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

June 8, 2020

#5E29133-BG9

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

SUBJECT: Remediation Closure Report for the Horned Viper 20 Federal Com 1H Release (1RP-4922), Lea County, New Mexico

To Whom it May Concern:

On behalf of Devon Energy Production (Devon), 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 Horned Viper 20 Federal Com 1H site. The site is in Unit N, Section 20, Township 23S, Range 33E, Lea County, New Mexico, on privately-owned 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	Horned Viper 20 Federal Com 1H	Company	Devon Energy Production
API Number	30-025-41913	Location	32.28351, -103.59811
Incident Number	(1RP-4922)		
Estimated Date of Release	12/26/2017	Date Reported to NMOCD	12/27/2017
Land Owner	Privately-Owned	Reported To	NMOCD District 1
Source of Release	Flat plug on isolation valve left open		
Released Volume	9 bbls	Released Material	Crude Oil
Recovered Volume	8.75 bbls	Net Release	0.25 bbls
NMOCD Closure Criteria	>100 feet to groundwater		
SMA Response Dates	3/20/2020, 5/27- 5/29/2020		

1.0 Background

On December 26, 2017, a release was discovered at the Horned Viper 20 Federal Com 1H site due to a flat plug being left out of a connection and an isolation valve being left open. A circulation pump was on auto timer and turned on causing the spill. Approximately 9 barrels of oil were released with 6.5 barrels being captured by the lined SPCC containment ring and 2.5 barrels escaping containment but staying on the well pad. Initial response activities were conducted by Devon personnel, and included source elimination by isolating and shutting in all lines. For site stabilization, a vacuum truck was dispatched which recovered approximately 8.75 barrels of fluid. After fluids were removed, the liner was visually inspected by Devon field staff who found the liner to be intact and was able to contain the leak in question. 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 Horned Viper 20 Federal Com 1H is located approximately 26 miles northwest of Jal, New Mexico on privately-owned land at an elevation of approximately 3,712 feet above mean sea level (amsl).

Based upon New Mexico Office of the State Engineer (NMOSE) (Appendix B), depth to groundwater in the area is estimated to be 415 feet below grade surface (bgs) after adjusting for elevation differences between water well locations and the release site. There is one known water source within ½-mile of the location, according to the NMOSE online water well database (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 3/13/2020). The nearest significant watercourse is Bell Lake, located approximately 3.4 miles to the southeast. Figure 2 illustrates the site with 200 and 300-foot radii to indicate that it does not lie within a sensitive area as described in 19.15.29.12.C(4) NMAC.

Based on the information presented herein, the applicable NMOCD Closure Criteria for this site is for a groundwater depth of greater than 100 feet bgs. The site has been restored to meet the standards of Table I of 19.15.29.12 NMAC.

Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

3.0 Release Characterization and Remediation Activities

On March 20, 2020, SMA personnel arrived on site in response to the release associated with Horned Viper 20 Federal Com 1H. SMA performed site delineation activities by collecting soil samples around the release site. Soil samples were field screened for chloride using an electrical conductivity (EC) meter and for hydrocarbon impacts using a calibrated MiniRAE 3000 photoionization detector (PID) equipped with a 10.6 eV lamp.

A total of eight sample locations (S1-S4 and SW1-SW4) were investigated using a hand-auger, to depths up to half a (0.5) foot bgs. A total of 12 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 3, results indicated that an area approximately 26 feet by 18 feet by 1 foot deep had been impacted.

On May 27, 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. The walls and base were excavated until field screening results indicated that the NMOCD Closure Criteria would be met. NMOCD was notified on May 27, 2020 that closure samples were expected to be collected in two (2) business days.

At the request of Devon Energy, on May 29, 2020, SMA conducted a liner integrity inspection per the requirements of 19.15.29.11.A(5)(a) NMAC. NMOCD was notified on May 27, 2020 that the liner inspection was to occur. After a thorough visual inspection of the liner for the tank battery containment, SMA concluded that the liner appeared to be intact and had the ability to contain the leak in question. A photo log and field notes of the inspection is included in Appendix C.

On May 29, 2020, SMA conducted confirmation sampling of the walls and base of the excavation, which measured approximately 26 feet by 18 feet, and to a depth of one (1) foot bgs.

Confirmation samples were comprised of five-point composites of the base (CS1, CS2, CS3) and walls (SW1, SW2, SW3).

A total of six (6) samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D. Laboratory samples were collected in accordance with the sampling protocol included in Appendix C. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico.

Figure 3 shows the extent of the excavation and sample locations. Initial laboratory results are listed in Table 3a, and final laboratory results are included in Table 3b. Laboratory reports are included in Appendix D.

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 R360 Environmental Solutions near Hobbs, NM, an NMOCD permitted disposal facility.

5.0 Scope and Limitations

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

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

Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:

Ashley Maxwell
Project Manager

Shawna Chubbuck
Senior Scientist

ATTACHMENTS:

Figures:

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

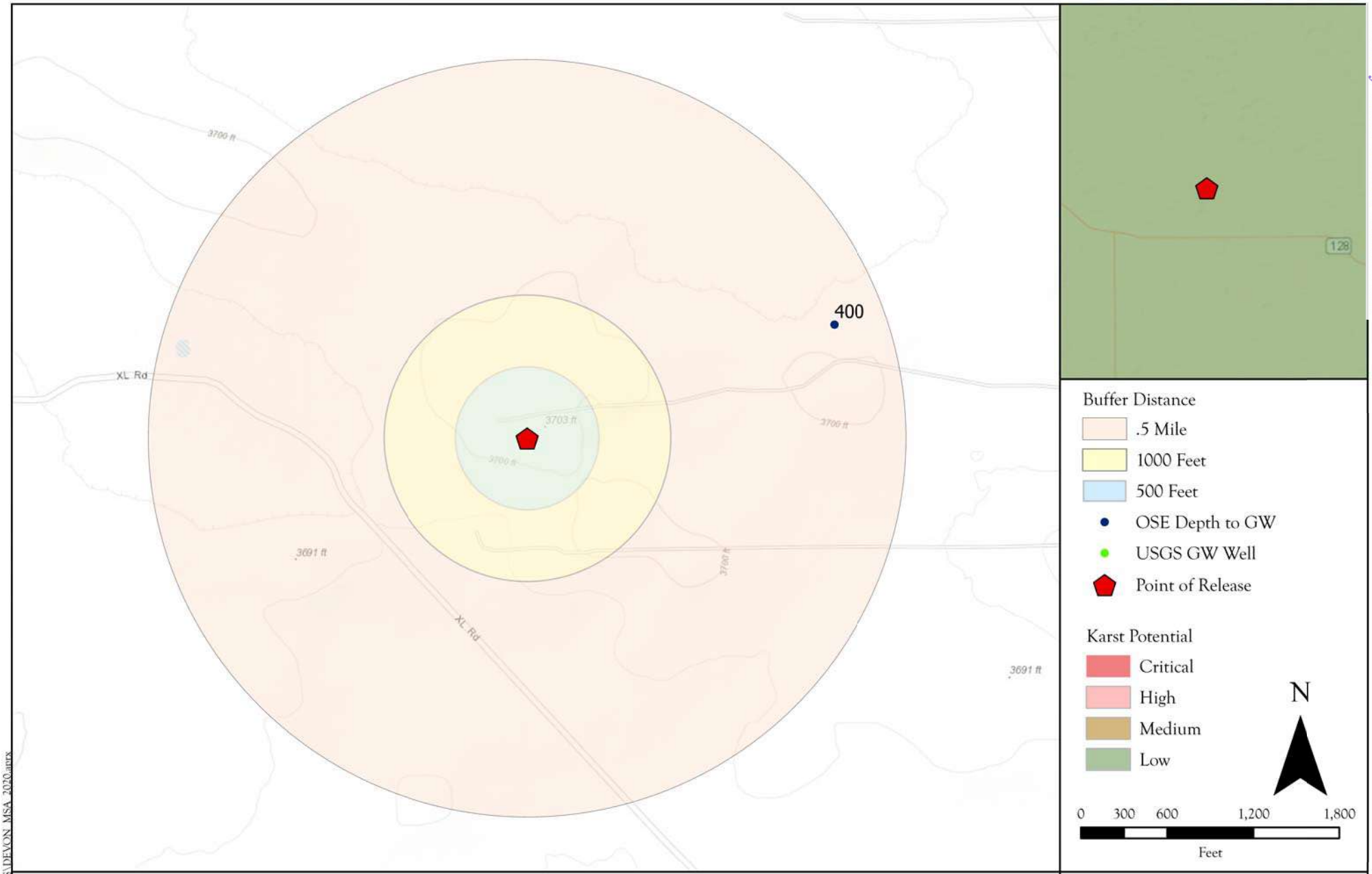
Tables:

Table 2: NMOCD Closure Criteria Justification
Table 3a: Summary of Initial Sample Results
Table 3b: Summary of Final Sample Results

Appendices:

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

FIGURES



Site Map

Horned Viper 20 Federal Com 1H- Devon Energy

UL: N S: 20 T: 23S R: 33E, Lea County, New Mexico

Figure 1

P:\5-Devon MSA 2020 (5E29133)\GIS\DEVON_MSA_2020.mxds
Date Saved: 4/22/2020

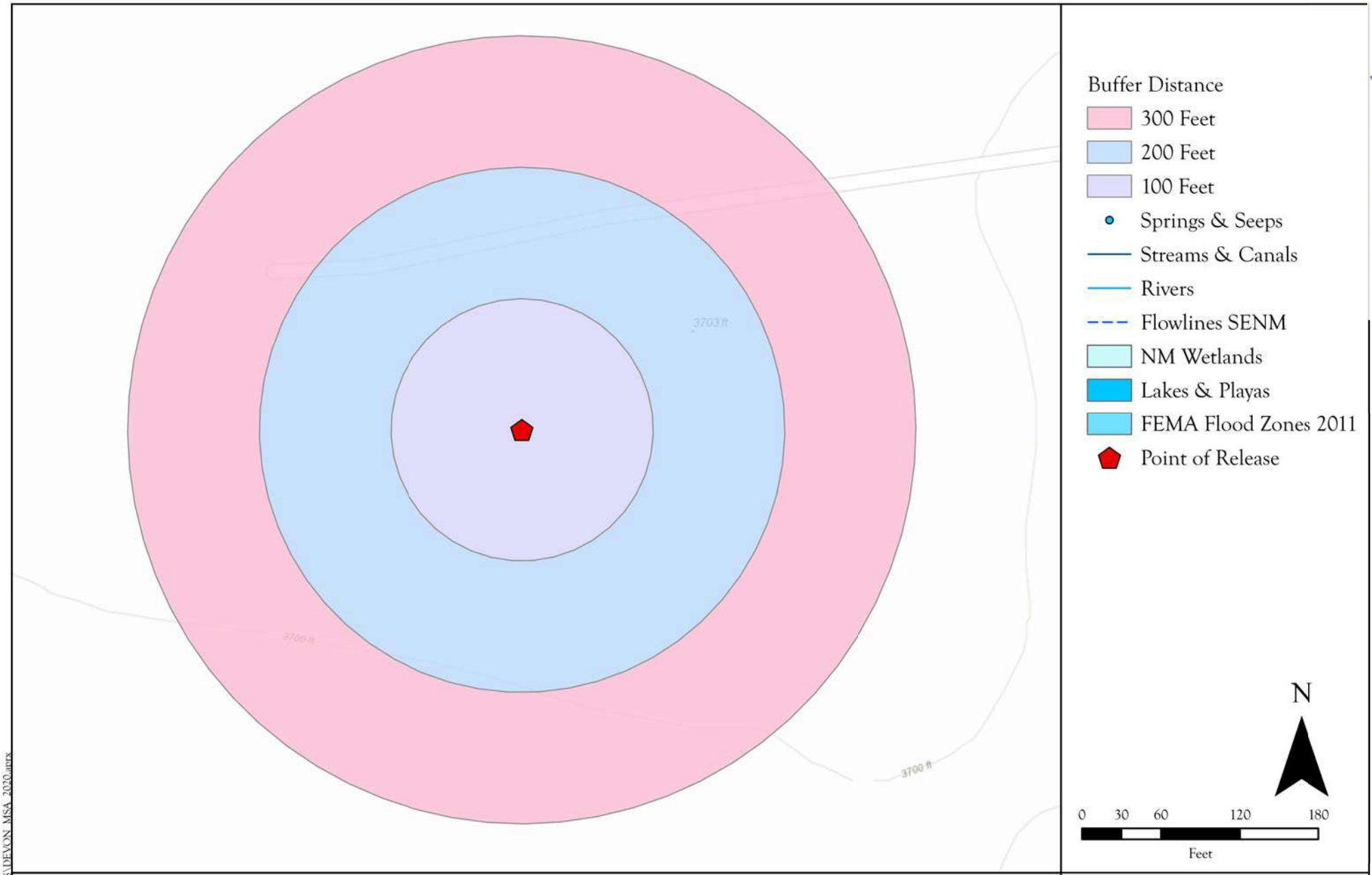
Revisions

By:_____ Date:_____ Descr:_____

By:_____ Date:_____ Descr:_____

Drawn	Brent Jackson
Date	4/23/2020
Checked	
Approved	

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



Surface Water Protection Map
Horned Viper 20 Federal Com 1H - Devon Energy
UL: N S: 20 T: 23S R: 33E Lea County, New Mexico

Figure 2

P:\5-Devon MSA 2020 (5E29133)\GIS\DEVON_MSA_2020.mxds
Date Saved: 4/22/2020

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

Drawn Brent Jackson
Date 4/23/2020
Checked
Approved

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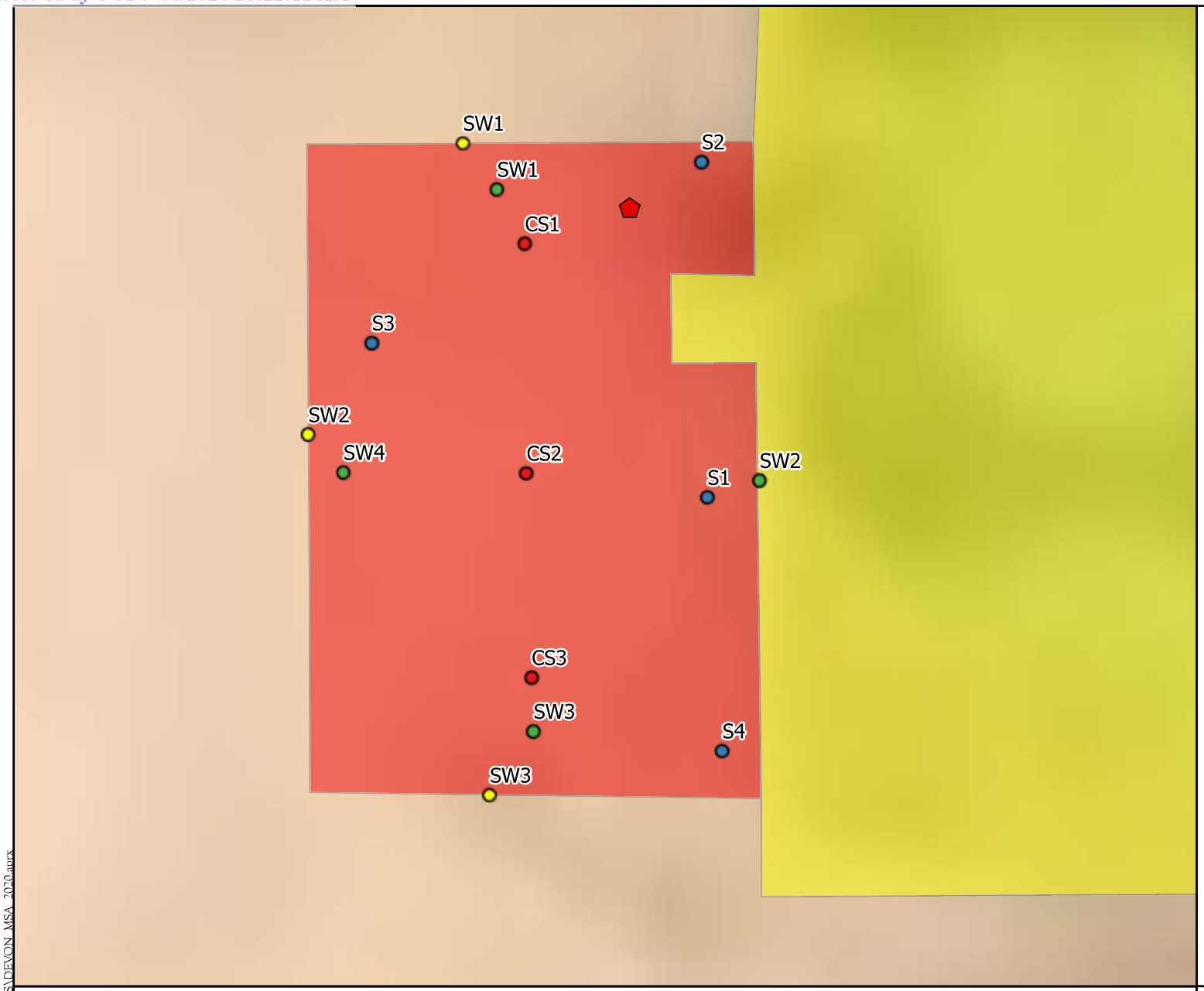

Excavated Area

Equipment

Sample Points

- Bottom Hole Closure Samples
- Initial Side Wall Samples
- Initial Soil Samples
- Side Wall Closure Samples
- Point of Release (1RP-4922)

N

0 2 4 8 12

Feet

Site and Sample Location Map
Horned Viper 20 Federal Com 1H - Devon Energy
32.28351N, 103.59811W Lea County, New Mexico

Figure 3

P:\5-Devon MSA 2020\(5F29133)\GIS\DEVON_MSA_2020.aprx
Date Saved: 6/5/2020

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

Drawn Sebastian Orozco
Date 6/8/2020
Checked
Approved

SMA

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

Table 2:
NMOCD Closure Criteria

Devon Energy Production
Horned Viper 20 Federal Com 1H
(1RP-4922)

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	415	NMOSE/ Adjusted for elevation
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	2300	C-02277 to Northeast
Hortizontal Distance to Nearest Significant Watercourse (miles)	3.4	Bell Lake to Southeast

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

SMA #

Table 3:
Summary of Initial Sample Results

Devon Energy Production
Horned Viper 20 Federal Com 1H
(1RP-4922)

Sample ID	Sample Date	Depth (feet bgs)	Proposed Action	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		2500	20000
S1	3/20/2020	Surface	Excavate	<0.221	<0.025	<4.9	**3500**	**3500**	**2000**	**5500**	110
		0.5	In-Situ	<0.21	<0.023	<4.7	49	49	<45	49	150
S2		Surface	In-Situ	<0.222	<0.025	<4.9	52	52	120	172	<60
		0.5		<0.221	<0.025	<4.9	<9.9	<14.8	<50	<64.8	<60
S3		Surface	In-Situ	<0.208	<0.023	<4.6	30	30	61	91	<60
		0.5		<0.221	<0.025	<4.9	<8.8	<13.7	<44	<57.7	<60
S4		Surface	In-Situ	<0.219	<0.024	<4.9	<8.8	<13.7	<44	<57.7	110
		0.5		<0.22	<0.024	<4.9	<9.1	<14	<46	<60	430
SW1		Surface	In-Situ	<0.224	<0.025	<5.0	400	400	360	760	290
SW2		Surface		<0.213	<0.024	<4.7	12	12	<47	12	<60
SW3		Surface	Excavate	<0.217	<0.024	<4.8	**1600**	**1600**	<440	**1600**	<60
SW4		Surface	In-Situ	<0.217	<0.024	<4.8	30	30	<47	30	120

"--" = Not Analyzed

SMA #

Table 3b:
Summary of Closure
Sample Results

Devon Energy Production
Horned Viper 20 Federal Com 1H
(1RP-4922)

Sample ID	Sample Date	Depth (feet bgs)	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		2500	20000
CS1	5/29/2020	1	<0.225	<0.025	<5.0	<9.5	<14.5	<48	<62	100
CS2			<0.221	<0.025	<4.9	<9.6	<14.5	<48	<62.5	200
CS3			<0.221	<0.025	<4.9	<9.9	<14.8	<50	<64.8	110
SW1		0-1	<0.222	<0.025	<4.9	<9.3	<14.2	<46	<60.2	85
SW2			<0.222	<0.025	<4.9	<9.3	<14.2	<48	<62.2	79
SW3			<0.224	<0.025	<5.0	<9.7	<14.7	<48	<62.7	<60

"--" = Not Analyzed

SMA #

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

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

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Devon Energy Production Company	Contact Rebecca Jamison, Production Foreman
Address 6488 Seven Rivers Hwy, Artesia NM 88210	Telephone No. 575-513-5538
Facility Name Horned Viper 20 Federal Com 1H	Facility Type Oil

Surface Owner Private	Mineral Owner Federal	API No. 30-025-41913

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	20	23S	33E					Lea

Latitude 32.28351 **Longitude** -103.59811 NAD83

NATURE OF RELEASE

Type of Release Oil	Volume of Release 9BBLS Oil	Volume Recovered 8.75BBLS Oil
Source of Release Flat plug on isolation valve	Date and Hour of Occurrence 12/26/2017 @ 8:50PM MST	Date and Hour of Discovery 12/26/2017 @ 8:50PM MST
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? BLM-Shelly Tucker OCD-Olivia Yu	
By Whom? Mike Shoemaker, EHS Professional	Date and Hour BLM-12/27/2017 @ 6:58PM MST (via e-mail) OCD-12/27/2017 @ 6:58PM MST (via e-mail)	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

RECEIVED
By Olivia Yu at 8:51 am, Jan 10, 2018

If a Watercourse was Impacted, Describe Fully.* N/A

Describe Cause of Problem and Remedial Action Taken.*
A flat plug was left out of a connection and an isolation valve was left open. The circulating pump was on auto on the timer and it kicked on causing the spill. All lines were isolated and shut in to prevent any further release. A vacuum truck was dispatched to collect any standing fluid.

Describe Area Affected and Cleanup Action Taken.*
Approximately 9 bbls of a bs/oil mixture was released. Approximately 6.5 bbls was released into the lined SPCC containment ring and approximately 2.5 bbls went outside the containment but stayed on location. Approximately 8.75 bbls of oil was recovered via dispatched vacuum truck. Once fluids were removed the liner was visually inspected by Devon field staff for any pinholes or punctures and none were found. An environmental contractor will be contacted to assist with delineation and remediation of the area affected outside of the containment.

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

Signature: Dana DeLaRosa	OIL CONSERVATION DIVISION Approved by Environmental Specialist:
Printed Name: Dana DeLaRosa	
Title: Field Admin Support	Approval Date: 1/10/2018 Expiration Date:
E-mail Address: dana.delarosa@dvn.com	Conditions of Approval: see attached directive Attached ☑
Date: 1/9/2018 Phone: 575.746.5594	

* Attach Additional Sheets If Necessary

1RP-4922 nOY1801032219 pOY1801033844

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _1/9/2018_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number _1RP-4922__ has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs____ on or before _2/10/2018_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

● Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

● Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

● Nominal detection limits for field and laboratory analyses must be provided.

● Composite sampling is not generally allowed.

● Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

●Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

● If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

● Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

Horned Viper 20 Fed Com 1H

9BBLS Oil_12.26.2017

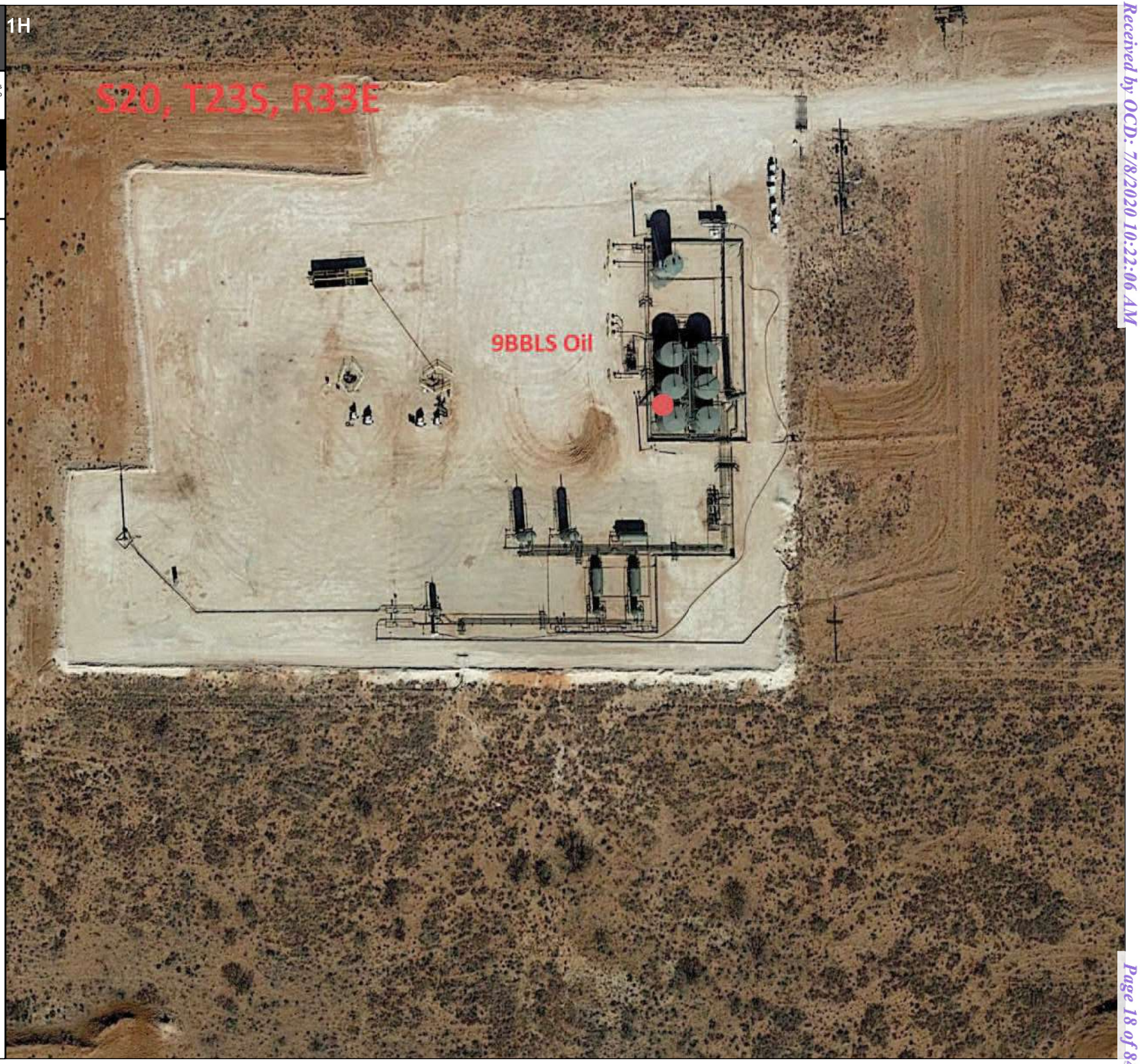
devon

This map is for illustrative purposes only and is neither a legally recorded map nor survey and is not intended to be used as one. Devon makes no warranty, representation, or guarantee of any kind regarding this map.

WGS_1984_Web_Mercator_Auxiliary_Sphere
Prepared by: Dana DeLaRosa
Map is current as of: 04-Jan-2018

N

Miles
0 0.00 0.01 0.02 1: 889



State of New Mexico
Oil Conservation Division

Incident ID	nOY1801032219
District RP	1RP-4922
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?	415 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nOY1801032219
District RP	1RP-4922
Facility ID	
Application ID	

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

Printed Name: Tom Bynum Title: EHS Consultant/Contractor

Signature: Tom Bynum Date: 6/8/2020

email: tom.bynum@dvn.com Telephone: 575-748-0176

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	nOY1801032219
District RP	1RP-4922
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Tom Bynum Title: EHS Consultant/Contractor

Signature: Tom Bynum Date: 6/8/2020

email: tom.bynum@dvn.com Telephone: 575-748-0176

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Brittany Hall Date: 9/20/2022

Printed Name: Brittany Hall Title: Environmental Specialist

APPENDIX B
NMOSE WELLS REPORT

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02277		CUB	LE	2	3	4	20	23S	33E	632663	3572970*	694	550	400	150
C 02276		CUB	LE	3	1	4	19	23S	33E	630848	3573154*	1242	650	400	250
C 02275		CUB	LE	3	3	2	19	23S	33E	630843	3573557*	1436	650	400	250

Average Depth to Water: **400 feet**

Minimum Depth: **400 feet**

Maximum Depth: **400 feet**

Record Count: 3

UTMNAD83 Radius Search (in meters):

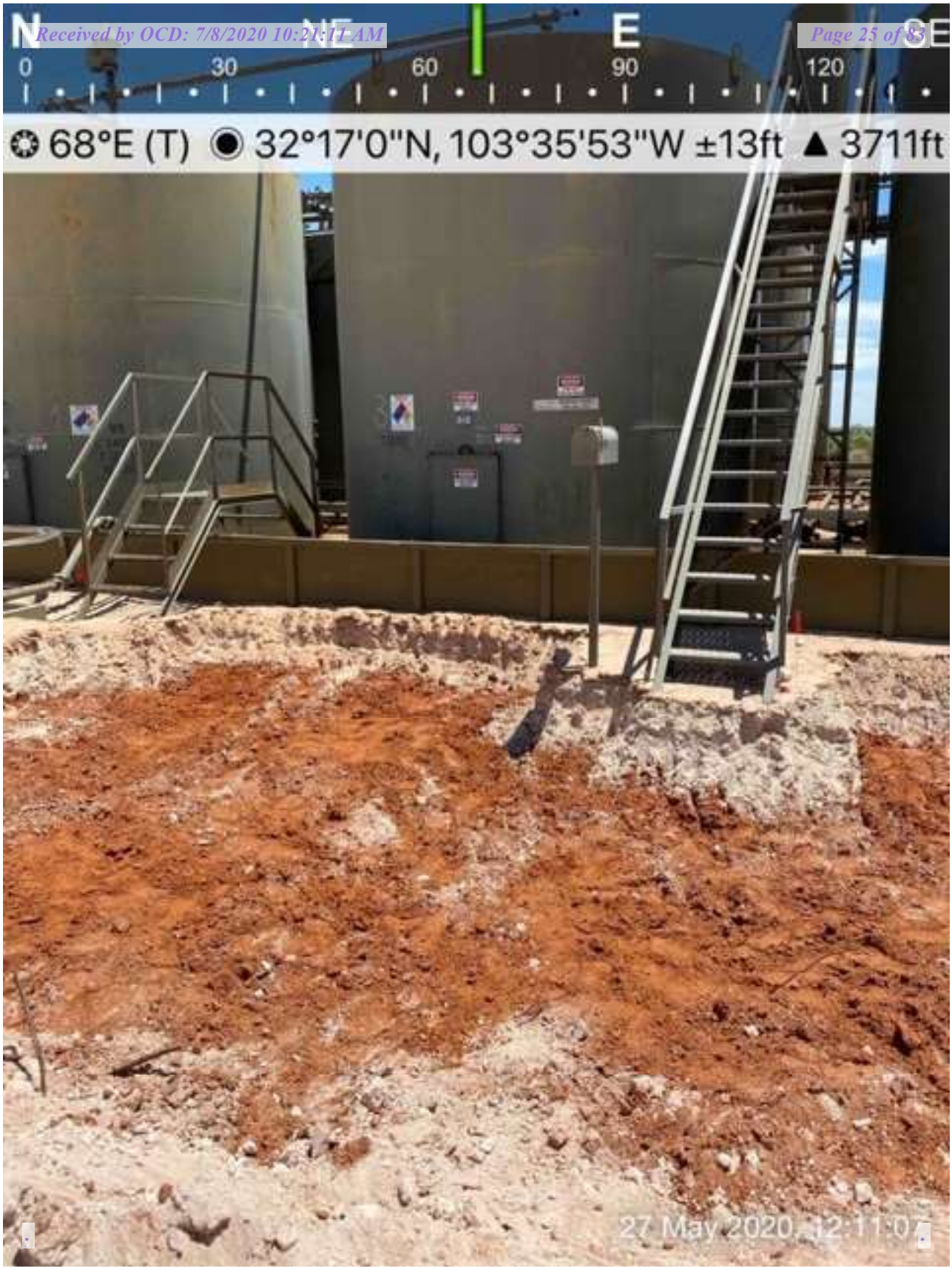
Easting (X): 632013.501 **Northing (Y):** 3572723.46 **Radius:** 1600

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

3/13/20 11:08 AM

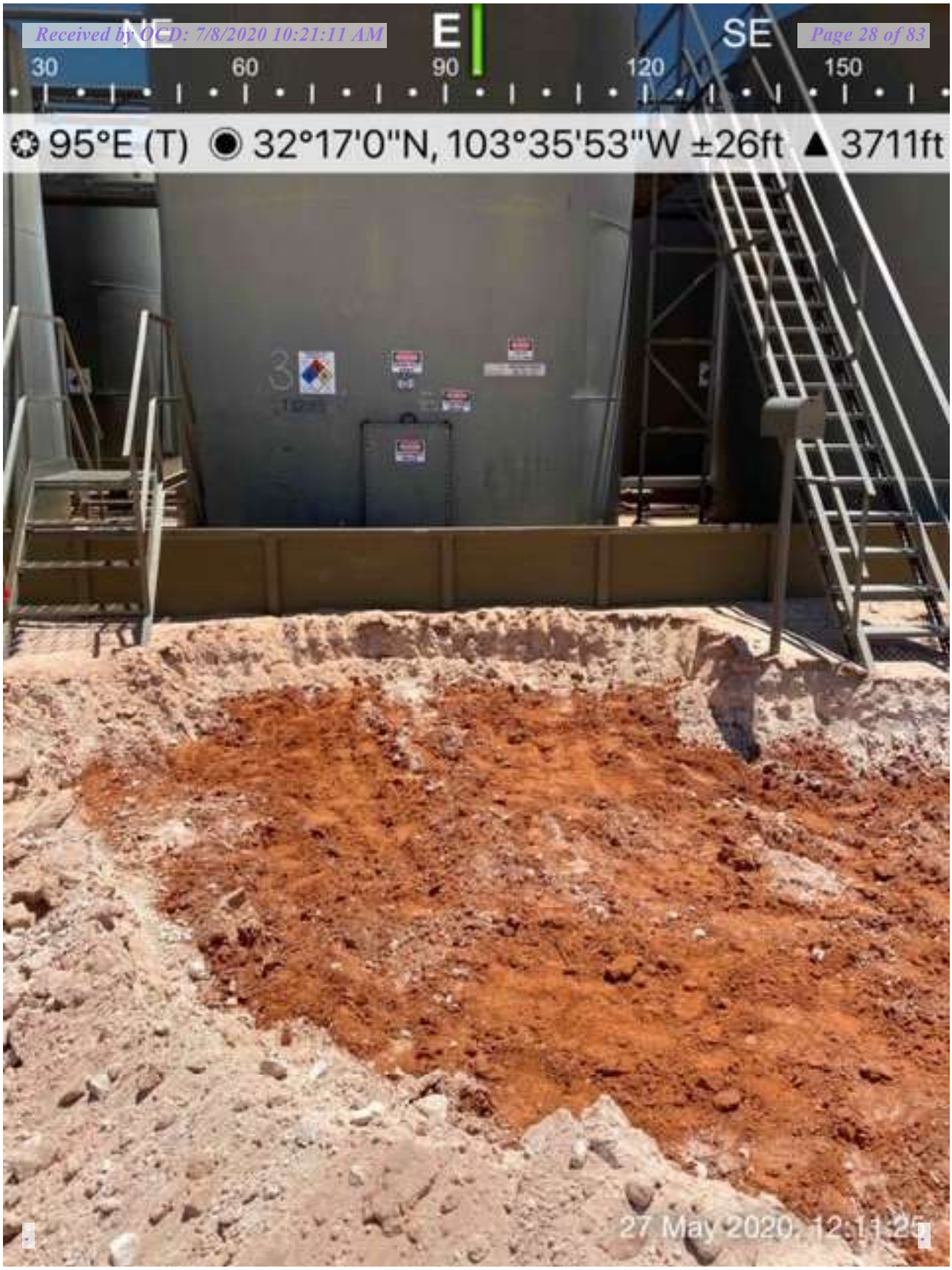
WATER COLUMN/ AVERAGE DEPTH TO WATER

APPENDIX C
PHOTO LOG


Received by OCD: 7/8/2020 10:21:11 AM
Page 25 of 83
N
NE
E
SE
0
30
60
90
120
68°E (T)
32°17'0"N, 103°35'53"W ±13ft
3711ft
27 May 2020 12:11:07


Received by OCD: 7/8/2020 10:21:11 AM
Page 26 of 83
E
SE
S
90
120
150
180
210
146°SE (T)
32°17'0"N, 103°35'53"W ±13ft
3711ft
27 May 2020, 12:11:1


Received by OCD: 7/8/2020 10:21:11 AM
Page 27 of 83
E
SE
S
60
90
120
150
180
126°SE (T)
32°17'0"N, 103°35'53"W ±16ft
3711ft
27 May 2020, 12:11:22


Received by OCD: 7/8/2020 10:21:11 AM
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NE
E
SE
30
60
90
120
150
95°E (T)
32°17'0"N, 103°35'53"W ±26ft
3711ft
27 May 2020, 12:11:25

Souder, Miller & Associates
Liner Inspection Form

Project Name: Horned Viper 20 Fed 1H Inspection Date: 5/29/20

Client Name: Devon Energy

Client Representative(s): _____

SMA Inspector(s): Sebastian Orozco

Project Location: Rural Lea County Latitude: 32.28351 Longitude: -103.59811

Inspection Parameters as Outlined in 19.15.29.11.A(5) NMAC

PRIOR TO INSPECTION:

Two (2) Business Day Notification of Inspection to Appropriate Division Office (Y/N): ___
Date of Notice: 5/27/20

Material Covering Liner Removed by Client (Y/N): ___

Affected Areas Exposed by Client (Y/N): ___

INSPECTION:

Liner Thoroughly Inspected for Damage (Y/N): ___

All Damaged Areas Observed Marked in **White Paint** on Liner
Photos and Field Notes Detailing Failures Attached to This Form

To Be Completed by Client Representative:

Can Responsible Party Demonstrate:

Liner Integrity Was Maintained (per SMA Inspection) (Y/N): ___
Release Was Contained to Lined Containment Area (Y/N): ___
Liner Was Able to Contain the Leak (Y/N): ___

If **YES**:

Certify on Form C-141 That Liner Remains Intact

If **NO** to Any of Above:

Responsible Party Must Delineate Horizontal & Vertical Extent
Depending on Release:
See Table 1 19.15.29.12 NMAC
See Subparagraph (e) Paragraph (5) of Subsection A 19.15.29.11 NMAC

Additional Comments:

SMA INSPECTOR SIGNATURE

Sebastian Orozco
Date: 5/29/20

CLIENT REPRESENTATIVE

_____
Date: _____


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Received by OCD: 7/8/2020 10:22:06 AM
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APPENDIX D

LABORATORY ANALYTICAL REPORTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 30, 2020

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

RE: Horned Viper 20 Fed Com 1H OrderNo.: 2003A95

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 12 sample(s) on 3/25/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2003A95**
Date Reported: **3/30/2020**

CLIENT: Souder, Miller & Associates
Client Sample ID: S1-Surface
Project: Horned Viper 20 Fed Com 1H
Collection Date: 3/20/2020 10:56:00 AM
Lab ID: 2003A95-001 **Matrix:** SOIL
Received Date: 3/25/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	110	60		mg/Kg	20	3/27/2020 4:46:12 AM	51356
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/27/2020 4:08:01 AM	51320
Surr: BFB	95.0	70-130		%Rec	1	3/27/2020 4:08:01 AM	51320
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	3500	86		mg/Kg	10	3/26/2020 10:38:21 AM	51325
Motor Oil Range Organics (MRO)	2000	430		mg/Kg	10	3/26/2020 10:38:21 AM	51325
Surr: DNOP	0	55.1-146	S	%Rec	10	3/26/2020 10:38:21 AM	51325
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	3/27/2020 4:08:01 AM	51320
Toluene	ND	0.049		mg/Kg	1	3/27/2020 4:08:01 AM	51320
Ethylbenzene	ND	0.049		mg/Kg	1	3/27/2020 4:08:01 AM	51320
Xylenes, Total	ND	0.098		mg/Kg	1	3/27/2020 4:08:01 AM	51320
Surr: 1,2-Dichloroethane-d4	86.1	70-130		%Rec	1	3/27/2020 4:08:01 AM	51320
Surr: 4-Bromofluorobenzene	71.4	70-130		%Rec	1	3/27/2020 4:08:01 AM	51320
Surr: Dibromofluoromethane	95.9	70-130		%Rec	1	3/27/2020 4:08:01 AM	51320
Surr: Toluene-d8	105	70-130		%Rec	1	3/27/2020 4:08:01 AM	51320

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

Qualifiers:

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

Analytical Report
Lab Order **2003A95**
Date Reported: **3/30/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S1-6"
Project: Horned Viper 20 Fed Com 1H
Collection Date: 3/20/2020 10:58:00 AM
Lab ID: 2003A95-002 **Matrix:** SOIL
Received Date: 3/25/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	150	60		mg/Kg	20	3/27/2020 4:58:33 AM	51356
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/27/2020 2:06:43 PM	51320
Surr: BFB	97.1	70-130		%Rec	1	3/27/2020 2:06:43 PM	51320
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	49	9.1		mg/Kg	1	3/27/2020 10:57:41 AM	51325
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	3/27/2020 10:57:41 AM	51325
Surr: DNOP	93.1	55.1-146		%Rec	1	3/27/2020 10:57:41 AM	51325
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.023		mg/Kg	1	3/27/2020 4:36:47 AM	51320
Toluene	ND	0.047		mg/Kg	1	3/27/2020 4:36:47 AM	51320
Ethylbenzene	ND	0.047		mg/Kg	1	3/27/2020 4:36:47 AM	51320
Xylenes, Total	ND	0.093		mg/Kg	1	3/27/2020 4:36:47 AM	51320
Surr: 1,2-Dichloroethane-d4	87.5	70-130		%Rec	1	3/27/2020 4:36:47 AM	51320
Surr: 4-Bromofluorobenzene	91.8	70-130		%Rec	1	3/27/2020 4:36:47 AM	51320
Surr: Dibromofluoromethane	100	70-130		%Rec	1	3/27/2020 4:36:47 AM	51320
Surr: Toluene-d8	107	70-130		%Rec	1	3/27/2020 4:36:47 AM	51320

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

Qualifiers:

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

Analytical Report
Lab Order **2003A95**
Date Reported: **3/30/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S2-Surface
Project: Horned Viper 20 Fed Com 1H
Collection Date: 3/20/2020 11:05:00 AM
Lab ID: 2003A95-003 **Matrix:** SOIL
Received Date: 3/25/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/27/2020 5:10:55 AM	51356
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/27/2020 5:05:32 AM	51320
Surr: BFB	94.3	70-130		%Rec	1	3/27/2020 5:05:32 AM	51320
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	52	9.8		mg/Kg	1	3/26/2020 11:22:26 AM	51325
Motor Oil Range Organics (MRO)	120	49		mg/Kg	1	3/26/2020 11:22:26 AM	51325
Surr: DNOP	88.8	55.1-146		%Rec	1	3/26/2020 11:22:26 AM	51325
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	3/27/2020 5:05:32 AM	51320
Toluene	ND	0.049		mg/Kg	1	3/27/2020 5:05:32 AM	51320
Ethylbenzene	ND	0.049		mg/Kg	1	3/27/2020 5:05:32 AM	51320
Xylenes, Total	ND	0.099		mg/Kg	1	3/27/2020 5:05:32 AM	51320
Surr: 1,2-Dichloroethane-d4	83.8	70-130		%Rec	1	3/27/2020 5:05:32 AM	51320
Surr: 4-Bromofluorobenzene	93.0	70-130		%Rec	1	3/27/2020 5:05:32 AM	51320
Surr: Dibromofluoromethane	95.2	70-130		%Rec	1	3/27/2020 5:05:32 AM	51320
Surr: Toluene-d8	109	70-130		%Rec	1	3/27/2020 5:05:32 AM	51320

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

Qualifiers:

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

Analytical Report
Lab Order **2003A95**
Date Reported: **3/30/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S2-6"
Project: Horned Viper 20 Fed Com 1H
Collection Date: 3/20/2020 11:08:00 AM
Lab ID: 2003A95-004 **Matrix:** SOIL
Received Date: 3/25/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/27/2020 5:23:15 AM	51356
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/27/2020 5:34:07 AM	51320
Surr: BFB	95.2	70-130		%Rec	1	3/27/2020 5:34:07 AM	51320
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/26/2020 11:44:35 AM	51325
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/26/2020 11:44:35 AM	51325
Surr: DNOP	94.3	55.1-146		%Rec	1	3/26/2020 11:44:35 AM	51325
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	3/27/2020 5:34:07 AM	51320
Toluene	ND	0.049		mg/Kg	1	3/27/2020 5:34:07 AM	51320
Ethylbenzene	ND	0.049		mg/Kg	1	3/27/2020 5:34:07 AM	51320
Xylenes, Total	ND	0.098		mg/Kg	1	3/27/2020 5:34:07 AM	51320
Surr: 1,2-Dichloroethane-d4	88.8	70-130		%Rec	1	3/27/2020 5:34:07 AM	51320
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	1	3/27/2020 5:34:07 AM	51320
Surr: Dibromofluoromethane	94.2	70-130		%Rec	1	3/27/2020 5:34:07 AM	51320
Surr: Toluene-d8	104	70-130		%Rec	1	3/27/2020 5:34:07 AM	51320

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

Qualifiers:

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

Analytical Report
Lab Order **2003A95**
Date Reported: **3/30/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S3-Surface
Project: Horned Viper 20 Fed Com 1H
Collection Date: 3/20/2020 12:05:00 PM
Lab ID: 2003A95-005 **Matrix:** SOIL
Received Date: 3/25/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/27/2020 5:35:36 AM	51356
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/27/2020 6:02:37 AM	51320
Surr: BFB	92.9	70-130		%Rec	1	3/27/2020 6:02:37 AM	51320
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	30	9.0		mg/Kg	1	3/26/2020 12:06:34 PM	51325
Motor Oil Range Organics (MRO)	61	45		mg/Kg	1	3/26/2020 12:06:34 PM	51325
Surr: DNOP	79.2	55.1-146		%Rec	1	3/26/2020 12:06:34 PM	51325
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.023		mg/Kg	1	3/27/2020 6:02:37 AM	51320
Toluene	ND	0.046		mg/Kg	1	3/27/2020 6:02:37 AM	51320
Ethylbenzene	ND	0.046		mg/Kg	1	3/27/2020 6:02:37 AM	51320
Xylenes, Total	ND	0.093		mg/Kg	1	3/27/2020 6:02:37 AM	51320
Surr: 1,2-Dichloroethane-d4	86.2	70-130		%Rec	1	3/27/2020 6:02:37 AM	51320
Surr: 4-Bromofluorobenzene	96.9	70-130		%Rec	1	3/27/2020 6:02:37 AM	51320
Surr: Dibromofluoromethane	95.7	70-130		%Rec	1	3/27/2020 6:02:37 AM	51320
Surr: Toluene-d8	104	70-130		%Rec	1	3/27/2020 6:02:37 AM	51320

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

Qualifiers:

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

Analytical Report
Lab Order **2003A95**
Date Reported: **3/30/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S3-6"
Project: Horned Viper 20 Fed Com 1H
Collection Date: 3/20/2020 12:10:00 PM
Lab ID: 2003A95-006 **Matrix:** SOIL
Received Date: 3/25/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/27/2020 6:12:36 AM	51356
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/27/2020 6:31:06 AM	51320
Surr: BFB	93.2	70-130		%Rec	1	3/27/2020 6:31:06 AM	51320
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	3/26/2020 12:28:42 PM	51325
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	3/26/2020 12:28:42 PM	51325
Surr: DNOP	82.1	55.1-146		%Rec	1	3/26/2020 12:28:42 PM	51325
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	3/27/2020 6:31:06 AM	51320
Toluene	ND	0.049		mg/Kg	1	3/27/2020 6:31:06 AM	51320
Ethylbenzene	ND	0.049		mg/Kg	1	3/27/2020 6:31:06 AM	51320
Xylenes, Total	ND	0.098		mg/Kg	1	3/27/2020 6:31:06 AM	51320
Surr: 1,2-Dichloroethane-d4	86.0	70-130		%Rec	1	3/27/2020 6:31:06 AM	51320
Surr: 4-Bromofluorobenzene	96.8	70-130		%Rec	1	3/27/2020 6:31:06 AM	51320
Surr: Dibromofluoromethane	94.1	70-130		%Rec	1	3/27/2020 6:31:06 AM	51320
Surr: Toluene-d8	103	70-130		%Rec	1	3/27/2020 6:31:06 AM	51320

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

Qualifiers:

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

Analytical Report
Lab Order **2003A95**
Date Reported: **3/30/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S4-Surface
Project: Horned Viper 20 Fed Com 1H
Collection Date: 3/20/2020 12:17:00 PM
Lab ID: 2003A95-007 **Matrix:** SOIL
Received Date: 3/25/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	110	61		mg/Kg	20	3/27/2020 10:46:09 AM	51365
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/27/2020 6:59:32 AM	51320
Surr: BFB	95.2	70-130		%Rec	1	3/27/2020 6:59:32 AM	51320
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	3/26/2020 12:50:41 PM	51325
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	3/26/2020 12:50:41 PM	51325
Surr: DNOP	83.3	55.1-146		%Rec	1	3/26/2020 12:50:41 PM	51325
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.024		mg/Kg	1	3/27/2020 6:59:32 AM	51320
Toluene	ND	0.049		mg/Kg	1	3/27/2020 6:59:32 AM	51320
Ethylbenzene	ND	0.049		mg/Kg	1	3/27/2020 6:59:32 AM	51320
Xylenes, Total	ND	0.097		mg/Kg	1	3/27/2020 6:59:32 AM	51320
Surr: 1,2-Dichloroethane-d4	92.9	70-130		%Rec	1	3/27/2020 6:59:32 AM	51320
Surr: 4-Bromofluorobenzene	97.0	70-130		%Rec	1	3/27/2020 6:59:32 AM	51320
Surr: Dibromofluoromethane	96.0	70-130		%Rec	1	3/27/2020 6:59:32 AM	51320
Surr: Toluene-d8	103	70-130		%Rec	1	3/27/2020 6:59:32 AM	51320

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

Qualifiers:

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

Analytical Report
Lab Order **2003A95**
Date Reported: **3/30/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S4-6"
Project: Horned Viper 20 Fed Com 1H
Collection Date: 3/20/2020 12:20:00 PM
Lab ID: 2003A95-008 **Matrix:** SOIL
Received Date: 3/25/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	430	60		mg/Kg	20	3/27/2020 11:23:12 AM	51365
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/27/2020 2:35:12 PM	51320
Surr: BFB	98.2	70-130		%Rec	1	3/27/2020 2:35:12 PM	51320
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	3/26/2020 1:12:41 PM	51325
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/26/2020 1:12:41 PM	51325
Surr: DNOP	87.9	55.1-146		%Rec	1	3/26/2020 1:12:41 PM	51325
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.024		mg/Kg	1	3/27/2020 2:35:12 PM	51320
Toluene	ND	0.049		mg/Kg	1	3/27/2020 2:35:12 PM	51320
Ethylbenzene	ND	0.049		mg/Kg	1	3/27/2020 2:35:12 PM	51320
Xylenes, Total	ND	0.098		mg/Kg	1	3/27/2020 2:35:12 PM	51320
Surr: 1,2-Dichloroethane-d4	89.8	70-130		%Rec	1	3/27/2020 2:35:12 PM	51320
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	3/27/2020 2:35:12 PM	51320
Surr: Dibromofluoromethane	100	70-130		%Rec	1	3/27/2020 2:35:12 PM	51320
Surr: Toluene-d8	104	70-130		%Rec	1	3/27/2020 2:35:12 PM	51320

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

Qualifiers:

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

Analytical Report
Lab Order **2003A95**
Date Reported: **3/30/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW1
Project: Horned Viper 20 Fed Com 1H
Collection Date: 3/20/2020 12:33:00 PM
Lab ID: 2003A95-009 **Matrix:** SOIL **Received Date:** 3/25/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	290	60		mg/Kg	20	3/27/2020 11:35:33 AM	51365
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/27/2020 3:03:53 PM	51320
Surr: BFB	100	70-130		%Rec	1	3/27/2020 3:03:53 PM	51320
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	400	45		mg/Kg	5	3/27/2020 11:22:02 AM	51325
Motor Oil Range Organics (MRO)	360	230		mg/Kg	5	3/27/2020 11:22:02 AM	51325
Surr: DNOP	85.2	55.1-146		%Rec	5	3/27/2020 11:22:02 AM	51325
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	3/27/2020 3:03:53 PM	51320
Toluene	ND	0.050		mg/Kg	1	3/27/2020 3:03:53 PM	51320
Ethylbenzene	ND	0.050		mg/Kg	1	3/27/2020 3:03:53 PM	51320
Xylenes, Total	ND	0.099		mg/Kg	1	3/27/2020 3:03:53 PM	51320
Surr: 1,2-Dichloroethane-d4	90.0	70-130		%Rec	1	3/27/2020 3:03:53 PM	51320
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	3/27/2020 3:03:53 PM	51320
Surr: Dibromofluoromethane	97.1	70-130		%Rec	1	3/27/2020 3:03:53 PM	51320
Surr: Toluene-d8	105	70-130		%Rec	1	3/27/2020 3:03:53 PM	51320

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

Qualifiers:

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

Analytical Report
Lab Order **2003A95**
Date Reported: **3/30/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW2
Project: Horned Viper 20 Fed Com 1H
Collection Date: 3/20/2020 12:39:00 PM
Lab ID: 2003A95-010 **Matrix:** SOIL
Received Date: 3/25/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/27/2020 11:47:54 AM	51365
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/27/2020 3:32:22 PM	51320
Surr: BFB	99.9	70-130		%Rec	1	3/27/2020 3:32:22 PM	51320
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	12	9.4		mg/Kg	1	3/27/2020 11:46:28 AM	51325
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/27/2020 11:46:28 AM	51325
Surr: DNOP	93.9	55.1-146		%Rec	1	3/27/2020 11:46:28 AM	51325
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.024		mg/Kg	1	3/27/2020 3:32:22 PM	51320
Toluene	ND	0.047		mg/Kg	1	3/27/2020 3:32:22 PM	51320
Ethylbenzene	ND	0.047		mg/Kg	1	3/27/2020 3:32:22 PM	51320
Xylenes, Total	ND	0.095		mg/Kg	1	3/27/2020 3:32:22 PM	51320
Surr: 1,2-Dichloroethane-d4	90.3	70-130		%Rec	1	3/27/2020 3:32:22 PM	51320
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	3/27/2020 3:32:22 PM	51320
Surr: Dibromofluoromethane	98.6	70-130		%Rec	1	3/27/2020 3:32:22 PM	51320
Surr: Toluene-d8	108	70-130		%Rec	1	3/27/2020 3:32:22 PM	51320

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

Qualifiers:

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

Analytical Report
Lab Order **2003A95**
Date Reported: **3/30/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW3
Project: Horned Viper 20 Fed Com 1H
Collection Date: 3/20/2020 12:43:00 PM
Lab ID: 2003A95-011 **Matrix:** SOIL
Received Date: 3/25/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/27/2020 12:00:15 PM	51365
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/27/2020 4:00:50 PM	51320
Surr: BFB	100	70-130		%Rec	1	3/27/2020 4:00:50 PM	51320
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	1600	88		mg/Kg	10	3/27/2020 12:10:42 PM	51325
Motor Oil Range Organics (MRO)	ND	440	D	mg/Kg	10	3/27/2020 12:10:42 PM	51325
Surr: DNOP	0	55.1-146	S	%Rec	10	3/27/2020 12:10:42 PM	51325
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.024		mg/Kg	1	3/27/2020 4:00:50 PM	51320
Toluene	ND	0.048		mg/Kg	1	3/27/2020 4:00:50 PM	51320
Ethylbenzene	ND	0.048		mg/Kg	1	3/27/2020 4:00:50 PM	51320
Xylenes, Total	ND	0.097		mg/Kg	1	3/27/2020 4:00:50 PM	51320
Surr: 1,2-Dichloroethane-d4	94.2	70-130		%Rec	1	3/27/2020 4:00:50 PM	51320
Surr: 4-Bromofluorobenzene	70.1	70-130		%Rec	1	3/27/2020 4:00:50 PM	51320
Surr: Dibromofluoromethane	97.9	70-130		%Rec	1	3/27/2020 4:00:50 PM	51320
Surr: Toluene-d8	104	70-130		%Rec	1	3/27/2020 4:00:50 PM	51320

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

Qualifiers:

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

Analytical Report
Lab Order **2003A95**
Date Reported: **3/30/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW4
Project: Horned Viper 20 Fed Com 1H
Collection Date: 3/20/2020 12:50:00 PM
Lab ID: 2003A95-012 **Matrix:** SOIL
Received Date: 3/25/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	120	60		mg/Kg	20	3/27/2020 12:37:18 PM	51365
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/27/2020 4:29:33 PM	51320
Surr: BFB	96.7	70-130		%Rec	1	3/27/2020 4:29:33 PM	51320
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	30	9.5		mg/Kg	1	3/26/2020 2:41:23 PM	51325
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/26/2020 2:41:23 PM	51325
Surr: DNOP	84.4	55.1-146		%Rec	1	3/26/2020 2:41:23 PM	51325
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.024		mg/Kg	1	3/27/2020 4:29:33 PM	51320
Toluene	ND	0.048		mg/Kg	1	3/27/2020 4:29:33 PM	51320
Ethylbenzene	ND	0.048		mg/Kg	1	3/27/2020 4:29:33 PM	51320
Xylenes, Total	ND	0.097		mg/Kg	1	3/27/2020 4:29:33 PM	51320
Surr: 1,2-Dichloroethane-d4	95.5	70-130		%Rec	1	3/27/2020 4:29:33 PM	51320
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	3/27/2020 4:29:33 PM	51320
Surr: Dibromofluoromethane	97.6	70-130		%Rec	1	3/27/2020 4:29:33 PM	51320
Surr: Toluene-d8	105	70-130		%Rec	1	3/27/2020 4:29:33 PM	51320

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003A95**

30-Mar-20

Client: Souder, Miller & Associates

Project: Horned Viper 20 Fed Com 1H

Sample ID: **MB-51356**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **51356**	RunNo: **67593**							
Prep Date: **3/26/2020**	Analysis Date: **3/26/2020**	SeqNo: **2334183**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-51356**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **51356**	RunNo: **67593**							
Prep Date: **3/26/2020**	Analysis Date: **3/26/2020**	SeqNo: **2334184**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.0	90	110			

Sample ID: **MB-51365**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **51365**	RunNo: **67624**							
Prep Date: **3/27/2020**	Analysis Date: **3/27/2020**	SeqNo: **2335274**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-51365**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **51365**	RunNo: **67624**							
Prep Date: **3/27/2020**	Analysis Date: **3/27/2020**	SeqNo: **2335275**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.3	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003A95**

30-Mar-20

Client: Souder, Miller & Associates

Project: Horned Viper 20 Fed Com 1H

Sample ID: **LCS-51325**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51325**	RunNo: **67586**
Prep Date: **3/25/2020**	Analysis Date: **3/26/2020**	SeqNo: **2333835** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.7	70	130			
Surr: DNOP	4.3		5.000		85.4	55.1	146			

Sample ID: **MB-51325**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51325**	RunNo: **67586**
Prep Date: **3/25/2020**	Analysis Date: **3/26/2020**	SeqNo: **2333836** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.1		10.00		91.3	55.1	146			

Sample ID: **LCS-51350**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51350**	RunNo: **67614**
Prep Date: **3/26/2020**	Analysis Date: **3/27/2020**	SeqNo: **2334994** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		101	55.1	146			

Sample ID: **MB-51350**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51350**	RunNo: **67614**
Prep Date: **3/26/2020**	Analysis Date: **3/27/2020**	SeqNo: **2334995** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		114	55.1	146			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2003A95**
30-Mar-20

Client: Souder, Miller & Associates
Project: Horned Viper 20 Fed Com 1H

Sample ID: **lcs-51320** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **51320** RunNo: **67600**
Prep Date: **3/25/2020** Analysis Date: **3/26/2020** SeqNo: **2334318** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.81	0.025	1.000	0	80.5	70	130			
Toluene	1.0	0.050	1.000	0	102	70	130			
Ethylbenzene	1.0	0.050	1.000	0	104	70	130			
Xylenes, Total	3.2	0.10	3.000	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		87.1	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		96.8	70	130			
Surr: Toluene-d8	0.52		0.5000		104	70	130			

Sample ID: **mb-51320** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **51320** RunNo: **67600**
Prep Date: **3/25/2020** Analysis Date: **3/26/2020** SeqNo: **2334319** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		87.5	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.7	70	130			
Surr: Dibromofluoromethane	0.47		0.5000		94.9	70	130			
Surr: Toluene-d8	0.51		0.5000		103	70	130			

Sample ID: **mb-51360** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **51360** RunNo: **67627**
Prep Date: **3/26/2020** Analysis Date: **3/27/2020** SeqNo: **2335340** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		95.5	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		101	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		95.8	70	130			
Surr: Toluene-d8	0.53		0.5000		107	70	130			

Sample ID: **lcs-51360** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **51360** RunNo: **67627**
Prep Date: **3/26/2020** Analysis Date: **3/27/2020** SeqNo: **2335341** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.52		0.5000		105	70	130			
Surr: Toluene-d8	0.52		0.5000		104	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2003A95**

30-Mar-20

Client: Souder, Miller & Associates

Project: Horned Viper 20 Fed Com 1H

Sample ID: **lcs-51320**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51320**	RunNo: **67600**
Prep Date: **3/25/2020**	Analysis Date: **3/26/2020**	SeqNo: **2334355** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	25.00	0	78.2	70	130			
Surr: BFB	470		500.0		93.3	70	130			

Sample ID: **mb-51320**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **51320**	RunNo: **67600**
Prep Date: **3/25/2020**	Analysis Date: **3/26/2020**	SeqNo: **2334356** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	470		500.0		94.3	70	130			

Sample ID: **mb-51360**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **51360**	RunNo: **67627**
Prep Date: **3/26/2020**	Analysis Date: **3/27/2020**	SeqNo: **2335364** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	490		500.0		98.1	70	130			

Sample ID: **lcs-51360**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51360**	RunNo: **67627**
Prep Date: **3/26/2020**	Analysis Date: **3/27/2020**	SeqNo: **2335365** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	500		500.0		101	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **SMA-CARLSBAD** Work Order Number: **2003A95** RcptNo: 1

Received By: **Isaiah Ortiz** **3/25/2020 8:30:00 AM** I-OX

Completed By: **Anne Thorne** **3/25/2020 10:31:30 AM** Anne Thorne

Reviewed By: JR 3/25/20

Chain of Custody

1. Is Chain of Custody sufficiently complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: DAD 3/25/20

Special Handling (if applicable)

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

Person Notified: _____ Date _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.1	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address: 201 S. Halagueño St.
Carlsbad, NM 88220

Phone #: 575-689-8801

email or Fax#: brent.jackson@soudermiller.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day Turn
☑ Standard ☐ Rush

Project Name: Horned Viper 20 Fed. Com 1H

Project #: WO # 20845003

Project Manager: Ashley Maxwell
Ashley.Maxwell@soudermiller.com

Sampler: Brent Jackson

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.1-0|CF|0.1 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2003495	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3/24/20	10:56	Soil	S1-Surface	1 (4oz)	Cool	001	X	X					X			
	10:58		S1-6"			002	X	X					X			
	11:05		S2-Surface			003	X	X					X			
	11:08		S2-6"			004	X	X					X			
	12:05		S3-Surface			005	X	X					X			
	12:10		S3-6"			006	X	X					X			
	12:17		S4-Surface			007	X	X					X			
	12:20		S4-6"			008	X	X					X			
	12:33		SW1			009	X	X					X			
	12:39		SW2			010	X	X					X			
	12:43		SW3			011	X	X					X			
	12:50		SW4			012	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
3/24/20	1430	Brent Jackson			3/24/20	1430
3/24/20	1900			courier	3/25/20	0830

Remarks:
Bill Devon direct

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 03, 2020

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

RE: Horned Viper 20 Fed Com 1H OrderNo.: 2005D00

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 6 sample(s) on 5/30/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2005D00**
Date Reported: **6/3/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CS1
Project: Horned Viper 20 Fed Com 1H
Collection Date: 5/29/2020 10:30:00 AM
Lab ID: 2005D00-001 **Matrix:** SOIL
Received Date: 5/30/2020 8:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	100	60		mg/Kg	20	6/2/2020 2:08:56 PM	52823
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/1/2020 4:55:07 AM	52785
Surr: BFB	102	70-130		%Rec	1	6/1/2020 4:55:07 AM	52785
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/31/2020 9:35:28 AM	52786
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/31/2020 9:35:28 AM	52786
Surr: DNOP	90.7	55.1-146		%Rec	1	5/31/2020 9:35:28 AM	52786
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	6/1/2020 4:55:07 AM	52785
Toluene	ND	0.050		mg/Kg	1	6/1/2020 4:55:07 AM	52785
Ethylbenzene	ND	0.050		mg/Kg	1	6/1/2020 4:55:07 AM	52785
Xylenes, Total	ND	0.10		mg/Kg	1	6/1/2020 4:55:07 AM	52785
Surr: 1,2-Dichloroethane-d4	91.9	70-130		%Rec	1	6/1/2020 4:55:07 AM	52785
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	6/1/2020 4:55:07 AM	52785
Surr: Dibromofluoromethane	101	70-130		%Rec	1	6/1/2020 4:55:07 AM	52785
Surr: Toluene-d8	97.1	70-130		%Rec	1	6/1/2020 4:55:07 AM	52785

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

Qualifiers:

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

Analytical Report
Lab Order **2005D00**
Date Reported: **6/3/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CS2
Project: Horned Viper 20 Fed Com 1H
Collection Date: 5/29/2020 10:35:00 AM
Lab ID: 2005D00-002 **Matrix:** SOIL
Received Date: 5/30/2020 8:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	200	60		mg/Kg	20	6/2/2020 2:46:10 PM	52823
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/1/2020 5:23:34 AM	52785
Surr: BFB	98.1	70-130		%Rec	1	6/1/2020 5:23:34 AM	52785
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/31/2020 9:59:39 AM	52786
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/31/2020 9:59:39 AM	52786
Surr: DNOP	93.6	55.1-146		%Rec	1	5/31/2020 9:59:39 AM	52786
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	6/1/2020 5:23:34 AM	52785
Toluene	ND	0.049		mg/Kg	1	6/1/2020 5:23:34 AM	52785
Ethylbenzene	ND	0.049		mg/Kg	1	6/1/2020 5:23:34 AM	52785
Xylenes, Total	ND	0.098		mg/Kg	1	6/1/2020 5:23:34 AM	52785
Surr: 1,2-Dichloroethane-d4	93.8	70-130		%Rec	1	6/1/2020 5:23:34 AM	52785
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	1	6/1/2020 5:23:34 AM	52785
Surr: Dibromofluoromethane	96.1	70-130		%Rec	1	6/1/2020 5:23:34 AM	52785
Surr: Toluene-d8	95.7	70-130		%Rec	1	6/1/2020 5:23:34 AM	52785

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

Qualifiers:

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

Analytical Report
Lab Order **2005D00**
Date Reported: **6/3/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CS3
Project: Horned Viper 20 Fed Com 1H
Collection Date: 5/29/2020 10:43:00 AM
Lab ID: 2005D00-003 **Matrix:** SOIL
Received Date: 5/30/2020 8:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	110	60		mg/Kg	20	6/2/2020 2:58:34 PM	52823
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/1/2020 5:52:06 AM	52785
Surr: BFB	103	70-130		%Rec	1	6/1/2020 5:52:06 AM	52785
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/31/2020 10:24:05 AM	52786
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/31/2020 10:24:05 AM	52786
Surr: DNOP	98.0	55.1-146		%Rec	1	5/31/2020 10:24:05 AM	52786
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	6/1/2020 5:52:06 AM	52785
Toluene	ND	0.049		mg/Kg	1	6/1/2020 5:52:06 AM	52785
Ethylbenzene	ND	0.049		mg/Kg	1	6/1/2020 5:52:06 AM	52785
Xylenes, Total	ND	0.098		mg/Kg	1	6/1/2020 5:52:06 AM	52785
Surr: 1,2-Dichloroethane-d4	99.0	70-130		%Rec	1	6/1/2020 5:52:06 AM	52785
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	6/1/2020 5:52:06 AM	52785
Surr: Dibromofluoromethane	102	70-130		%Rec	1	6/1/2020 5:52:06 AM	52785
Surr: Toluene-d8	97.0	70-130		%Rec	1	6/1/2020 5:52:06 AM	52785

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

Qualifiers:

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

Analytical Report
Lab Order **2005D00**
Date Reported: **6/3/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW1
Project: Horned Viper 20 Fed Com 1H
Collection Date: 5/29/2020 10:52:00 AM
Lab ID: 2005D00-004 **Matrix:** SOIL
Received Date: 5/30/2020 8:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	85	60		mg/Kg	20	6/2/2020 3:10:59 PM	52823
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/1/2020 6:20:38 AM	52785
Surr: BFB	100	70-130		%Rec	1	6/1/2020 6:20:38 AM	52785
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	5/31/2020 10:48:37 AM	52786
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/31/2020 10:48:37 AM	52786
Surr: DNOP	87.0	55.1-146		%Rec	1	5/31/2020 10:48:37 AM	52786
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	6/1/2020 6:20:38 AM	52785
Toluene	ND	0.049		mg/Kg	1	6/1/2020 6:20:38 AM	52785
Ethylbenzene	ND	0.049		mg/Kg	1	6/1/2020 6:20:38 AM	52785
Xylenes, Total	ND	0.099		mg/Kg	1	6/1/2020 6:20:38 AM	52785
Surr: 1,2-Dichloroethane-d4	97.4	70-130		%Rec	1	6/1/2020 6:20:38 AM	52785
Surr: 4-Bromofluorobenzene	94.0	70-130		%Rec	1	6/1/2020 6:20:38 AM	52785
Surr: Dibromofluoromethane	98.5	70-130		%Rec	1	6/1/2020 6:20:38 AM	52785
Surr: Toluene-d8	101	70-130		%Rec	1	6/1/2020 6:20:38 AM	52785

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

Qualifiers:

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

Analytical Report
Lab Order **2005D00**
Date Reported: **6/3/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW2
Project: Horned Viper 20 Fed Com 1H
Collection Date: 5/29/2020 10:58:00 AM
Lab ID: 2005D00-005 **Matrix:** SOIL
Received Date: 5/30/2020 8:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	79	60		mg/Kg	20	6/2/2020 3:23:23 PM	52823
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/1/2020 6:49:02 AM	52785
Surr: BFB	104	70-130		%Rec	1	6/1/2020 6:49:02 AM	52785
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/31/2020 11:37:46 AM	52786
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/31/2020 11:37:46 AM	52786
Surr: DNOP	87.7	55.1-146		%Rec	1	5/31/2020 11:37:46 AM	52786
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	6/1/2020 6:49:02 AM	52785
Toluene	ND	0.049		mg/Kg	1	6/1/2020 6:49:02 AM	52785
Ethylbenzene	ND	0.049		mg/Kg	1	6/1/2020 6:49:02 AM	52785
Xylenes, Total	ND	0.099		mg/Kg	1	6/1/2020 6:49:02 AM	52785
Surr: 1,2-Dichloroethane-d4	96.0	70-130		%Rec	1	6/1/2020 6:49:02 AM	52785
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	6/1/2020 6:49:02 AM	52785
Surr: Dibromofluoromethane	97.8	70-130		%Rec	1	6/1/2020 6:49:02 AM	52785
Surr: Toluene-d8	98.0	70-130		%Rec	1	6/1/2020 6:49:02 AM	52785

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

Qualifiers:

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

Analytical Report
Lab Order **2005D00**
Date Reported: **6/3/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW3
Project: Horned Viper 20 Fed Com 1H
Collection Date: 5/29/2020 11:20:00 AM
Lab ID: 2005D00-006 **Matrix:** SOIL
Received Date: 5/30/2020 8:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	6/2/2020 3:35:47 PM	52823
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/1/2020 7:17:32 AM	52785
Surr: BFB	97.5	70-130		%Rec	1	6/1/2020 7:17:32 AM	52785
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/31/2020 12:02:21 PM	52786
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/31/2020 12:02:21 PM	52786
Surr: DNOP	87.8	55.1-146		%Rec	1	5/31/2020 12:02:21 PM	52786
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	6/1/2020 7:17:32 AM	52785
Toluene	ND	0.050		mg/Kg	1	6/1/2020 7:17:32 AM	52785
Ethylbenzene	ND	0.050		mg/Kg	1	6/1/2020 7:17:32 AM	52785
Xylenes, Total	ND	0.099		mg/Kg	1	6/1/2020 7:17:32 AM	52785
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%Rec	1	6/1/2020 7:17:32 AM	52785
Surr: 4-Bromofluorobenzene	97.0	70-130		%Rec	1	6/1/2020 7:17:32 AM	52785
Surr: Dibromofluoromethane	101	70-130		%Rec	1	6/1/2020 7:17:32 AM	52785
Surr: Toluene-d8	98.0	70-130		%Rec	1	6/1/2020 7:17:32 AM	52785

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2005D00**

03-Jun-20

Client: Souder, Miller & Associates

Project: Horned Viper 20 Fed Com 1H

Sample ID: **MB-52823**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **52823**	RunNo: **69353**							
Prep Date: **6/2/2020**	Analysis Date: **6/2/2020**	SeqNo: **2405234**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-52823**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **52823**	RunNo: **69353**							
Prep Date: **6/2/2020**	Analysis Date: **6/2/2020**	SeqNo: **2405235**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.2	90	110			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2005D00**
03-Jun-20

Client: Souder, Miller & Associates
Project: Horned Viper 20 Fed Com 1H

Sample ID: **MB-52786** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **52786** RunNo: **69277**
Prep Date: **5/30/2020** Analysis Date: **5/31/2020** SeqNo: **2401161** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		115	55.1	146			

Sample ID: **LCS-52786** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **52786** RunNo: **69274**
Prep Date: **5/30/2020** Analysis Date: **5/31/2020** SeqNo: **2401276** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	61	10	50.00	0	122	70	130			
Surr: DNOP	5.7		5.000		114	55.1	146			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2005D00**
03-Jun-20

Client: Souder, Miller & Associates
Project: Horned Viper 20 Fed Com 1H

Sample ID: **mb-52785** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **52785** RunNo: **69294**
Prep Date: **5/30/2020** Analysis Date: **5/31/2020** SeqNo: **2402434** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.4	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.6	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.46		0.5000		91.8	70	130			

Sample ID: **lcs-52785** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **52785** RunNo: **69294**
Prep Date: **5/30/2020** Analysis Date: **5/31/2020** SeqNo: **2402435** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.8	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	103	80	120			
Xylenes, Total	3.2	0.10	3.000	0	108	80	120			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.7	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.5	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		101	70	130			
Surr: Toluene-d8	0.50		0.5000		99.7	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2005D00**
03-Jun-20

Client: Souder, Miller & Associates
Project: Horned Viper 20 Fed Com 1H

Sample ID: **mb-52785**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **52785**	RunNo: **69294**
Prep Date: **5/30/2020**	Analysis Date: **5/31/2020**	SeqNo: **2402463** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	490		500.0		97.4	70	130			

Sample ID: **lcs-52785**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **52785**	RunNo: **69294**
Prep Date: **5/30/2020**	Analysis Date: **5/31/2020**	SeqNo: **2402464** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	25.00	0	78.0	70	130			
Surr: BFB	500		500.0		101	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **SMA-CARLSBAD** Work Order Number: **2005D00** RcptNo: **1**

Received By: **Isaiah Ortiz** **5/30/2020 8:22:00 AM** I_Ox

Completed By: **Isaiah Ortiz** **5/30/2020 8:26:28 AM** I_Ox

Reviewed By: LB 5/30/20

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
10. Were any sample containers received broken? Yes ☐ No ☑ IO

    # of preserved bottles checked for pH: 5/30/20 (<2 or >12 unless noted)
    Adjusted?
    Checked by:
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

Special Handling (if applicable)

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

    Person Notified: Date:
    By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
    Regarding:
    Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good	Not Present			

Chain-of-Custody Record

Client: SMA

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: (6/3/2020) 3 Day
☐ Standard ☑ Rush

Project Name: Horned Viper 20 Fed Com 1H

Project #:

Project Manager: Ashley Maxwell

Sampler: SO

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF): 4.1-0(CF) 4.1 °C (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2005000	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
5/29/20	10:30	Soil	CS1	4oz	Cool	-001	X	X					X			
	10:35		CS2			-002										
	10:43		CS3			-003										
	10:52		SW1			-004										
	10:58		SW2			-005										
	11:20		SW3			-006										

Date	Time	Relinquished by	Received by	Via	Date	Time
5/29/20	0800	Sebastian Orozco				
5/29	1900					
			I-On courier		5/30/20	0822

Remarks: Bill Devon WO#: 20845003

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

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

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

CONDITIONS

Action 9125

CONDITIONS

Operator: Pima Environmental Services, LLC 5614 N Lovington Hwy Hobbs, NM 88240	OGRID: 329999
	Action Number: 9125
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	9/20/2022