8/29/2020	2	Defer	-	-	<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	23600
		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
		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
		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
		1	In-Situ	-	-	<10.0	<10.0	<20.0	<10.0	<30.0	-

"-" = Not Analyzed

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
Confirmation 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
M	23	23S	33E	Lea

Surface Owner:  State  Federal  Tribal  Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<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.**

State of New Mexico  
Oil Conservation Division

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?	_ 315 _ (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.

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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: \_\_\_\_\_ 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 Professional   

Signature:    Dale Woodall    Date:    7/27/2023   

email:    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

**UTMNAD83 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.

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.

(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'.

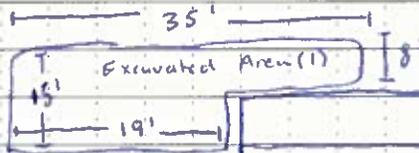
- Preliminary soil samples were field screened for both Chlorides and hydrocarbons, using handheld PID and TC meters. Field screens indicated that area was clean at one (1) foot.

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)

~ 15' x 35' = 525'

525 / 200 = ~ 2.6 samples.



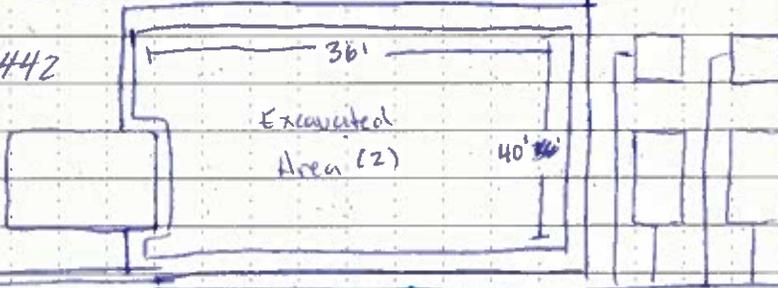
Depth: 1'

• Area (2)

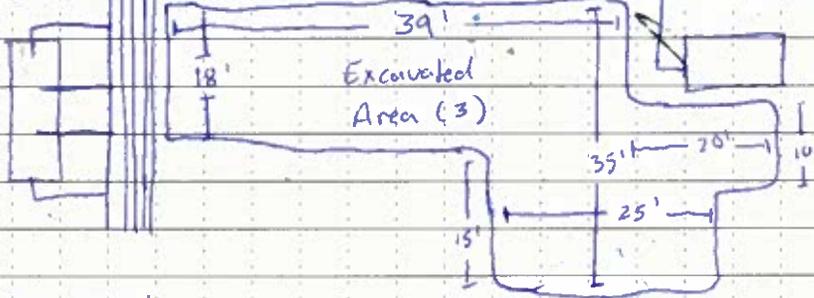
~ 36' x 40' = 1442'

1442 / 200 =

~ 7.2 samples.



NOV 10



• Area (3)

~ 18' x 39' = 702'

702 / 200 = 3.5 samples.

25' x 15' = 375'

375 / 200 = ~ 2 samples.

20' x 10' = 200'

= ~ 1 sample.

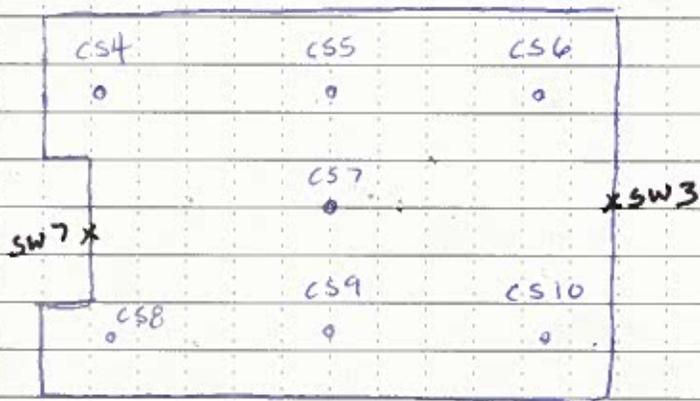
• On pad: 200 sq ft calculations indicated ~ 16 samples (Base Samples) are required for closure. Additional side wall samples will also be taken.

# NOU 11 - Sampling Event.

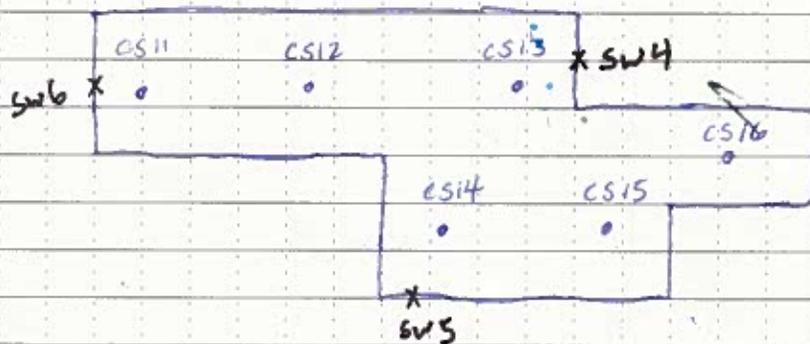
## Area (1)



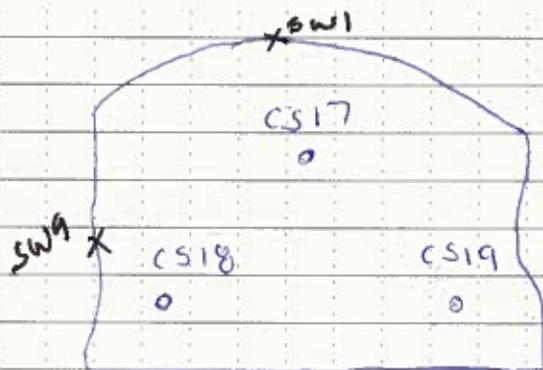
## Area (2)



## Area (3)



## Area (4) - Pasture Excavation.



# APPENDIX D LABORATORY ANALYTICAL REPORTS



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

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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".

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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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
<b>Chloride</b>	<b>60800</b>	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		
<b>DRO &gt;C10-C28*</b>	<b>9530</b>	10.0	07/18/2020	ND	228	114	200	0.662		
<b>EXT DRO &gt;C28-C36</b>	<b>3780</b>	10.0	07/18/2020	ND						

Surrogate: 1-Chlorooctane 101 % 44.3-144

Surrogate: 1-Chlorooctadecane 477 % 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:	07/16/2020	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

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

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	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, 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



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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>38400</b>	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		
<b>DRO &gt;C10-C28*</b>	<b>11000</b>	10.0	07/18/2020	ND	228	114	200	0.662		
<b>EXT DRO &gt;C28-C36</b>	<b>3540</b>	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



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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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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\*=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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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
<b>Chloride</b>	<b>33600</b>	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		
<b>DRO &gt;C10-C28*</b>	<b>12500</b>	50.0	07/18/2020	ND	228	114	200	0.662		
<b>EXT DRO &gt;C28-C36</b>	<b>3790</b>	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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\*=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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>7520</b>	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		
<b>DRO &gt;C10-C28*</b>	<b>366</b>	10.0	07/18/2020	ND	228	114	200	0.662		
<b>EXT DRO &gt;C28-C36</b>	<b>114</b>	10.0	07/18/2020	ND						

Surrogate: 1-Chlorooctane 110 % 44.3-144

Surrogate: 1-Chlorooctadecane 119 % 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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>45600</b>	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		
<b>DRO &gt;C10-C28*</b>	<b>6260</b>	10.0	07/18/2020	ND	228	114	200	0.662		
<b>EXT DRO &gt;C28-C36</b>	<b>1660</b>	10.0	07/18/2020	ND						

Surrogate: 1-Chlorooctane 102 % 44.3-144

Surrogate: 1-Chlorooctadecane 351 % 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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>10000</b>	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			
<b>DRO &gt;C10-C28*</b>	<b>9130</b>	10.0	07/20/2020	ND	222	111	200	1.73	QM-07		
<b>EXT DRO &gt;C28-C36</b>	<b>2300</b>	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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>640</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>110</b>	10.0	07/20/2020	ND	222	111	200	1.73	
<b>EXT DRO &gt;C28-C36</b>	<b>83.6</b>	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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

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

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	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) 95.7 % 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	
<b>Chloride</b>	<b>28800</b>	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			
<b>DRO &gt;C10-C28*</b>	<b>14500</b>	50.0	07/20/2020	ND	222	111	200	1.73			
<b>EXT DRO &gt;C28-C36</b>	<b>4370</b>	50.0	07/20/2020	ND							

Surrogate: 1-Chlorooctane 107 % 44.3-144

Surrogate: 1-Chlorooctadecane 658 % 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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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
<b>Chloride</b>	<b>2040</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>296</b>	10.0	07/20/2020	ND	222	111	200	1.73	
<b>EXT DRO &gt;C28-C36</b>	<b>86.0</b>	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 106 % 44.3-144

Surrogate: 1-Chlorooctadecane 108 % 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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

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

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	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) 104 % 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
<b>Chloride</b>	<b>24400</b>	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		
<b>DRO &gt;C10-C28*</b>	<b>16500</b>	50.0	07/20/2020	ND	222	111	200	1.73		
<b>EXT DRO &gt;C28-C36</b>	<b>5100</b>	50.0	07/20/2020	ND						

Surrogate: 1-Chlorooctane 116 % 44.3-144

Surrogate: 1-Chlorooctadecane 738 % 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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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
<b>Chloride</b>	<b>3880</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>13.6</b>	10.0	07/20/2020	ND	222	111	200	1.73	
<b>EXT DRO &gt;C28-C36</b>	<b>12.4</b>	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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

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

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
<b>Chloride</b>	<b>10600</b>	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		
<b>DRO &gt;C10-C28*</b>	<b>18900</b>	50.0	07/20/2020	ND	222	111	200	1.73		
<b>EXT DRO &gt;C28-C36</b>	<b>5800</b>	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



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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>128</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>46.4</b>	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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\*=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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1500</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>839</b>	10.0	07/20/2020	ND	222	111	200	1.73	
<b>EXT DRO &gt;C28-C36</b>	<b>310</b>	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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>160</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>11.9</b>	10.0	07/20/2020	ND	222	111	200	1.73	
<b>EXT DRO &gt;C28-C36</b>	<b>14.0</b>	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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1230</b>	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		
<b>DRO &gt;C10-C28*</b>	<b>8490</b>	10.0	07/20/2020	ND	222	111	200	1.73		
<b>EXT DRO &gt;C28-C36</b>	<b>2450</b>	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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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
<b>Chloride</b>	<b>48.0</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>103</b>	10.0	07/20/2020	ND	222	111	200	1.73	
<b>EXT DRO &gt;C28-C36</b>	<b>74.4</b>	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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-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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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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1360</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>614</b>	10.0	07/20/2020	ND	222	111	200	1.73	
<b>EXT DRO &gt;C28-C36</b>	<b>156</b>	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



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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>23600</b>	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		
<b>DRO &gt;C10-C28*</b>	<b>15100</b>	50.0	07/20/2020	ND	222	111	200	1.73		
<b>EXT DRO &gt;C28-C36</b>	<b>5110</b>	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



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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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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\* = 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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>64.0</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>84.3</b>	10.0	07/20/2020	ND	222	111	200	1.73	
<b>EXT DRO &gt;C28-C36</b>	<b>39.9</b>	10.0	07/20/2020	ND					

Surrogate: 1-Chlorooctane 98.0 % 44.3-144

Surrogate: 1-Chlorooctadecane 112 % 42.2-156

Cardinal Laboratories

\*=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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

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

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	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, 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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\* = 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	Sampling Date:	07/16/2020
Reported:	07/21/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

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

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	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
<b>Chloride</b>	<b>64.0</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>89.8</b>	10.0	07/20/2020	ND	222	111	200	1.73	
<b>EXT DRO &gt;C28-C36</b>	<b>75.1</b>	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

Cardinal Laboratories

\*=Accredited Analyte

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*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: <b>Souder Miller &amp; Associates</b>		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager: <b>Lynn Acosta</b>		Company:					
Address: <b>201 S. Halaqueno St</b>		Attn:					
City: <b>Carlsbad</b>		Address:					
Phone #: <b>(505) 516-7469</b>		City:					
Project #: _____		State:					
Project Name: <b>Hognose Viver</b>		Zip:					
Project Location: <b>Jal, NM</b>		Phone #:					
Sampler Name: <b>A1/SO</b>		Fax #:					
FOR LAB USE ONLY		MATRIX		PRESERV.		SAMPLING	
		GROUNDWATER					
		WASTEWATER					
		SOIL					
		OIL					
		SLUDGE					
		OTHER :					
		ACID/BASE:					
		ICE / COOL					
		OTHER :					
Lab I.D.		(G)RAB OR (C)OMP.		DATE		TIME	
Sample I.D.		# CONTAINERS					
		GROUNDWATER					
		WASTEWATER					
		SOIL					
		OIL					
		SLUDGE					
		OTHER :					
		ACID/BASE:					
		ICE / COOL					
		OTHER :					
H001/803				7/16/20		9:08	
1		S1-Surface				X	
2		S1-1'				X	
3		S2-Surface				X	
4		S2-1'				X	
5		S3-Surface				X	
6		S3-1'				X	
7		S4-Surface				X	
8		S4-1'				X	
9		S5-Surface				X	
10		S5-1'				X	

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Relinquished By: *[Signature]* Date: **7/16/20** Time: **15:20**

Received By: *[Signature]* Date: \_\_\_\_\_ Time: \_\_\_\_\_

Turnaround Time: \_\_\_\_\_

Thermometer ID #113 Correction Factor None

Standard  Bacteria (only)  Sample Condition  Cool Intact  Observed Temp. °C  Yes  No  Corrected Temp. °C

Remarks: **1043**

Verbal Result:  Yes  No Add'l Phone #: \_\_\_\_\_

All Results are emailed. Please provide Email address: \_\_\_\_\_

Project Name: **Hognose Viver**

Project Location: **Jal, NM**

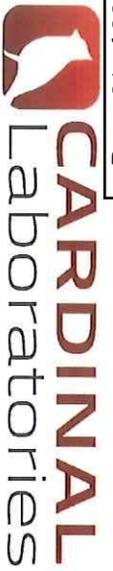
Sampler Name: **A1/SO**

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

Project Name: **Hognose Viver**

Project Location: **Jal, NM**

Sampler Name: **A1/SO**



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:		P.O. #:		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>					
Project Manager:		Company:									
Address:		Attn:									
City:		Address:									
Phone #:		City:									
Fax #:		State:									
Project #:		Zip:									
Project Name:		Phone #:									
Project Location:		Fax #:									
Sampler Name:											
FOR LAB USE ONLY											
Lab I.D.		Sample I.D.									
H001863											
11		S6-Surface		(G)RAB OR (C)OMP.				DATE		TIME	
12		S6-1'		# CONTAINERS				7/16/20		1020	
13		S7-Surface		GROUNDWATER						1031	
14		S7-1'		WASTEWATER						1025	
15		S8-Surface		SOIL		X				1035	
16		S8-1'		OIL						1030	
17		S9-Surface		SLUDGE						1044	
18		S9-1'		OTHER :						1054	
19		S10-Surface		ACID/BASE:						1050	
20		S10-1'		ICE / COOL						1046	
				OTHER :						1056	
<p>PLEASE NOTE: Liability and Damages, Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by clients, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.</p>											
Relinquished By:		Date:		Received By:							
[Signature]		7/16/20		[Signature]							
Time:		1530		Time:							
Date:		7/16/20		Date:							
Time:				Time:							
Delivered By: (Circle One)		Observed Temp. °C		Sample Condition		CHECKED BY:					
[Signature]		5.6		Cool Intact		[Signature]					
Sampler - UPS - Bus - Other:		Corrected Temp. °C		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		(Initials)					
						[Signature]					
Turnaround Time:		Standard		Bacteria (only)		Sample Condition					
		Rush		Cool Intact		Observed Temp. °C					
				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Corrected Temp. °C					
Thermometer ID #113		Correction Factor None		Add'l Phone #:							
				2013							
REMARKS:											

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





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---

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	Sampling Date:	09/05/2020
Reported:	09/09/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

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

**Chloride, SM4500CI-B** **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>16.0</b>	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, 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	09/08/2020	ND	416	104	400	8.00	

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

**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	09/08/2020	ND	416	104	400	8.00	

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

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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---

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, SM4500CI-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, 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	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

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1560</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>23.3</b>	10.0	09/02/2020	ND	225	113	200	2.08	
EXT DRO >C28-C36	<10.0	10.0	09/02/2020	ND					
<i>Surrogate: 1-Chlorooctane</i>	<i>91.9 %</i>	<i>44.3-144</i>							
<i>Surrogate: 1-Chlorooctadecane</i>	<i>93.4 %</i>	<i>42.2-156</i>							

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

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	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					
<i>Surrogate: 1-Chlorooctane</i>	<i>95.4 %</i>	<i>44.3-144</i>							
<i>Surrogate: 1-Chlorooctadecane</i>	<i>95.6 %</i>	<i>42.2-156</i>							

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

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

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	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, 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	09/02/2020	ND	432	108	400	3.77	

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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	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: 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					
<hr/>									
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					
<hr/>									
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	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: 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 LCS/D 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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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 Associates</u> Project Manager: <u>Cynn Acosta</u> Address: <u>201 S Halsey St</u> City: <u>Curbadd</u> State: <u>NM</u> Zip: <u>88200</u> Phone #: <u>(505) 516-7469</u> Fax #: _____ Project #: <u>WD# 20835626</u> Project Owner: <u>Devon</u> Project Name: <u>Hoguse Vineer 23 Fed #1H</u> Project Location: <u>Jal, NM</u> Sampler Name: <u>LAT</u>		P.O. #: <u>20835626</u> Company: <u>Devon Energy</u> Attn: <u>Lupe Carrasco</u> Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____	
Relinquished By: <u>F. Smith</u> Date: <u>8/1/20</u> Time: <u>11:22</u>		Received By: <u>Goodi Mumber</u> Date: _____ Time: _____	
Relinquished By: _____ Date: _____ Time: _____		Received By: _____ Date: _____ Time: _____	
Delivered By: (Circle One) <u>C</u> Observed Temp. °C <u>4.2</u> Corrected Temp. °C _____		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Bacteria (only) Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sampler - UPS - Bus - Other: _____ Corrected Temp. °C _____		CHECKED BY: <u>[Signature]</u> Turnaround Time: _____ Thermometer ID #113 _____ Correction Factor None _____ Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Add'l Phone #: _____ Bacteria (only) Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	
Verbal Results: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: _____ All Results are emailed. Please provide Email address: _____ REMARKS: <u>Cynn.acosta@soudermiller.com</u> <u>191042</u>			

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	DATE	TIME	TPH (8015)	CT
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :						
<u>HD02310</u>															
	<u>1</u>	<u>S1-2'</u>													
	<u>2</u>	<u>S1-3' (Hdd)</u>													
	<u>3</u>	<u>S1-3'</u>													
	<u>4</u>	<u>S3</u>													
	<u>5</u>	<u>S5-3'</u>													
	<u>6</u>	<u>S6-2'</u>													
	<u>7</u>	<u>S7-2'</u>													
	<u>8</u>	<u>S10-2'</u>													
	<u>9</u>	<u>S11-2'</u>													
	<u>10</u>	<u>S12-2'</u>													
	<u>11</u>	<u>S1-4' (Hdd)</u>													





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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". The signature is written in a cursive 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:	11/12/2020	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

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

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	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 BTEX	<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	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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

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

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	11/13/2020	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	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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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, 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 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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

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

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	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, 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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**Analytical Results For:**

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

Received:	11/12/2020	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

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

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	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	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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**Analytical Results For:**

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

Received:	11/12/2020	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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, 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 85.1 % 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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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, 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 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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

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

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	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, 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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

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

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	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, 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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

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

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	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	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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-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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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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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, 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	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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**Analytical Results For:**

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

Received:	11/12/2020	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

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

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	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, 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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

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

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	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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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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**Analytical Results For:**

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

Received:	11/12/2020	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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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**Analytical Results For:**

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

Received:	11/12/2020	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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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\*=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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>144</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>132</b>	10.0	11/13/2020	ND	242	121	200	18.7	
<b>EXT DRO &gt;C28-C36</b>	<b>44.7</b>	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



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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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>112</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>47.7</b>	10.0	11/13/2020	ND	242	121	200	18.7	
<b>EXT DRO &gt;C28-C36</b>	<b>11.8</b>	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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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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>368</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>55.9</b>	10.0	11/13/2020	ND	242	121	200	18.7	
<b>EXT DRO &gt;C28-C36</b>	<b>12.1</b>	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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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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

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

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	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, 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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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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>784</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>20.6</b>	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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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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>320</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>43.8</b>	10.0	11/13/2020	ND	242	121	200	18.7	
<b>EXT DRO &gt;C28-C36</b>	<b>14.3</b>	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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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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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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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, 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 88.7 % 44.3-144

Surrogate: 1-Chlorooctadecane 84.4 % 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	Sampling Date:	11/11/2020
Reported:	11/16/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	** (See Notes)
Project Number:	WO# 20835626	Sample Received By:	Jodi Henson
Project Location:	DEVON ENERGY - JAL, NM		

**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, 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 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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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: <i>Souder Miller &amp; Associates</i> Project Manager: <i>Ashley Maxwell</i> Address: <i>201 S. Halagrove St.</i> City: <i>Carlsbad</i> State: <i>NM</i> Zip: <i>88220</i> Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____ Project Name: <i>Hognose Upper 23 Feeder 1 1H</i> Project Location: _____ State: _____ Zip: _____ Sampler Name: <i>SA</i> Phone #: _____ Fax #: _____		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>	
P.O. #: _____ Company: _____ Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____					
Lab I.D. <b>Sample I.D.</b> <i>HDD3008</i>		(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER: _____		MATRIX ACID/BASE: ICE / COOL OTHER: _____	
FOR LAB USE ONLY 1 2 3 4 5 6 7 8 9 10		CS1 CS2 CS3 CS4 CS5 CS6 CS7 CS8 CS9 CS10		DATE TIME 11/11 9:00 9:05 9:10 9:15 9:25 9:30 9:35 9:40 9:45 9:50	
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Relinquished By: <i>Shirley J. Stearns</i> Date: <i>11/21/20</i> Time: <i>15:00</i> Received By: <i>Spodi Munson</i> Date: _____ Time: _____		Observed Temp. °C <i>8.8</i> Corrected Temp. °C _____ Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Checked By: <i>[Signature]</i>		Delivered By: (Circle One) UPS - Bus - Other: _____ Corrected Temp. °C _____ Thermometer ID #113 Correction Factor None <input type="checkbox"/>	



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <i>Sander Miller &amp; Associates</i> Project Manager: <i>Ashley Maxwell</i> Address: <i>201 S. Holgreve St.</i> City: <i>Carlsbad</i> State: <i>NM</i> Zip: <i>88220</i> Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____ Project Name: <i>Hogness Upper 85 Steeler 1 H</i> Project Location: _____ Sampler Name: <i>50</i> FOR LAB USE ONLY		P.O. #: _____ Company: _____ Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____	
Lab I.D. <i>H032008</i> Sample I.D.		BILL TO ANALYSIS REQUEST	
(G)RAB OR (C)OMP. # CONTAINERS MATRIX: GROUNDWATER, WASTEWATER, SOIL, OIL, SLUDGE, OTHER: PRESERV: ACID/BASE, ICE / COOL, OTHER:		DATE TIME	
CS11 CS12 CS13 CS14 CS15 CS16 CS17 CS18 CS19 SW1		11/11 9:55 10:05 10:10 10:15 10:20 10:25 10:30 10:35 10:40	
X X X X X X X X X X		BTEX TPH CI	
Relinquished By: <i>[Signature]</i> Date: _____ Time: _____ Received By: <i>[Signature]</i> Date: _____ Time: _____		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: _____ All Results are emailed. Please provide Email address: _____ REMARKS:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: _____ Observed Temp. °C <i>8.8</i> Corrected Temp. °C _____ Sample Condition: Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>		CHECKED BY: <i>[Signature]</i> Initials: _____ Turnaround Time: _____ Standard <input type="checkbox"/> Rush <input type="checkbox"/> Thermometer ID #113 <input type="checkbox"/> Bacteria (only) <input type="checkbox"/> Correction Factor None <input type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sample Condition Observed Temp. °C Corrected Temp. °C	

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



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <i>Sander Miller &amp; Associates.</i> Project Manager: <i>Ashley Maxwell</i>		P.O. #: Company:										
Address: <i>201 S. Halogren St.</i> City: <i>Carlsbad</i> State: <i>NM</i> Zip: <i>88220</i>		Attn: Address: City: State: Zip:										
Phone #: Fax #: Project #: Project Owner:		Phone #: Zip: Fax #:										
Project Name: <i>Hognose Upper 23 Federal 114</i> Project Location:		State: Zip:										
Sampler Name: <i>50</i>		Phone #:										
FOR LAB USE ONLY												
Lab I.D. <i>HD03008</i>  Sample I.D.	21 <i>SW2</i>	(G)RAB OR (C)OMP <input checked="" type="radio"/>	# CONTAINERS 1	DATE 11/11	TIME 11:05	X BTEX						
	22 <i>SW3</i>				11:10	X						
	23 <i>SW4</i>				11:15	X						
	24 <i>SW5</i>				11:20	X						
	25 <i>SW6</i>				11:25	X						
	26 <i>SW7</i>				11:30	X						
	27 <i>SW8</i>				11:35	X						
	28 <i>SW9</i>				11:40	X						
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	Releashed By: <i>[Signature]</i> Date: Time:		Received By: <i>[Signature]</i> Date: Time:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #:		All Results are emailed. Please provide Email address:					
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C: <i>8.8</i> Corrected Temp. °C:		Sample Condition Cool Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: <i>[Signature]</i> (Initials)		Turnaround Time: <input type="checkbox"/> Standard <input type="checkbox"/> Rush		Bacteria (only) Sample Condition Cool Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		
REMARKS:												

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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".

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:	11/25/2020	Sampling Date:	11/23/2020
Reported:	12/01/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

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

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	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) 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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**Analytical Results For:**

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

Received:	11/25/2020	Sampling Date:	11/23/2020
Reported:	12/01/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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	Sampling Date:	11/23/2020
Reported:	12/01/2020	Sampling Type:	Soil
Project Name:	HOGNOSE VIPER 23 FED #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY - JAL, NM		

**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, SM4500CI-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

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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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Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: *SMA - Carlsbad* P.O. #: \_\_\_\_\_  
 Project Manager: *Ashley Maxwell* Company: \_\_\_\_\_  
 Address: *Zel. S. Hargrove* Attn: \_\_\_\_\_  
 City: *Carlsbad* State: *NM* Zip: *88220* Address: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_ City: \_\_\_\_\_  
 Project #: \_\_\_\_\_ Project Owner: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Project Name: *Hognose Viper Z3 Fed 1H* Phone #: \_\_\_\_\_  
 Project Location: \_\_\_\_\_ Fax #: \_\_\_\_\_  
 Sampler Name: \_\_\_\_\_  
 FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:			
<i>ADD3119</i>	<i>CSIS</i>	<i>✓</i>	<i>1</i>			<i>X</i>					<i>11:23</i>	<i>11:30</i>	<i>BTEX (8021)</i>
	<i>SW1</i>	<i>✓</i>	<i>2</i>			<i>X</i>					<i>11:35</i>	<i>11:35</i>	<i>TPH: 8015D</i>
	<i>SW5</i>	<i>✓</i>	<i>3</i>			<i>X</i>					<i>11:40</i>	<i>11:40</i>	<i>✓</i>

PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: *Ami Smith* Date: *11-25-20* Received By: *Juanita Delatorre* Date: *11-05*  
 Turnaround Time: \_\_\_\_\_ Verbal Result:  Yes  No Add'l Phone #: \_\_\_\_\_  
 All Results are emailed. Please provide Email address: *Ashley.Maxwell@Socarmiller.com*  
 REMARKS: \_\_\_\_\_  
 Standard  Bacteria (only) Sample Condition  
 Rush  Cool Intact Observed Temp. °C  
 Yes  No Corrected Temp. °C  
 Thermometer ID #113  
 Correction Factor None  
 Turnaround Time: \_\_\_\_\_  
 Checked By: *pe* (Initials)  
 Sample Condition:  Cool  Intact  
 Yes  No  Yes  No  
 Delivered By: (Circle One) Observed Temp. °C *5.9* Corrected Temp. °C \_\_\_\_\_  
 Sampler - UPS - Bus - Other: \_\_\_\_\_  
 Cardinal cannot accept verbal changes. Please email changes to [celey.keene@cardinallabsnm.com](mailto:celey.keene@cardinallabsnm.com)

# APPENDIX E PHOTO LOG

W NW N  
*Received by OCD: 7/27/2023 2:24 Page 119 of 130*

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



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

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



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10.59



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



SE

S

SW

Received by OCD: 7/27/2023 2:24 Page 123 of 130

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



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.

NE

E

SE

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



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E

SE

S

Received by OCD: 7/27/2023 2:24 Page 125 of 130

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



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.

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



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1:01

© 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



S SW W  
*Received by OCD: 7/27/2023 2:24 Page 129 of 130*

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



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**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