Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	nCH1816631112
District RP	1RP-5096
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?	342 (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	nCH1816631112
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Dale Woodall Title: Env. Professional

Signature: Dale Woodall Date: 1/11/2023

email: dale.woodall@dvn.com Telephone: 575-748-1838

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	1RP-5096
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated.

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

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nCH1816631112
District RP	1RP-5096
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Dale Woodall Title: Env. Professional

Signature: Dale Woodall Date: 1/11/2023

email: dale.woodall@dvn.com Telephone: 575-748-1838

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Brittany Hall Date: 3/21/2022

Printed Name: Brittany Hall Title: Environmental Specialist

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

July 2, 2020

#5E29133-BG8

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

SUBJECT: Remediation Report for the Thistle Unit 110H Release (1RP-5096), Lea County, New Mexico

To Whom It May Concern:

On behalf of Devon Energy Production Company, Souder, Miller & Associates (SMA) has prepared this Remediation Report that describes the remediation of a release of liquids related to oil and gas production activities at the Thistle Unit 110H site. The site is in Unit C, Section 22, Township 23S, Range 33E, Lea County, New Mexico, on State land. Figure 1 illustrates the vicinity and site location on an USGS 7.5 minute quadrangle map.

Table 1 summarizes release information and Closure Criteria.

Table 1: Release Information and Closure Criteria			
Name	Thistle Unit 110H	Company	Devon Energy Production Company
API Number	30-025-43311	Location	32.296980 -103.564765
Incident Number	1RP-5096		
Estimated Date of Release	May 31, 2018	Date Reported to NMOCD	June 2, 2018
Land Owner	State land	Reported To	NMOCD, NMSLO
Source of Release	Blender tub		
Released Volume	16.68 bbls	Released Material	Produced Water
Recovered Volume	8 bbls	Net Release	8.68 bbls
NMOCD Closure Criteria	<50 feet to groundwater, no water wells within ½ mile.		
SMA Response Dates	3-19,5-27,6-15-2020		

1.0 Background

On May 31, 2018, a release was discovered at the Thistle Unit 110H site due to failed valves on the blender tub. Initial response activities were conducted by Devon, and included source elimination and containment activities, which recovered approximately eight (8) barrels of fluid. 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 Thistle Unit 110H is located approximately 25 miles northwest of Jal, New Mexico on State land at an elevation of approximately 3710 feet above mean sea level (amsl).

Based upon New Mexico Office of the State Engineer (Appendix B), depth to groundwater in the area is estimated to be 343 feet below grade surface (bgs). There are no known water sources within ½-mile of the location, according to the New Mexico Office of the State Engineer (NMOSE) online water well database (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 3/17/2020). The nearest water well with groundwater data (C-03585) is located 1.26 miles northeast of the release and had first encountered depth to groundwater of 18 feet bgs; however the elevational difference between the surface elevation of the release and groundwater elevation at water well (C-03585) is greater than 90 feet. SMA used this data, as well as data from seven other water wells in the surrounding area to calculate the potential depth to groundwater (Table 4). Based on this data, groundwater is estimated to be at 343 feet bgs.

The nearest significant watercourse is un-named intermittent draw, located approximately 2000 feet to the northeast. Figure 2 illustrates the site with 200 and 300-foot radii to indicate that it does not lie within a sensitive area as described in 19.15.29.12.C(4) NMAC.

Based on the information presented herein, the applicable NMOCD Closure Criteria for this site is for a groundwater depth of less than 50 feet bgs due to the fact that no water wells are withing ½ mile of the release. 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 19, 2020, SMA personnel arrived on site in response to the release associated with Thistle Unit 110H. SMA performed site delineation activities by collecting soil samples around the release site and throughout the visibly stained area. Soil samples were field screened for chloride using an electrical conductivity (EC) meter.

A total of four (4) sample locations (S1-S4) and four (4) sidewalls were investigated using a hand-auger, to depths up 0.5 feet bgs. A total of nine (9) 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 for sample location (S3) did not meet NMOCD Closure Criteria. On May 27, 2020 SMA personnel returned to the Thistle Unit 110H to delineate sample location S3 in accordance with 19.15.29.12 NMAC. Based on this information SMA concluded that an area

approximately 790 cubic feet had been impacted. Figure 3A shows the release area, initial sample locations and impacted area.

On June 16, 2020, SMA returned to the site to guide the excavation of contaminated soil surrounding sample location S3. SMA guided the excavation activities by collecting soil samples for field screening. Samples were screened for chloride using an electrical conductivity (EC) meter. The walls and base were excavated until field screening results indicated that the NMOCD Closure Criteria would be met. NMOCD was notified on June 15, 2020 that closure samples were expected to be collected in two (2) business days.

On June 16, 2020, SMA conducted confirmation sampling of the walls and base of the excavation, which measured approximately 10 by 8 to a depth of one foot. The area around sample location (S3) was excavated to a depth of 1 foot bgs. Confirmation sample (CS1) was collected as a five-point composite sample from the base of the excavation. Five-point composite samples (SW1-SW4) were also collected from each of the corresponding sidewalls (Figure 3B),

A total of five (5) confirmation 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. Confirmation Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Cardinal laboratory in Hobbs, New Mexico.

Figure 3B shows the extent of the excavation and confirmation sample locations. Laboratory results are summarized in Table 3. 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 Northern Delaware Basin Landfill near Jal, 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 505-320-8975 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: Site Map
Figure 1A: Depth to Groundwater
Figure 1B: Potentiometric Surface Map
Figure 2: Surface Water Protection Map
Figure 3: Site and Initial Sample Location Map
Figure 3A: Excavation and Confirmation Sample Map

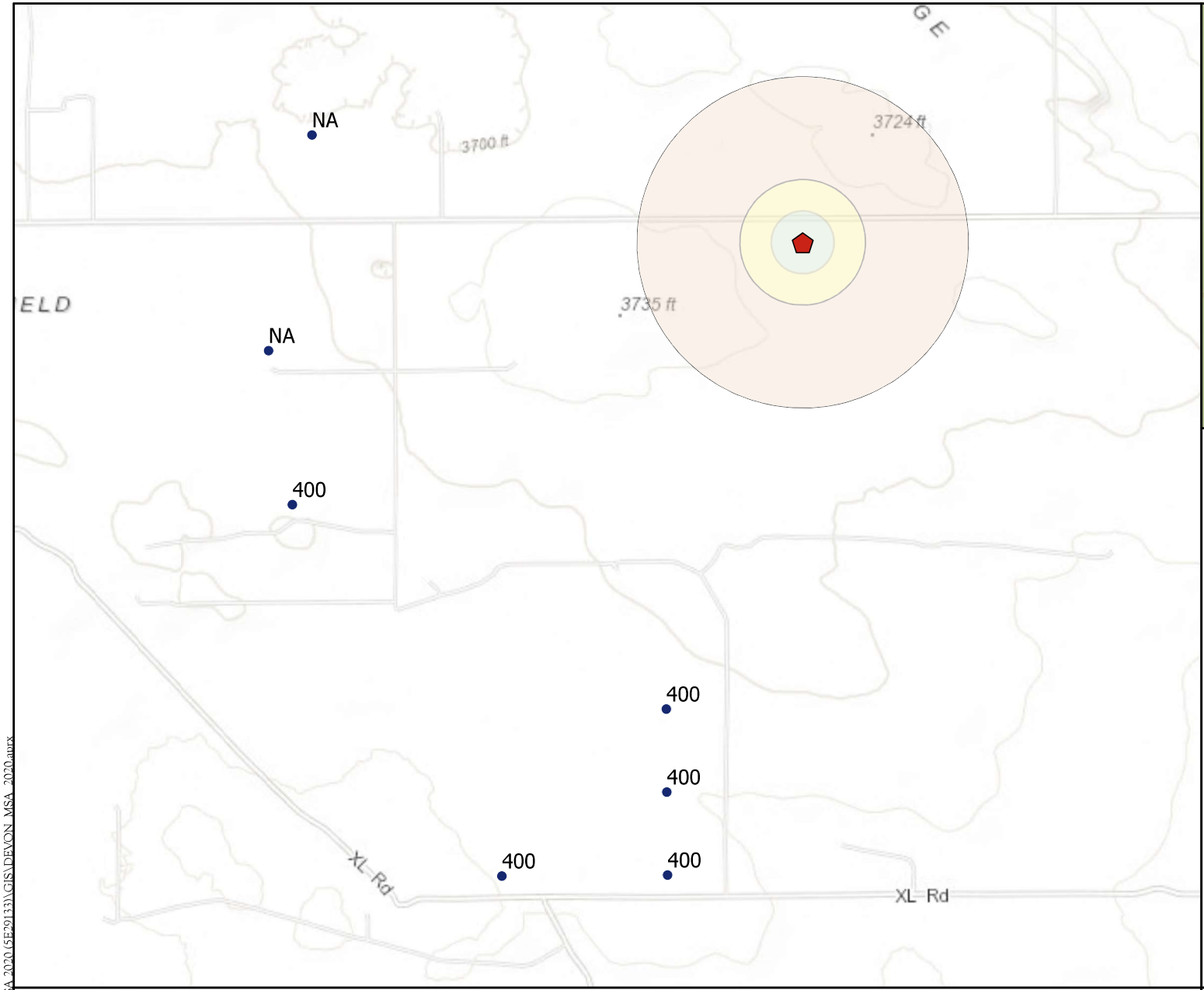
Tables:

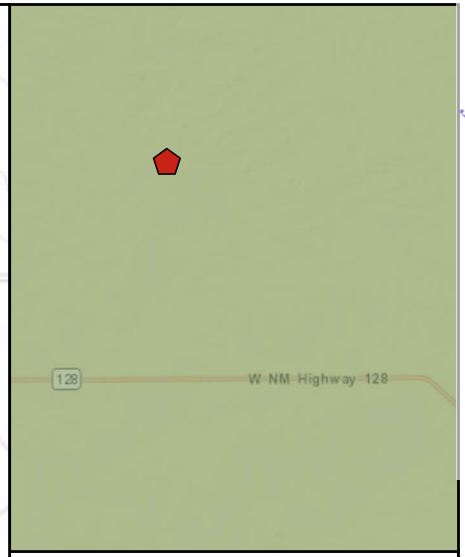
Table 2: NMOCD Closure Criteria Justification
Table 3: Summary of Sample Results
Table 4: Potential Depth to Groundwater Calculation

Appendices:

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

FIGURES





Buffer Distance
- .5 Mile
- 1000 Feet
- 500 Feet
- OSE Depth to GW
- USGS GW Well
- Point of Release

Karst Potential
- Critical
- High
- Medium
- Low

N

0 500 1,000 2,000 3,000
Feet

Site Map
Thistle Unit 110H - Devon Energy
UL: C S: 22 T: 23S R: 33E, Lea County, New Mexico

Figure 1

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Date Saved: 3/16/2020

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

Drawn Lynn A. Acosta
Date 3/17/2020
Checked
Approved

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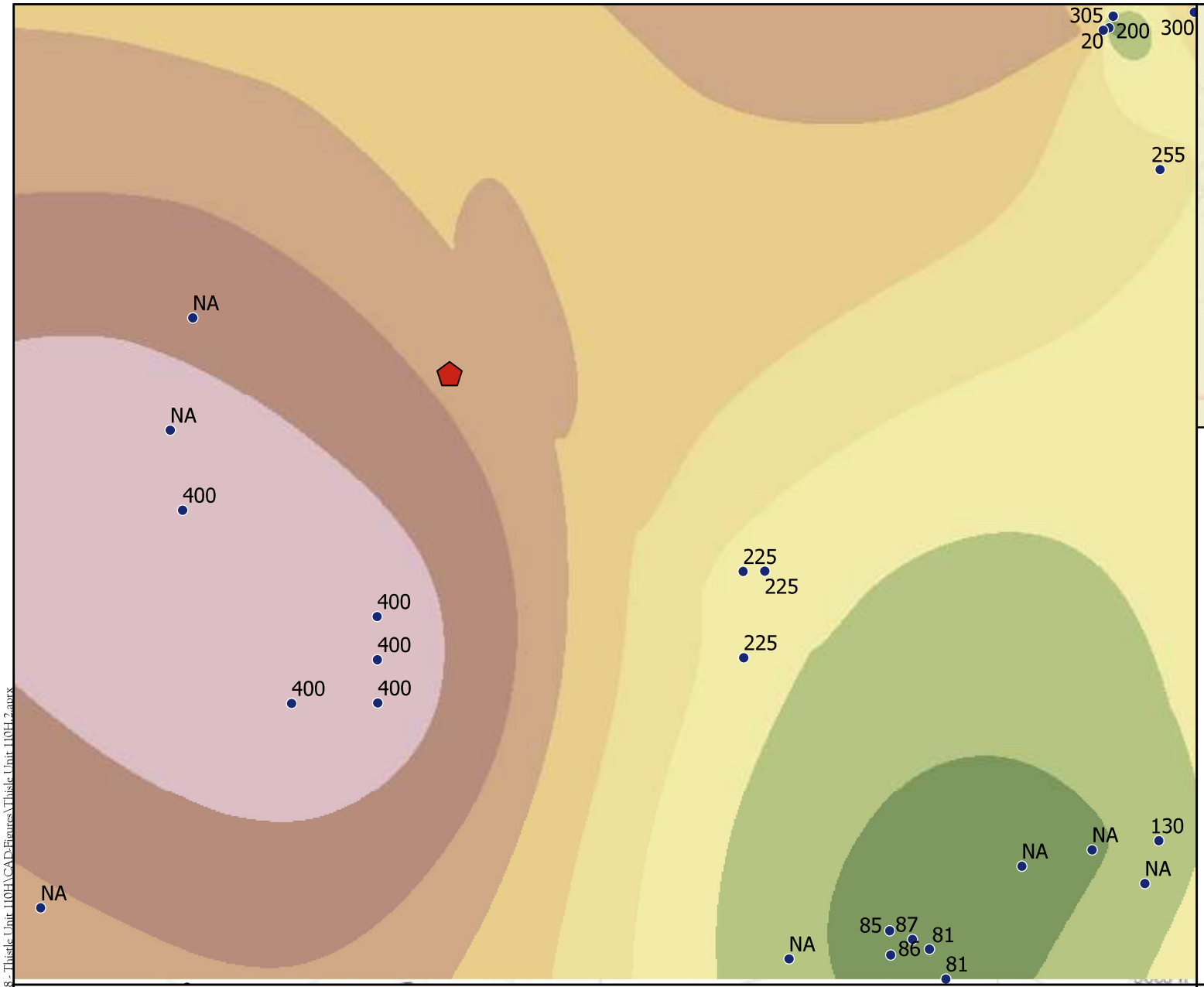

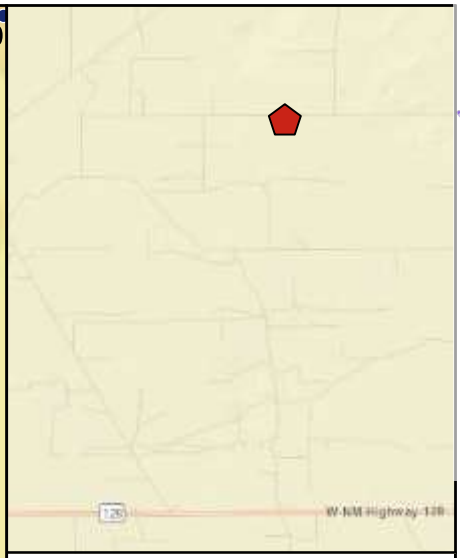

Legend

- Point of Release
- OSE Water Wells
- ≤116.284198
- ≤189.145769
- ≤244.776021
- ≤287.250057
- ≤319.679242
- ≤344.439122
- ≤376.868307
- ≤419.342343
- ≤474.972595

N

0 1,250 2,500 5,000 7,500

Feet

Depth to Groundwater
Thistle Unit 110H- Devon Energy Production Co.
UL: C S: 22 T: 23S R: 33E- Lea County, New Mexico

Figure 1A

P:\5-Devon MSA 2020\(5F29133)\RG8 - Thistle Unit 110H\CAD\Figures\Thisle Unit 110H 2.aprx
Date Saved: 6/22/2020

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

Drawn Sebastian Orozco
Date 6/22/2020
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Approved

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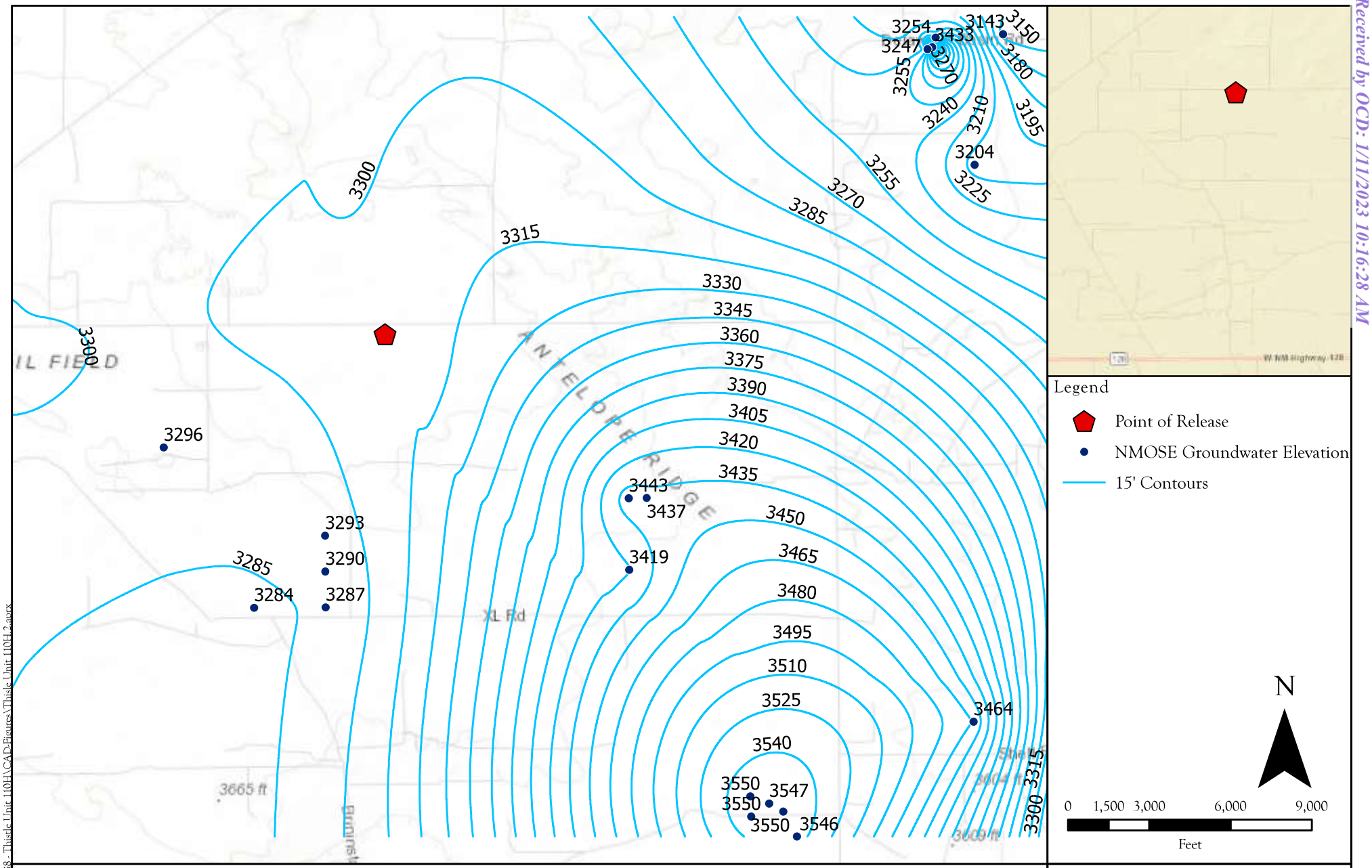

Potentiometric Surface Map
Thistle Unit 110H- Devon Energy Production Co.
UL: C S: 22 T: 23S R: 33E- Lea County, New Mexico

Figure 1B

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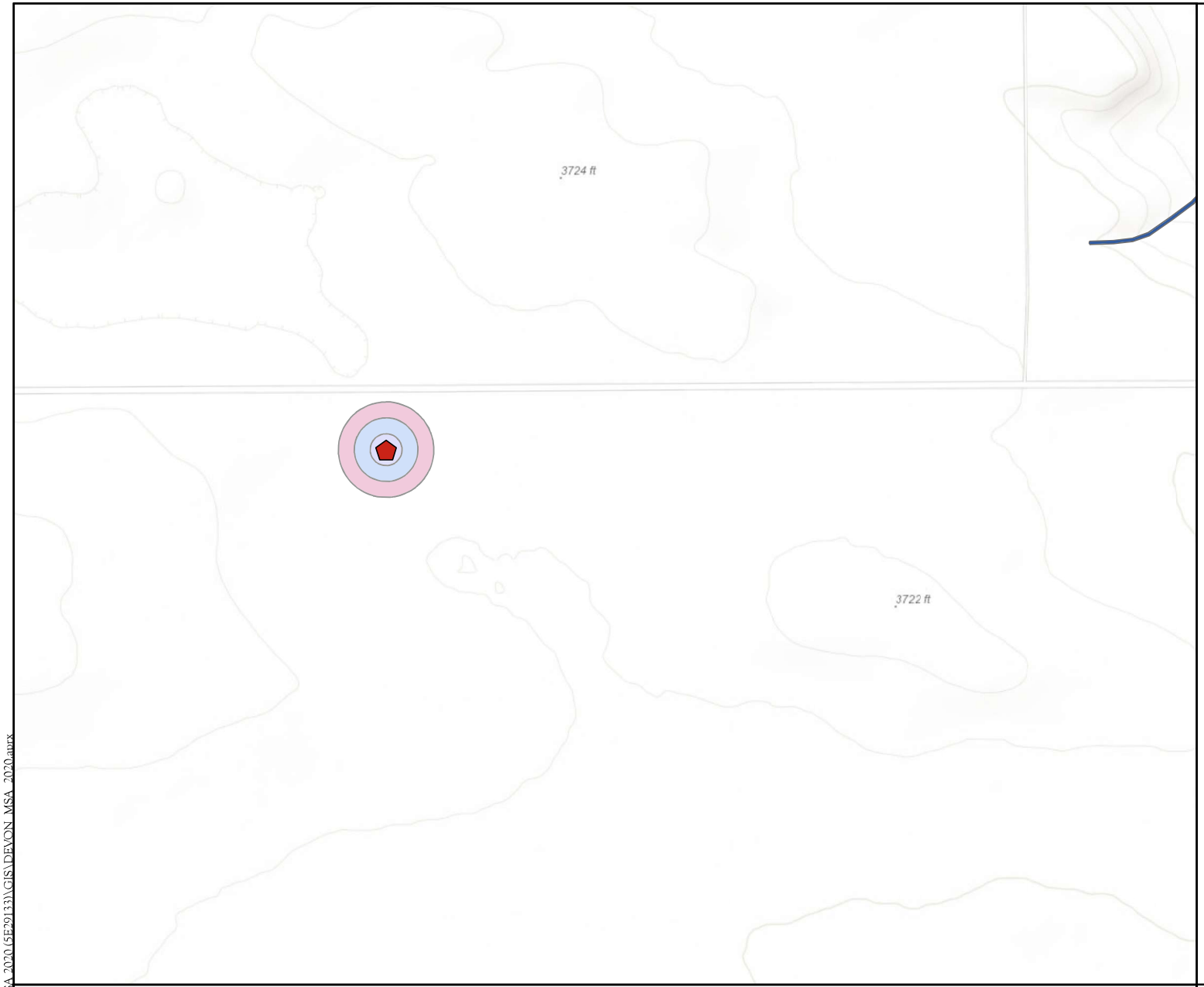

Buffer Distance
- 300 Feet
- 200 Feet
- 100 Feet
- Springs & Seeps
- Streams & Canals
- Rivers
- Flowlines SENM
- NM Wetlands
- Lakes & Playas
- FEMA Flood Zones 2011
- Point of Release

N

0 305 610 1,220 1,830

Feet

Surface Water Protection Map
Thistle Unit 110H- Devon Energy
UL: C S: 22 T: 23S R: 33E Lea County, New Mexico

Figure 2

\\192.168.22.10\Projects\5-Devon MSA 2020\(5E29133)\GIS\DEVON_MSA_2020.aprx
Date Saved: 3/16/2020

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By:_____ Date:_____ Descr:_____

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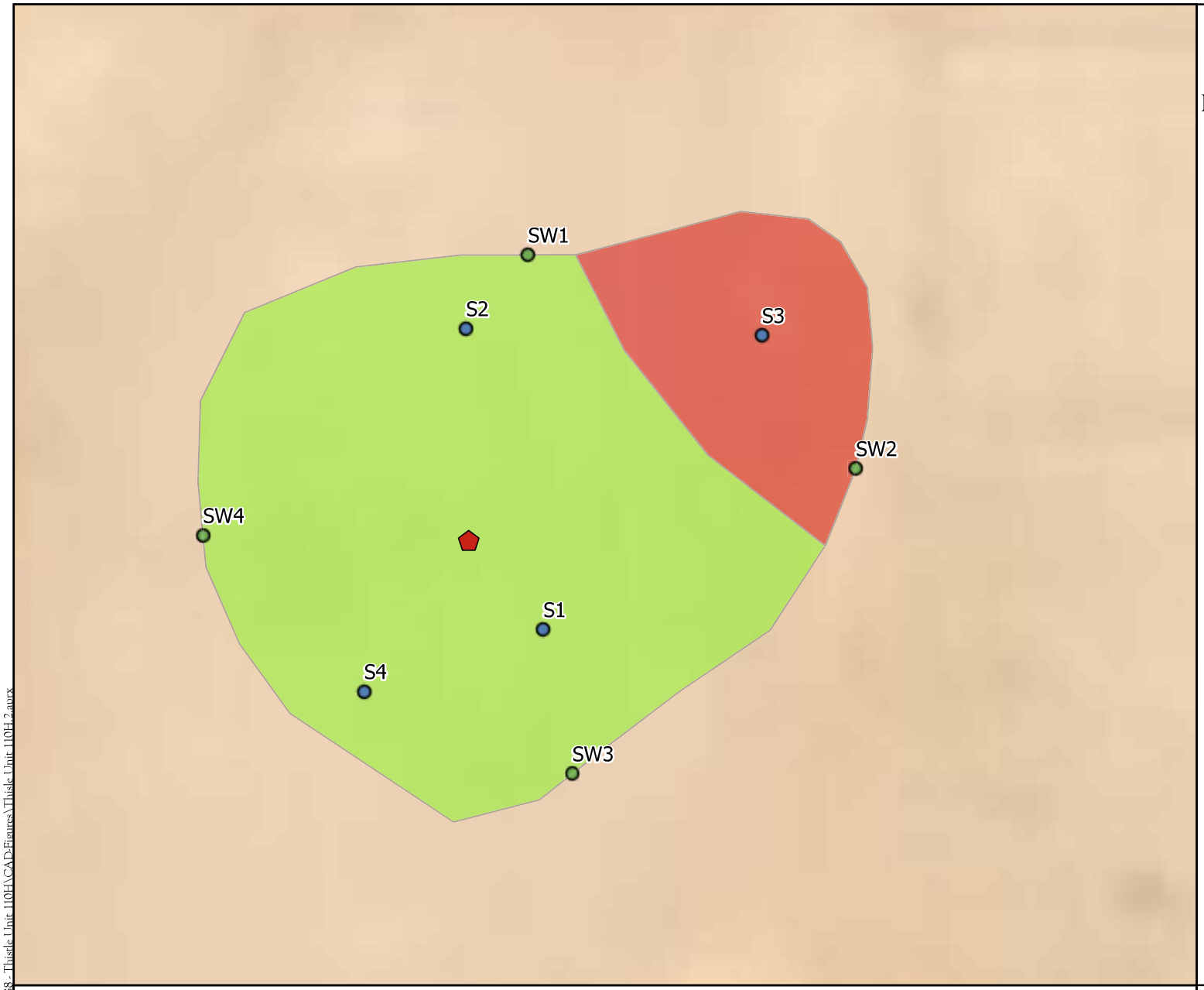

Legend

- Release Area
- Impacted Area
- Initial Side Wall Samples
- Initial Soil Samples
- Point of Release

N

0 5 10 20 30

Feet

Site and Initial Sample Location Map
Thistle Unit 110H - Devon Energy Production Company
UL: C S: 22 T: 23S R: 33E- Lea County, New Mexico

Figure 3

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Date Saved: 6/23/2020

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By: Date: Descr:

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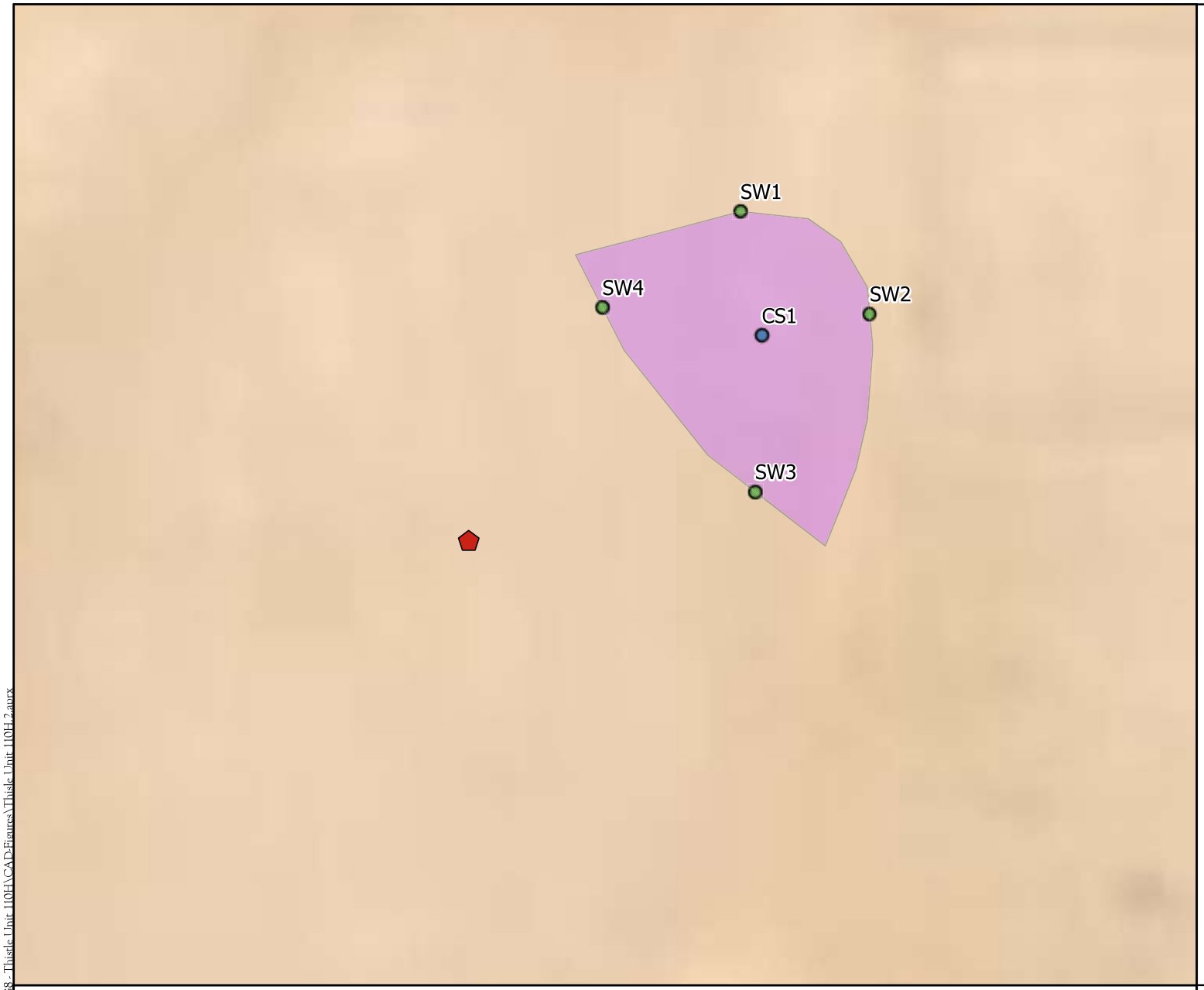

Legend

- 1' Excavation
- Sidewall Sample
- Soil Samples
- Point of Release

N

0 5 10 20 30

Feet

Excavation and Confirmation Sample Map
Thistle Unit 110H - Devon Energy Production Company
UL: C S: 22 T: 23S R: 33E- Lea County, New Mexico

Figure 3A

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Date Saved: 6/23/2020

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

Drawn Lynn A. Acosta
Date 7/2/2020
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TABLES

Table 2:
NMOCD Closure Criteria

Devon Energy Production Company
Thistle Unit 110H
1RP-5096

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	400	New Mexico Office of the State Engineer
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	NA	United State Geological Survey Topo Map
Hortizontal Distance to Nearest Significant Watercourse (ft)	2000	United State Geological Survey Topo Map

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

SMA #

Table 3:
Summary of Sample Results

Devon Energy
Thistle Unit 110H
1RP-5096

Sample ID	Sample Date	Depth (feet bgs)	Proposed Action/ Action Taken	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria				50	10	1000			100	600
Initial Sampling Event										
S1	3/19/2020	Surface	In-situ	<0.224	<0.025	<5.0	<9.5	<48	<62.5	400
		0.5	In-situ	<0.221	<0.025	<4.9	<9.7	<48	<62.6	310
S2	3/19/2020	Surface	In-situ	<0.217	<0.024	<4.8	<9.6	<48	<62.4	240
S3	3/19/2020	Surface	Excavated	<0.215	<0.024	<4.8	1100	320	1420	230
	5/27/2020	1	In-situ	<0.224	<0.025	<5.0	<10	<50	<65.0	<60
		1.5	In-situ	<0.212	<0.024	<4.7	<10	<50	<64.7	<60
		2	In-situ	<0.216	<0.024	<4.8	<9.4	<47	<61.2	<60
S4	3/19/2020	Surface	In-situ	<0.217	<0.024	<4.8	<9.5	<48	<62.3	150
SW1		Surface	In-situ	<0.217	<0.024	<4.8	<9.2	<46	<60	220
SW2		Surface	In-situ	<0.220	<0.024	<4.9	<9.3	<47	<61.2	84
SW3		Surface	In-situ	<0.213	<0.024	<4.7	<8.4	<42	<55.1	120
SW4		Surface	In-situ	<0.215	<0.024	<4.8	14	<44	14	<60
Confirmation Sampling Event										
CS1	6/16/2020	1	In-situ	<0.300	<0.50	<10	<10	<10	<30	32.0
SW1		0-1	In-situ	<0.300	<0.050	<10	<10	<10	<30	80.0
SW2		0-1	In-situ	<0.300	<0.050	<10	14.4	<10	14.4	32.0
SW3		0-1	In-situ	<0.300	<0.050	<10	<10	<10	<30	48.0
SW4		0-1	In-situ	<0.300	<0.050	<10	<10	<10	<30	176.0

"--" = Not Analyzed

SMA #

Table 4:
Potential Depth to Groundwater

Devon Energy Production Company
Thistle Unit 110H
1RP-5096

Depth To Groundwater			Calculations		Distance to Water Wells
Location Elevation (ft):	3710				
Well Name	Well Elevation (ft)	Well Depth to GW	Groundwater Elevation	Depth to GW at Location	(Miles)
C-03585 Pod 1	3637	18	3619	91	1.25
C-02278	3689	400	3289	421	1.47
C02280	3681	400	3281	429	1.71
C-02277	3695	400	3295	415	1.73
C-02281	3694	400	3294	416	1.95
C-02283	3668	225	3443	267	2.06
C-02282	3660	225	3435	275	2.16
C-02279	3682	400	3282	428	2.12
				3710	
Total # of Wells	8			2742	

Potential Depth to GW at Release:	342.75

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 Co. LP (6137)	Contact: Tony Newsom, Completions Consultant
Address: PO Box 250, Artesia, NM 88211	Telephone No. (580) 560-1832
Facility Name: Thistle Unit 110H	Facility Type: Oil Well

Surface Owner: State	Mineral Owner: State	API No. 30-025-43311

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	22	23S	33E					Lea

Latitude: 32.296980 N___ **Longitude:** -103.564765 W __ NAD83

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 16.68 bbls	Volume Recovered: 8 bbls
Source of Release: Blender Tub	Date and Hour of Occurrence: 5/31/18, 8:01 PM MST	Date and Hour of Discovery: 5/31/18, 8:01 PM MST
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? Shelly Tucker / BLM	
By Whom? Mike Shoemaker / Devon EHS	Date and Hour: 6/2/18 @ 3:24 PM MST	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

RECEIVED
By CHernandez at 8:31 am, Jun 15, 2018

Describe Cause of Problem and Remedial Action Taken.*
After shutting down Frac, the blender tub ran over due to bad blender valves. The valves were replaced.

Describe Area Affected and Cleanup Action Taken.*
Approximately 16.68 total barrels of produced water was released onto the pad surface. Approximately 8 bbls were recovered. An environmental contractor will be contacted to assist with delineation and remediation efforts.

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: Denise R. Menoud

Printed Name: Denise Menoud

Title: Admin Field Support

E-mail Address: denise.menoud@dvn.com

Date: 6/5/2018 Phone: 575-746-5544

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 6/15/2018 Expiration Date:

Conditions of Approval:
See attached directive

Attached ☑

1RP-5096 pCH1816632527
nCH1816631112

* Attach Additional Sheets If Necessary

Incident ID	
District RP	1RP-5096
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?	342 (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	
District RP	1RP-5096
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	1RP-5096
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated.

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

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Incident ID	
District RP	1RP-5096
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

APPENDIX B
NMOSE WELLS REPORT

F[redacted]No.

NEW MEXICO OFFICE OF THE STATE ENGINEER

APPLICATION FOR PERMIT TO USE UNDERGROUND WATERS IN ACCORDANCE WITH SECTIONS 72-12-1.1, 72-12-1.2, OR 72-12-1.3 NEW MEXICO STATUTES

For fees, see State Engineer website: http://www.ose.state.nm.us/

2-31637

1. APPLICANT(S)

Name: **Limestone Livestock LLC**	Name: **Atkins Engineering Associates, Inc**
Contact or Agent: **Bill Angell** check here if Agent ☐	Contact or Agent: **Jessica Atkins** check here if Agent ☒
Mailing Address: **PO Box 190**	Mailing Address: **2904 W 2nd Street**
City: **Lovington**	City: **Roswell**
State: **NM** Zip Code: **88260**	State: **NM** Zip Code: **88201**
Phone: **575-840-4158** ☐ Home ☒ Cell Phone (Work):	Phone: ☐ Home ☐ Cell Phone (Work): **575-624-2420**
E-mail (optional):	E-mail (optional): **jessica@atkinseng.com**

2. WELL LOCATION Required: Coordinate location must be New Mexico State Plane (NAD 83), UTM (NAD 83), **or** Lat/Long (WGS84)

NM State Plane (NAD83) - In feet	NM West Zone ☐ NM Central Zone ☐ NM East Zone ☐	X (in feet): Y (in feet):					
UTM (NAD83) - In meters	UTM Zone 13N ☐ UTM Zone 12N ☐	Easting (in meters): Northing (in meters):					
Lat/Long (WGS84) - To 1/10th of second	Latitude: **32**	deg	**18**	min	**6.6**	sec	
	Longitude: **-103**	deg	**35**	min	**24.1**	sec	

Other Location Information (complete the below, if applicable):

PLSS Quarters or Halves: **SE1/4** Section: **17** Township: **23S** Range: **33E**

County: **Lea**

Land Grant Name (if applicable):

Lot No: Block No: Unit/Tract: Subdivision:

Hydrographic Survey: Map: Tract:

Other description relating point of diversion to common landmarks, streets, or other:

Point of Diversion is on Land Owned by (Required): Limestone Livestock LLC

2012 JUN 22 A 11:49

STATE ENGINEER OFFICE ROSWELL

FOR OSE INTERNAL USE Application for Permit, Form wr-01, Rev11/16/11

File Number: C-3562		Trn Number: 507817	
Sub-basin: C	POD No. 1	Log Due Date: N/A	

3. PURPOSE OF USE

- ☐ Domestic use for one household
- ☒ Livestock watering
- ☐ Domestic use for more than one household. Number of households _____
- ☐ Drinking and sanitary uses that are incidental to the operations of a governmental, commercial, or non-profit facility
- ☐ Prospecting, mining or drilling operations to discover or develop natural resources
- ☐ Construction of public works, highways and roads
- ☐ Domestic use for one household and livestock watering
- ☐ Domestic use for multiple households and livestock watering
- ☐ Domestic well to accompany a house or other dwelling unit constructed for sale

4. WELL INFORMATION

File Information: (If existing well, provide OSE no. & indicate below if well is to be replacement, repaired or deepened, or supplemental. If new well, leave blank, as OSE must assign no.)

OSE Well No.(If Existing)	New Well No. (provided by OSE)
Driller Name: Unknown	**Driller License Number: UNKNOWN**
Approximate Depth of Well (feet):	Outside Diameter of Well Casing (inches): **0.00**

☐ Replacement well (List all existing wells if more than one):	☐ Repair or Deepen: ☐ Clean out well to original depth ☐ Deepen well from _____ to _____ ft. ☐ Other (Explain):	☐ Supplemental well (List OSE No. for all wells this will supplement):

5. ADDITIONAL STATEMENTS OR EXPLANATIONS

ACKNOWLEDGEMENT

I, We (name of applicant(s)), **Jessica Atkins, agent Limestone Livestock LLC**

Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Jessica Atkins

Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER (FOR OSE USE ONLY)

This application is approved subject to the attached general and specific conditions of approval.

Witness my hand and seal this 20th day of July 20 12, for the State Engineer,

By: Margaret Wolf

Signature: Margaret Wolf, Water Resource Tech

Scott A. Verhines, P.E., State Engineer

Print

STATE ENGINEER OFFICE ROSWELL

FOR OSE INTERNAL USE

Application for Permit, Form wr-01, Rev11/16/11

File Number: C-3562		Trn Number: 507817	
Sub-basin: C	POD No. 1		Log Due Date: N/A

Locator Tool Report

General Information:

Application ID:29 Date: 07-16-2012 Time: 15:29:39

WR File Number: C
Purpose: POINT OF DIVERSION

Applicant First Name: LIMESTONE
Applicant Last Name: LIVESTOCK

GW Basin: CARLSBAD
County: LEA

Critical Management Area Name(s): NONE
Special Condition Area Name(s): NONE
Land Grant Name: NON GRANT

PLSS Description (New Mexico Principal Meridian):

SW 1/4 of SW 1/4 of NE 1/4 of SE 1/4 of Section 17, Township 23S, Range 33E.

Coordinate System Details:

Geographic Coordinates:

Latitude:	32 Degrees	18 Minutes	6.6 Seconds	N
Longitude:	103 Degrees	35 Minutes	24.1 Seconds	W

Universal Transverse Mercator Zone: 13N

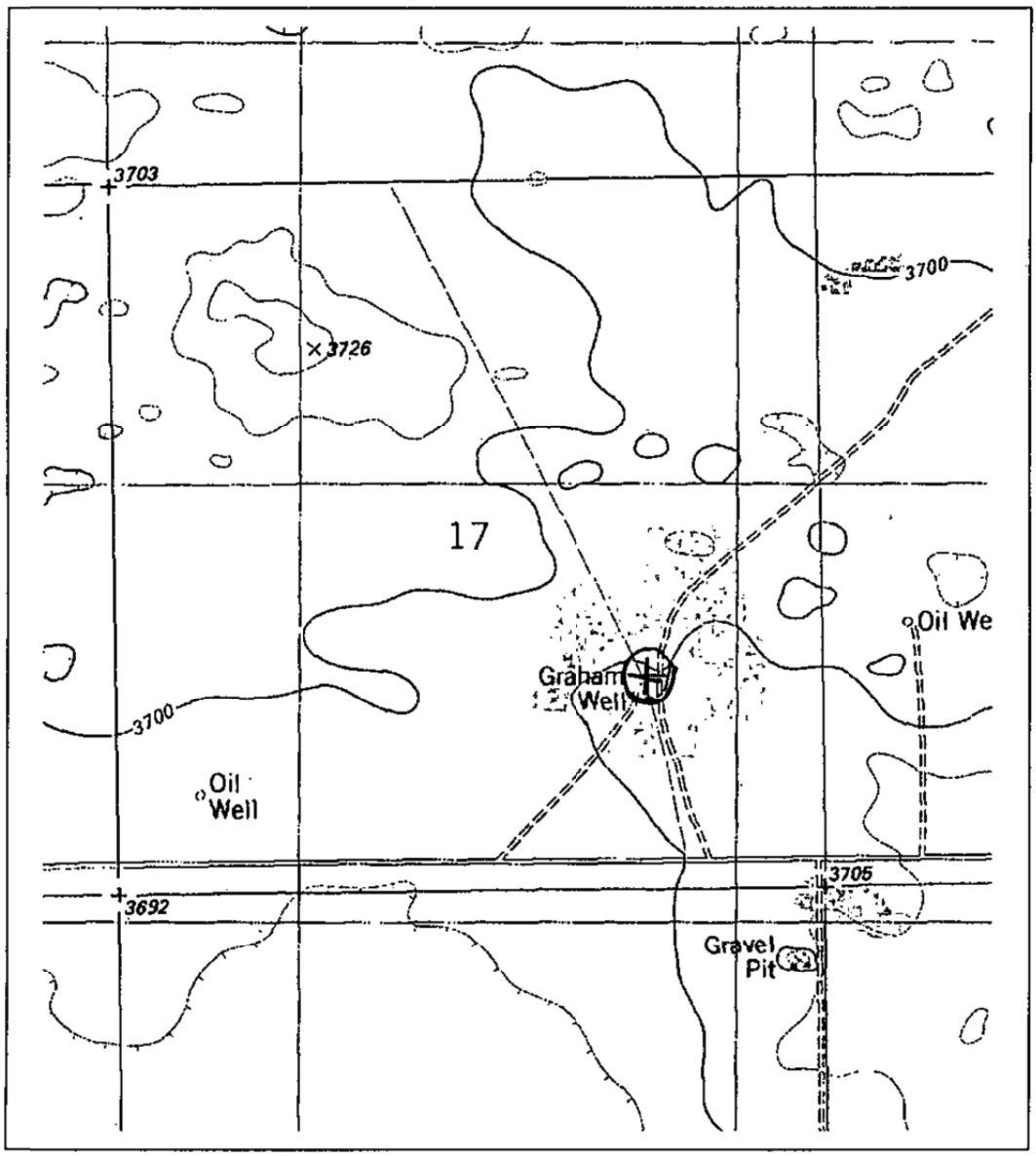
NAD 1983(92) (Meters)	N: 3,574,765	E: 632,747
NAD 1983(92) (Survey Feet)	N: 11,728,209	E: 2,075,938
NAD 1927 (Meters)	N: 3,574,564	E: 632,795
NAD 1927 (Survey Feet)	N: 11,727,547	E: 2,076,097

State Plane Coordinate System Zone: New Mexico East

NAD 1983(92) (Meters)	N: 144,578	E: 235,001
NAD 1983(92) (Survey Feet)	N: 474,336	E: 770,998
NAD 1927 (Meters)	N: 144,560	E: 222,448
NAD 1927 (Survey Feet)	N: 474,276	E: 729,815

NEW MEXICO OFFICE OF STATE ENGINEER

Locator Tool Report



WR File Number: C Scale: 1:16,510

Northing/Easting: UTM83(92) (Meter): N: 3,574,765 E: 632,747

Northing/Easting: SPCS83(92) (Feet): N: 474,336 E: 770,998

GW Basin: Carlsbad

FE-1 State of New Mexico
State Engineer

WELL SCHEDULE

Source of data: Obser [X] Owner [ ] Other USGS

Date 9/21 19 72 Record by Lyford

LOCATION: County Lea Map 119.2.0

OWNER

DRILLER Completed 19

TOPO SITUATION USGST Elev 3701

DEPTH 550 ft [ ] Rept [X] Meas Use Stock

CASING 8 5/8 in to ft Log

PUMP: Type submersible Make

Ser.no./model Size of dischg 2 in.

PRIME MOVER: Make HP

Ser.no. Power/Fuel electric

PUMP DRIVE: [ ] Gear Head [ ] Belt Head [ ] Pump Jack

Make Ser.no [ ] VHS

WATER LEVEL: 504.9 ft ~~MP~~ meas 9/21 19 72 ~~above~~ below lower outside edge of 3/4" elbow for electric line

which is 0.50 ft ~~above~~ below LS

PERMANENT RP is Top of hanger plate (Steel plate welded to a thread protector)

which is ft above below described MP and ft above below LS

REMARKS Well discharges into a steel tank located 50' E

AQUIFER(S): TRS

Well No. on Photo DPN 25-12813

File No Loc. No. 23.33.17.42331

Remarks cont. of well. Well is shown on topo map as 'Graham Well'. Water sample collected from storage tank.

SKETCH:

INITIAL WATER-LEVEL MEASUREMENT	DEPTH TO WATER			
	Below MP			Below
	1st	2nd	3rd	LS
Date Sept. 21, 19 72				504.9
Hour ____ AM PM Obs FPL				0.5
Not POA ( ) POA ( )	504.9			504.4

W L meas after pump shut off ____ min. Pumping W L ( )

Remarks ____

NEW MEXICO STATE ENGINEER OFFICE
APPLICATION FOR PERMIT TO USE UNDERGROUND WATERS
IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES

GENERAL CONDITIONS OF APPROVAL (A thru P)

06-A The maximum amount of water that may be appropriated under this permit is 3.000 acre-feet in any year.

06-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated. A licensed driller shall not be required for the construction of a driven well; provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter (Section 72-12-12).

06-C Driller's well record must be filed with the State Engineer within 20 days after the well is drilled or driven. Well record forms will be provided by the State Engineer upon request.

06-D The casing shall not exceed 7 inches outside diameter except under specific conditions in which reasons satisfactory to the State Engineer are shown.

06-E To request a change to the use of water authorized under this permit, the permittee shall file an application with the State Engineer.

06-F An application for a new 72-12-1.1 domestic well permit where the proposed point of diversion is to be located on the same legal lot of record as an operational 72-12-1.1 domestic well shall be treated as an application for a supplemental well.

06-G If artesian water is encountered, all rules and regulations pertaining to the drilling and casing of artesian wells shall be complied with.

06-H The drilling of the well and amount and uses of water permitted are subject to such limitations as may be imposed by a court or by lawful municipal or county ordinance which are more restrictive than the conditions of this permit and applicable State Engineer regulations.

06-I The permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

Trn Desc: C 03562 File Number: C 03562
Log Due Date: _____ Trn Number: 507817
Form: wr-01 page: 1

NEW MEXICO STATE ENGINEER OFFICE
APPLICATION FOR PERMIT TO USE UNDERGROUND WATERS
IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES

GENERAL CONDITIONS OF APPROVAL (Continued)

06-J The well shall be set back a minimum of 50 ft. from an existing well of other ownership unless a variance has been granted by the State Engineer. The State Engineer may grant a variance for a replacement well or to allow for maximum spacing of the well from a source of groundwater contamination. The well shall be set back from potential sources of contamination in accordance with rules and regulations of the NM Environment Department.

06-K Pursuant to section 72-8-1 NMSA, the permittee shall allow the State Engineer and his representatives entry upon private property for the performance of their respective duties, including access to the well for meter reading and water level measurement.

06-L The permit is subject to cancellation for non-compliance with the conditions of approval or if otherwise not exercised in accordance with the terms of the permit.

06-M The right to divert water under this permit is subject to curtailment by priority administration as implemented by the State Engineer or a court.

06-N In the event of any change of ownership to this permit the new owner shall file a change of ownership form with the State Engineer in accordance with Section 72-1-2.1 NMSA.

06-O This well permit shall automatically expire unless the well is completed and the well record is filed with the State Engineer within one year of the date of issuance of the permit. It is the responsibility of the permit holder to ensure that the well record has been properly filed with the State Engineer.

06-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between geologic zones.

SPECIFIC CONDITIONS OF APPROVAL

06-10 Total diversion from all wells under this permit number shall not exceed 3.000 acre-feet per annum.

Trn Desc: C 03562 File Number: C 03562
Log Due Date: Trn Number: 507817
Form: wr-01 page: 2

NEW MEXICO STATE ENGINEER OFFICE
APPLICATION FOR PERMIT TO USE UNDERGROUND WATERS
IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES

SPECIFIC CONDITIONS OF APPROVAL (Continued)

06-14 This permit authorizes the diversion of water for watering livestock. The total diversion of water under this permit shall not exceed 3.000 acre-feet per year.

06-18 Any diversion of water made in excess of the authorized maximum diversion amount shall be repaid with twice the amount of the over-diversion during the following calendar year. Repayment shall be made by either: (a) reducing the diversion from the well that is the source of the over-diversion; or (b) acquiring or leasing a valid, existing consumptive use water right in an amount equal to the repayment amount and submitting to the State Engineer for his approval a plan for the proposed repayment.

ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to specific conditions listed above.

Witness my hand and seal this 20 day of Jul A.D., 2012

Scott A. Verhines, P.E., State Engineer

By: Margaret Wolf
Margaret Wolf

Trn Desc: C 03562 File Number: C 03562
Log Due Date: Trn Number: 507817
Form: wr-01 page: 3

Scott A. Verhines, P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 507817
File Nbr: C 03562

Jul. 20, 2012

JESSICA ATKINS
ATKINS ENGINEERING ASSOC, INC.
2904 W 2ND STREET
ROSWELL, NM 88201

Greetings:

Enclosed is your copy of the above numbered permit that has been approved in accordance with NM Statute Section 72-12-1 subject to the conditions set forth on the approval page.

Please review the conditions for any required submittals. If submittals are not made by the date(s) indicated in the conditions, your rights under this permit shall expire by the date indicated on your permit.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us or will be mailed upon request.

Sincerely,

Margaret Wolf
(575)622-6521

Enclosure

wr_01app

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

2012 NOV 21 A 10: 14

1. GENERAL AND WELL LOCATION

POD NUMBER (WELL NUMBER): C-03582	OSE FILE NUMBER(S): C03582
WELL OWNER NAME(S): Bill Angel	PHONE (OPTIONAL): 575-369-6303
WELL OWNER MAILING ADDRESS: PO Box 190	CITY: Lovington STATE: nm ZIP: 88260

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	18	34.2	N
	LONGITUDE	103	32	57.0	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS:

2. OPTIONAL

(2.5 ACRE)	(10 ACRE)	(40 ACRE)	(160 ACRE)	SECTION	TOWNSHIP	RANGE
¼	¼	¼	¼		☐ NORTH ☐ SOUTH	☐ EAST ☐ WEST

SUBDIVISION NAME	LOT NUMBER	BLOCK NUMBER	UNIT/TRACT

HYDROGRAPHIC SURVEY	MAP NUMBER	TRACT NUMBER

3. DRILLING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD1682	John Noms	Hungry Horse LLC

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
10-1-12	10-18-12	590	590	

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☒ SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT):

DRILLING FLUID: ☐ AIR ☒ MUD ☐ ADDITIVES – SPECIFY:

DRILLING METHOD: ☒ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)
0	590	12"	PVC	glued	6"	3/8	1/8

4. WATER-BEARING STRATA

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	YIELD (GPM)
18	65	47	Sand	UK
95	110	15	Sand	UK
230	236	6	Sand	UK
383	391	8	Sand	UK
410	416	6	Sand	UK

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: N/A

TOTAL ESTIMATED WELL YIELD (GPM):

FOR OSE INTERNAL USE — WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	C-3582	POD NUMBER		TRN NUMBER	515767
LOCATION	STR	23S.33E.14.114			PAGE 1 OF 2

5. SEAL AND PUMP

TYPE OF PUMP: ☐ SUBMERSIBLE ☐ JET ☐ NO PUMP – WELL NOT EQUIPPED
☐ TURBINE ☐ CYLINDER ☐ OTHER – SPECIFY: Unknown

ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
	0	20	12	grout/cement	8	top

6. GEOLOGIC LOG OF WELL

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?
0	7	7	topsoil	☐ YES ☒ NO
7	18	11	caliche	☐ YES ☒ NO
18	65	47	Sand	☒ YES ☐ NO
65	80	15	Rock	☐ YES ☒ NO
80	95	15	Red clay	☒ YES ☐ NO
95	110	15	Sand	☒ YES ☐ NO
110	230	120	Red clay	☒ YES ☐ NO
230	236	6	Sand	☒ YES ☐ NO
236	310	74	Red clay	☒ YES ☐ NO
310	362	52	Sand clay	☒ YES ☐ NO
362	383	21	Red clay	☒ YES ☐ NO
383	391	8	Sand	☒ YES ☐ NO
391	410	19	Red clay	☒ YES ☐ NO
410	416	6	sand	☒ YES ☐ NO
416	513	97	Red clay	☒ YES ☐ NO
513	520	104	sand	☒ YES ☐ NO
520	590	70	Red clay	☒ YES ☐ NO

ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL

7. TEST & ADDITIONAL INFO

WELL TEST — METHOD: ☐ BAILER ☐ PUMP ☐ AIR LIFT ☐ OTHER – SPECIFY: N/A

TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

ADDITIONAL STATEMENTS OR EXPLANATIONS:

STATE ENGINEER OFFICE ROSWELL 2012 NOV 21 A 10

8. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

SIGNATURE OF DRILLER — DATE: 11-19-12

FOR OSE INTERNAL USE — WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	C-3582	POD NUMBER		TRN NUMBER	515107
LOCATION	STK	23S.33E.14.114		PAGE 2 OF 2	

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

2020 JAN 29

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD 1		C-4353

WELL OWNER NAME(S)	PHONE (OPTIONAL)
HUGHES PROPERTIES LLC	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
P.O. BOX 5097	CARLSBAD	NM	88221

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	17	42.00000	N
	LONGITUDE	-103	31	7.300000	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

SE1/4 OF NE1/4 OF NE1/4 OF SECTION 24, TOWNSHIP 23S, RANGE 33E

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD- 1737	JUSTIN MULLINS	SHADE TREE DRILLING

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
11-4-19	11-13-19	603	601	330

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 330

DRILLING FLUID: ☐ AIR ☑ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	301	12.25	6 5/8 STEEL	WELDED	6 1/8	1/4	
301	601	12.25	6 5/8 STEEL	WELDED	6 1/8	1/4	1/4

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	20	12 1/4	PORTLAND CEMEMT	19	HAND
20	601	12 1/4	3/8 PEA GRAVEL	340	HAND

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO. C-4353	POD NO. 1	TRN NO. 658327	
LOCATION 2 2 4 T23S R33E Sec 24		WELL TAG ID NO. NA	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	2	2	TOPSOIL	Y ✔ N	
2	14	12	CALICHE	Y ✔ N	
14	128	114	RED CLAY	Y ✔ N	
128	240	112	BLUE CLAY	Y ✔ N	
240	273	33	LIMESTONE	Y ✔ N	
273	300	27	CLAY	Y ✔ N	
300	330	30	ROCK	Y ✔ N	
330	344	14	SAND	✔ Y N	30.00
344	394	50	SAND STONE	Y ✔ N	
394	430	36	CLAY	Y ✔ N	
430	437	7	ROCK	Y ✔ N	
437	601	164	CLAY	Y ✔ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☑ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 30.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

PETE LOWEN

6. SIGNATURE

BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.

Justin Mullins — JUSTIN MULLINS — 11-16-19

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/2019)

FILE NO. C-4353	POD NO. 1	TRN NO. 658327	
LOCATION 22 4 T23S R33E Sec 24		WELL TAG ID NO. NA	PAGE 2 OF 2

APPENDIX C
SAMPLING PROTOCOL & FIELD NOTES

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

Sampling Protocol

Representatives from SMA chose the Judgmental Sampling Method as described in EPA's Final Sampling Guidance for SW-846, 2002 to adequately quantify contaminant concentrations on Thistle Unit 110H Location. The utility of this particular method functions on the sufficient knowledge of the contaminant, which we possess. This design is also useful when identifying the composition of a release, which we have documented. In addition, this sampling design was chosen for this project because of the locations uniform soil type, and the several operational considerations (such as the liner within the battery and the construction of a new facility) that precluded the implementation of a different statistical design.

The confirmation samples were collected in laboratory supplied containers in accordance with this sampling protocol, immediately placed on ice and sent under standard chain-of-custody protocols to Cardinal Laboratories in Hobbs, New Mexico for analysis. A total of five (5) samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D.

Sampling Analysis Field Quality Assurance Procedures

A unique sample numbering was used to identify each sample collected and designated for on-site and off-site laboratory analysis. The purpose of this numbering scheme was to provide a tracking system for the retrieval of analytical and field data on each sample. Sample identification numbers were recorded on sample labels or tags, field notes, chain-of-custody records (COC) and all other applicable documentation used during the project. Sample labels were affixed to all sample containers during sampling activities. Information was recorded on each sample container label at the time of sample collection. The information recorded on the labels were as follows: sample identification number; sample type (discrete or composite); site name and area/location number; analysis to be performed; type of chemical preservative present in container; date and time of sample collection; and sample collector's name and initials. All samples were packed in ice in an approved rigid body container, custody sealed signed and shipped to the appropriate laboratory via insured currier service.

COC procedures implemented for the project provided documentation of the handling of each sample from the time of collection until completion of laboratory analysis. A COC form serves as a legal record of possession of the sample. A sample is considered to be under custody if one or more of the following criteria are met: the sample is in the sampler's possession; the sample is in the sampler's view after being in possession; the sample was in the sampler's possession and then was placed into a locked area to prevent tampering; and/or the sample is in a designated secure area. Custody was documented throughout the project field sampling activities by a chain-of custody form initiated each day during which samples are collected. Container custody seals placed on either individual samples or on the rigid body container were used to ensure that no sample tampering occurs between the time the samples are placed into the containers and the time the containers are opened for analysis at the laboratory. Container custody seals were signed and dated by the individual responsible for completing the COC form contained within the container.

Location Name: Thistle Unit 116H

Date: 3-19-20

Sample Name:	Collection Time:	EC (mS)	Temp (°C)	PID Reading /PF	Soil Color	Primary Soil Type	Moisture Level
S1 - Surface	432	0.61	14.0	-	~~Light~~ Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel ~~Rock~~; ~~Sand~~ Silt; Clay	Dry ~~Moist~~ Wet
0.5'	442	0.29 ~~1.04~~	18.1 18.3	-	~~Light~~ Dark; ~~Tan~~ ~~Brown~~; Gray Olive; Yellow Red	~~Gravel~~ ~~Rock~~; ~~Sand~~ Silt; Clay	Dry ~~Moist~~ Wet
S2 - Surface	458	0.27	14.5	-	~~Light~~ ~~Tan~~ Dark ~~Brown~~; Gray Olive; Yellow Red	Gravel ~~Rock~~; Sand Silt; Clay	Dry ~~Moist~~ Wet
S3 - Surface	1021	0.28	14.8	-	~~Light~~ ~~Tan~~ Dark ~~Brown~~; Gray Olive; Yellow Red	~~Gravel~~ ~~Rock~~; Sand Silt; Clay	Dry ~~Moist~~ Wet
SW4 ~~S4~~ - Surface	1026	0.08	18.0	-	~~Light~~ Tan ~~Dark~~ ~~Brown~~; Gray Olive; Yellow Red	Gravel ~~Rock~~; Sand Silt; Clay	Dry ~~Moist~~ Wet
S4 - Surface	1035	0.20	14.0	-	~~Light~~ Tan Dark ~~Brown~~; Gray Olive; Yellow Red	~~Gravel~~ ~~Rock~~; Sand Silt; Clay	Dry ~~Moist~~ Wet
SW1	1044	0.26	14.5	-	~~Light~~ ~~Tan~~ Dark ~~Brown~~; Gray Olive; Yellow Red	Gravel ~~Rock~~; ~~Sand~~ Silt; Clay	Dry ~~Moist~~ Wet
SW2	1050	0.40	14.4	-	~~Light~~ ~~Tan~~ Dark ~~Brown~~; Gray Olive; Yellow Red	Gravel ~~Rock~~; ~~Sand~~ Silt; Clay	Dry ~~Moist~~ Wet

Field Screening

Location Name: Thistle # 110 H

Date: 5/27/2020

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	EC (ppm)	Temp (°C)	PID Reading	PF
S3	red sandy silt	1'	8:30	0.04	25.3	0.0	—
	"	1.5'	8:33	0.03	25.2	0.0	—
	"	2'	8:37	0.04	25.3	0.0	—

Field Screening

Location Name: Thistle Unit 110H

Date: 6/16/20

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	EC (ppm)	Temp (°C)	PID Reading	PF
CS1	red sand	1'	10:11	0.06	25.2	—	—
SW1	"	0-1'	10:15	0.12	25.1	—	—
SW2	"	0-1'	10:19	0.04	25.2	—	—
SW3	"	0-1'	10:22	0.08	25.2	—	—
SW4	"	0-1	10:24	0.08	25.2	—	—

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 27, 2020

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

RE: Thistle Unit 110H OrderNo.: 2003958

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 9 sample(s) on 3/20/2020 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 **2003958**
Date Reported: **3/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S1
Project: Thistle Unit 110H
Collection Date: 3/19/2020 9:32:00 AM
Lab ID: 2003958-001 **Matrix:** SOIL **Received Date:** 3/20/2020 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	400	60		mg/Kg	20	3/25/2020 3:13:13 PM	51316
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/24/2020 7:21:23 PM	51257
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/24/2020 7:21:23 PM	51257
Surr: DNOP	96.5	55.1-146		%Rec	1	3/24/2020 7:21:23 PM	51257
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/24/2020 12:16:34 AM	51253
Surr: BFB	91.2	66.6-105		%Rec	1	3/24/2020 12:16:34 AM	51253
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	3/24/2020 12:16:34 AM	51253
Toluene	ND	0.050		mg/Kg	1	3/24/2020 12:16:34 AM	51253
Ethylbenzene	ND	0.050		mg/Kg	1	3/24/2020 12:16:34 AM	51253
Xylenes, Total	ND	0.099		mg/Kg	1	3/24/2020 12:16:34 AM	51253
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	3/24/2020 12:16:34 AM	51253

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 **2003958**
Date Reported: **3/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S1-0.5'
Project: Thistle Unit 110H
Collection Date: 3/19/2020 9:42:00 AM
Lab ID: 2003958-002 **Matrix:** SOIL **Received Date:** 3/20/2020 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	310	60		mg/Kg	20	3/25/2020 4:14:58 PM	51316
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/24/2020 7:45:04 PM	51257
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/24/2020 7:45:04 PM	51257
Surr: DNOP	98.2	55.1-146		%Rec	1	3/24/2020 7:45:04 PM	51257
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/24/2020 12:40:14 AM	51253
Surr: BFB	95.8	66.6-105		%Rec	1	3/24/2020 12:40:14 AM	51253
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	3/24/2020 12:40:14 AM	51253
Toluene	ND	0.049		mg/Kg	1	3/24/2020 12:40:14 AM	51253
Ethylbenzene	ND	0.049		mg/Kg	1	3/24/2020 12:40:14 AM	51253
Xylenes, Total	ND	0.098		mg/Kg	1	3/24/2020 12:40:14 AM	51253
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	3/24/2020 12:40:14 AM	51253

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 **2003958**
Date Reported: **3/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S2
Project: Thistle Unit 110H
Collection Date: 3/19/2020 9:58:00 AM
Lab ID: 2003958-003 **Matrix:** SOIL **Received Date:** 3/20/2020 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	240	60		mg/Kg	20	3/25/2020 4:27:17 PM	51316
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/24/2020 8:08:47 PM	51257
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/24/2020 8:08:47 PM	51257
Surr: DNOP	97.4	55.1-146		%Rec	1	3/24/2020 8:08:47 PM	51257
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/24/2020 1:03:58 AM	51253
Surr: BFB	93.8	66.6-105		%Rec	1	3/24/2020 1:03:58 AM	51253
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	3/24/2020 1:03:58 AM	51253
Toluene	ND	0.048		mg/Kg	1	3/24/2020 1:03:58 AM	51253
Ethylbenzene	ND	0.048		mg/Kg	1	3/24/2020 1:03:58 AM	51253
Xylenes, Total	ND	0.097		mg/Kg	1	3/24/2020 1:03:58 AM	51253
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	3/24/2020 1:03:58 AM	51253

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 **2003958**
Date Reported: **3/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S3
Project: Thistle Unit 110H
Collection Date: 3/19/2020 10:21:00 AM
Lab ID: 2003958-004 **Matrix:** SOIL **Received Date:** 3/20/2020 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	230	60		mg/Kg	20	3/25/2020 6:43:08 PM	51329
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	1100	19		mg/Kg	2	3/25/2020 2:28:45 PM	51268
Motor Oil Range Organics (MRO)	320	95		mg/Kg	2	3/25/2020 2:28:45 PM	51268
Surr: DNOP	104	55.1-146		%Rec	2	3/25/2020 2:28:45 PM	51268
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/24/2020 1:27:39 AM	51253
Surr: BFB	91.7	66.6-105		%Rec	1	3/24/2020 1:27:39 AM	51253
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	3/24/2020 1:27:39 AM	51253
Toluene	ND	0.048		mg/Kg	1	3/24/2020 1:27:39 AM	51253
Ethylbenzene	ND	0.048		mg/Kg	1	3/24/2020 1:27:39 AM	51253
Xylenes, Total	ND	0.095		mg/Kg	1	3/24/2020 1:27:39 AM	51253
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	3/24/2020 1:27:39 AM	51253

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 **2003958**
Date Reported: **3/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S4
Project: Thistle Unit 110H
Collection Date: 3/19/2020 10:35:00 AM
Lab ID: 2003958-005 **Matrix:** SOIL **Received Date:** 3/20/2020 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	150	60		mg/Kg	20	3/25/2020 6:55:28 PM	51329
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/24/2020 10:29:31 PM	51268
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/24/2020 10:29:31 PM	51268
Surr: DNOP	93.5	55.1-146		%Rec	1	3/24/2020 10:29:31 PM	51268
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/24/2020 1:51:20 AM	51253
Surr: BFB	93.5	66.6-105		%Rec	1	3/24/2020 1:51:20 AM	51253
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	3/24/2020 1:51:20 AM	51253
Toluene	ND	0.048		mg/Kg	1	3/24/2020 1:51:20 AM	51253
Ethylbenzene	ND	0.048		mg/Kg	1	3/24/2020 1:51:20 AM	51253
Xylenes, Total	ND	0.097		mg/Kg	1	3/24/2020 1:51:20 AM	51253
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	3/24/2020 1:51:20 AM	51253

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 **2003958**
Date Reported: **3/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW1
Project: Thistle Unit 110H
Collection Date: 3/19/2020 10:44:00 AM
Lab ID: 2003958-006 **Matrix:** SOIL **Received Date:** 3/20/2020 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	220	60		mg/Kg	20	3/25/2020 7:07:49 PM	51329
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/24/2020 10:53:46 PM	51268
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/24/2020 10:53:46 PM	51268
Surr: DNOP	89.3	55.1-146		%Rec	1	3/24/2020 10:53:46 PM	51268
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/24/2020 2:15:05 AM	51253
Surr: BFB	92.6	66.6-105		%Rec	1	3/24/2020 2:15:05 AM	51253
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	3/24/2020 2:15:05 AM	51253
Toluene	ND	0.048		mg/Kg	1	3/24/2020 2:15:05 AM	51253
Ethylbenzene	ND	0.048		mg/Kg	1	3/24/2020 2:15:05 AM	51253
Xylenes, Total	ND	0.097		mg/Kg	1	3/24/2020 2:15:05 AM	51253
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	3/24/2020 2:15:05 AM	51253

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 **2003958**
Date Reported: **3/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW2
Project: Thistle Unit 110H
Collection Date: 3/19/2020 10:54:00 AM
Lab ID: 2003958-007 **Matrix:** SOIL **Received Date:** 3/20/2020 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	84	61		mg/Kg	20	3/25/2020 7:20:10 PM	51329
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/24/2020 11:18:03 PM	51268
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/24/2020 11:18:03 PM	51268
Surr: DNOP	92.5	55.1-146		%Rec	1	3/24/2020 11:18:03 PM	51268
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/24/2020 2:38:46 AM	51253
Surr: BFB	91.6	66.6-105		%Rec	1	3/24/2020 2:38:46 AM	51253
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	3/24/2020 2:38:46 AM	51253
Toluene	ND	0.049		mg/Kg	1	3/24/2020 2:38:46 AM	51253
Ethylbenzene	ND	0.049		mg/Kg	1	3/24/2020 2:38:46 AM	51253
Xylenes, Total	ND	0.098		mg/Kg	1	3/24/2020 2:38:46 AM	51253
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	3/24/2020 2:38:46 AM	51253

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 **2003958**
Date Reported: **3/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW3
Project: Thistle Unit 110H
Collection Date: 3/19/2020 10:56:00 AM
Lab ID: 2003958-008 **Matrix:** SOIL **Received Date:** 3/20/2020 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	120	60		mg/Kg	20	3/25/2020 7:32:31 PM	51329
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	3/25/2020 12:30:27 AM	51283
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	3/25/2020 12:30:27 AM	51283
Surr: DNOP	83.3	55.1-146		%Rec	1	3/25/2020 12:30:27 AM	51283
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/24/2020 3:02:25 AM	51253
Surr: BFB	94.6	66.6-105		%Rec	1	3/24/2020 3:02:25 AM	51253
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	3/24/2020 3:02:25 AM	51253
Toluene	ND	0.047		mg/Kg	1	3/24/2020 3:02:25 AM	51253
Ethylbenzene	ND	0.047		mg/Kg	1	3/24/2020 3:02:25 AM	51253
Xylenes, Total	ND	0.095		mg/Kg	1	3/24/2020 3:02:25 AM	51253
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	3/24/2020 3:02:25 AM	51253

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 **2003958**
Date Reported: **3/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW4
Project: Thistle Unit 110H
Collection Date: 3/19/2020 10:58:00 AM
Lab ID: 2003958-009 **Matrix:** SOIL **Received Date:** 3/20/2020 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/25/2020 7:44:52 PM	51329
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	14	8.7		mg/Kg	1	3/25/2020 12:54:39 AM	51283
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	3/25/2020 12:54:39 AM	51283
Surr: DNOP	91.9	55.1-146		%Rec	1	3/25/2020 12:54:39 AM	51283
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/24/2020 3:26:04 AM	51253
Surr: BFB	92.5	66.6-105		%Rec	1	3/24/2020 3:26:04 AM	51253
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	3/24/2020 3:26:04 AM	51253
Toluene	ND	0.048		mg/Kg	1	3/24/2020 3:26:04 AM	51253
Ethylbenzene	ND	0.048		mg/Kg	1	3/24/2020 3:26:04 AM	51253
Xylenes, Total	ND	0.095		mg/Kg	1	3/24/2020 3:26:04 AM	51253
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	3/24/2020 3:26:04 AM	51253

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#: **2003958**

27-Mar-20

Client: Souder, Miller & Associates

Project: Thistle Unit 110H

Sample ID: **MB-51316**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **51316**	RunNo: **67561**							
Prep Date: **3/25/2020**	Analysis Date: **3/25/2020**	SeqNo: **2333041**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-51316**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **51316**	RunNo: **67561**							
Prep Date: **3/25/2020**	Analysis Date: **3/25/2020**	SeqNo: **2333042**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.5	90	110			

Sample ID: **MB-51329**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **51329**	RunNo: **67561**							
Prep Date: **3/25/2020**	Analysis Date: **3/25/2020**	SeqNo: **2333079**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-51329**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **51329**	RunNo: **67561**							
Prep Date: **3/25/2020**	Analysis Date: **3/25/2020**	SeqNo: **2333080**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.3	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#: **2003958**

27-Mar-20

Client: Souder, Miller & Associates

Project: Thistle Unit 110H

Sample ID: **MB-51283**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51283**	RunNo: **67512**
Prep Date: **3/24/2020**	Analysis Date: **3/24/2020**	SeqNo: **2330406** 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	9.6		10.00		95.5	55.1	146			

Sample ID: **LCS-51283**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51283**	RunNo: **67512**
Prep Date: **3/24/2020**	Analysis Date: **3/24/2020**	SeqNo: **2330509** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.2	70	130			
Surr: DNOP	4.3		5.000		86.4	55.1	146			

Sample ID: **MB-51257**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51257**	RunNo: **67512**
Prep Date: **3/23/2020**	Analysis Date: **3/24/2020**	SeqNo: **2330911** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		90.4	55.1	146			

Sample ID: **LCS-51257**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51257**	RunNo: **67512**
Prep Date: **3/23/2020**	Analysis Date: **3/24/2020**	SeqNo: **2331072** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.9	70	130			
Surr: DNOP	4.4		5.000		88.8	55.1	146			

Sample ID: **LCS-51268**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51268**	RunNo: **67509**
Prep Date: **3/23/2020**	Analysis Date: **3/24/2020**	SeqNo: **2331474** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.8	70	130			
Surr: DNOP	4.2		5.000		85.0	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#: **2003958**

27-Mar-20

Client: Souder, Miller & Associates

Project: Thistle Unit 110H

Sample ID: **MB-51268**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **51268**	RunNo: **67509**							
Prep Date: **3/23/2020**	Analysis Date: **3/24/2020**	SeqNo: **2331475**	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	9.5		10.00		95.2	55.1	146			

Sample ID: **LCS-51299**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **51299**	RunNo: **67548**							
Prep Date: **3/24/2020**	Analysis Date: **3/25/2020**	SeqNo: **2332705**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.3		5.000		105	55.1	146			

Sample ID: **MB-51299**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **51299**	RunNo: **67548**							
Prep Date: **3/24/2020**	Analysis Date: **3/25/2020**	SeqNo: **2332706**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		113	55.1	146			

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: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.1		10.00		91.3	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#: **2003958**

27-Mar-20

Client: Souder, Miller & Associates

Project: Thistle Unit 110H

Sample ID: **mb-51253**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **51253**	RunNo: **67491**
Prep Date: **3/20/2020**	Analysis Date: **3/23/2020**	SeqNo: **2330014** 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	950		1000		95.2	66.6	105			

Sample ID: **lcs-51253**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51253**	RunNo: **67491**
Prep Date: **3/20/2020**	Analysis Date: **3/23/2020**	SeqNo: **2330015** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.0	80	120			
Surr: BFB	1000		1000		105	66.6	105			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2003958**
27-Mar-20

Client: Souder, Miller & Associates
Project: Thistle Unit 110H

Sample ID: **mb-51253**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **51253**	RunNo: **67491**
Prep Date: **3/20/2020**	Analysis Date: **3/23/2020**	SeqNo: **2330061** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID: **LCS-51253**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **51253**	RunNo: **67491**
Prep Date: **3/20/2020**	Analysis Date: **3/23/2020**	SeqNo: **2330062** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	86.2	80	120			
Toluene	0.90	0.050	1.000	0	90.1	80	120			
Ethylbenzene	0.91	0.050	1.000	0	91.4	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.7	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		105	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **SMA-CARLSBAD** Work Order Number: **2003958** RcptNo: **1**

Received By: **Yazmine Garduno** **3/20/2020 8:10:00 AM** Yazmine Garduno

Completed By: **Desiree Dominguez** **3/20/2020 1:50:19 PM** DD

Reviewed By: YG 3/20/20

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: JR 3/20/20

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	2.8	Good				
2	4.1	Good				
3	3.4	Good				
4	2.8	Good				

Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

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

Project Name: Thistle Unit 110H

Project #:

Project Manager: Ashley Maxwell

Sampler: LAA

On Ice: ☑ Yes ☐ No

# of Coolers: 5

Cooler Temp(including CF): Remarks (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2003958	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	(C) F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
3/19/20	932	Soil	S1	4 oz		-001	X	X					X			
	942		S1 - 0.5'			-002	X	X					X			
	958		S2			-003	X	X					X			
	1021		S3			-004	X	X					X			
	1035		S4			-005	X	X					X			
	1044		SW1			-006	X	X					X			
	1054		SW2			-007	X	X					X			
	1056		SW3			-008	X	X					X			
	1058		SW4			-009	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
3/19/20	1430				3/19/20	1430
3/19/20	1911			courier	3/20/20	0810

Remarks: Direct Bill: Devon Energy

2.9 - 0.1 = 2.8
4.2 - 0.1 = 4.1
3.5 - 0.1 = 3.4

2.9 - 0.1 = 2.8
5.1 - 0.1 = 5.0

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: Thistle Unit 110H OrderNo.: 2005B75

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/28/2020 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 **2005B75**
Date Reported: **6/3/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S3-1'
Project: Thistle Unit 110H
Collection Date: 5/27/2020 8:30:00 AM
Lab ID: 2005B75-001 **Matrix:** SOIL **Received Date:** 5/28/2020 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	6/3/2020 5:52:02 AM	52834
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/30/2020 1:16:16 PM	52759
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/30/2020 1:16:16 PM	52759
Surr: DNOP	118	55.1-146		%Rec	1	5/30/2020 1:16:16 PM	52759
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/29/2020 3:58:35 PM	52747
Surr: BFB	85.0	66.6-105		%Rec	1	5/29/2020 3:58:35 PM	52747
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	5/29/2020 3:58:35 PM	52747
Toluene	ND	0.050		mg/Kg	1	5/29/2020 3:58:35 PM	52747
Ethylbenzene	ND	0.050		mg/Kg	1	5/29/2020 3:58:35 PM	52747
Xylenes, Total	ND	0.099		mg/Kg	1	5/29/2020 3:58:35 PM	52747
Surr: 4-Bromofluorobenzene	98.1	80-120		%Rec	1	5/29/2020 3:58:35 PM	52747

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 **2005B75**
Date Reported: **6/3/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S3-1.5'
Project: Thistle Unit 110H
Collection Date: 5/27/2020 8:33:00 AM
Lab ID: 2005B75-002 **Matrix:** SOIL **Received Date:** 5/28/2020 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	6/3/2020 6:04:27 AM	52834
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/30/2020 11:38:59 AM	52759
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/30/2020 11:38:59 AM	52759
Surr: DNOP	122	55.1-146		%Rec	1	5/30/2020 11:38:59 AM	52759
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/29/2020 5:09:09 PM	52747
Surr: BFB	87.7	66.6-105		%Rec	1	5/29/2020 5:09:09 PM	52747
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	5/29/2020 5:09:09 PM	52747
Toluene	ND	0.047		mg/Kg	1	5/29/2020 5:09:09 PM	52747
Ethylbenzene	ND	0.047		mg/Kg	1	5/29/2020 5:09:09 PM	52747
Xylenes, Total	ND	0.094		mg/Kg	1	5/29/2020 5:09:09 PM	52747
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	5/29/2020 5:09:09 PM	52747

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 **2005B75**
Date Reported: **6/3/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: S3-2'
Project: Thistle Unit 110H
Collection Date: 5/27/2020 8:33:00 AM
Lab ID: 2005B75-003 **Matrix:** SOIL **Received Date:** 5/28/2020 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	6/3/2020 6:16:52 AM	52834
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/30/2020 1:40:41 PM	52759
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/30/2020 1:40:41 PM	52759
Surr: DNOP	101	55.1-146		%Rec	1	5/30/2020 1:40:41 PM	52759
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/29/2020 6:19:36 PM	52747
Surr: BFB	85.0	66.6-105		%Rec	1	5/29/2020 6:19:36 PM	52747
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	5/29/2020 6:19:36 PM	52747
Toluene	ND	0.048		mg/Kg	1	5/29/2020 6:19:36 PM	52747
Ethylbenzene	ND	0.048		mg/Kg	1	5/29/2020 6:19:36 PM	52747
Xylenes, Total	ND	0.096		mg/Kg	1	5/29/2020 6:19:36 PM	52747
Surr: 4-Bromofluorobenzene	99.5	80-120		%Rec	1	5/29/2020 6:19:36 PM	52747

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#: **2005B75**

03-Jun-20

Client: Souder, Miller & Associates

Project: Thistle Unit 110H

Sample ID: **MB-52834**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **52834**	RunNo: **69353**
Prep Date: **6/2/2020**	Analysis Date: **6/3/2020**	SeqNo: **2405299** Units: **mg/Kg**

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

Sample ID: **LCS-52834**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **52834**	RunNo: **69353**
Prep Date: **6/2/2020**	Analysis Date: **6/3/2020**	SeqNo: **2405300** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.6	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#: **2005B75**

03-Jun-20

Client: Souder, Miller & Associates

Project: Thistle Unit 110H

Sample ID: **LCS-52759**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **52759**	RunNo: **69267**
Prep Date: **5/29/2020**	Analysis Date: **5/30/2020**	SeqNo: **2400758** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.2	70	130			
Surr: DNOP	5.5		5.000		111	55.1	146			

Sample ID: **MB-52759**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **52759**	RunNo: **69267**
Prep Date: **5/29/2020**	Analysis Date: **5/30/2020**	SeqNo: **2400759** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		105	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#: **2005B75**
03-Jun-20

Client: Souder, Miller & Associates
Project: Thistle Unit 110H

Sample ID: **2005b75-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S3-1.5'**	Batch ID: **52747**	RunNo: **69259**
Prep Date: **5/28/2020**	Analysis Date: **5/29/2020**	SeqNo: **2400534** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	23.99	0	90.9	80	120			
Surr: BFB	910		959.7		95.2	66.6	105			

Sample ID: **2005b75-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S3-1.5'**	Batch ID: **52747**	RunNo: **69259**
Prep Date: **5/28/2020**	Analysis Date: **5/29/2020**	SeqNo: **2400535** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.51	0	87.4	80	120	1.77	20	
Surr: BFB	930		980.4		95.1	66.6	105	0	0	

Sample ID: **lcs-52747**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **52747**	RunNo: **69259**
Prep Date: **5/28/2020**	Analysis Date: **5/29/2020**	SeqNo: **2400554** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.2	80	120			
Surr: BFB	940		1000		94.1	66.6	105			

Sample ID: **mb-52747**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **52747**	RunNo: **69259**
Prep Date: **5/28/2020**	Analysis Date: **5/29/2020**	SeqNo: **2400555** 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	870		1000		87.3	66.6	105			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2005B75**
03-Jun-20

Client: Souder, Miller & Associates
Project: Thistle Unit 110H

Sample ID: **2005b75-001ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S3-1'**	Batch ID: **52747**	RunNo: **69259**
Prep Date: **5/28/2020**	Analysis Date: **5/29/2020**	SeqNo: **2400560** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	0.9930	0	93.5	78.5	119			
Toluene	0.99	0.050	0.9930	0.01331	98.8	75.7	123			
Ethylbenzene	1.0	0.050	0.9930	0	103	74.3	126			
Xylenes, Total	3.1	0.099	2.979	0	103	72.9	130			
Surr: 4-Bromofluorobenzene	0.97		0.9930		97.4	80	120			

Sample ID: **2005b75-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S3-1'**	Batch ID: **52747**	RunNo: **69259**
Prep Date: **5/28/2020**	Analysis Date: **5/29/2020**	SeqNo: **2400561** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	0.9901	0	94.2	78.5	119	0.459	20	
Toluene	0.99	0.050	0.9901	0.01331	99.1	75.7	123	0.0315	20	
Ethylbenzene	1.0	0.050	0.9901	0	104	74.3	126	0.922	20	
Xylenes, Total	3.1	0.099	2.970	0	104	72.9	130	0.243	20	
Surr: 4-Bromofluorobenzene	1.0		0.9901		102	80	120	0	0	

Sample ID: **LCS-52747**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **52747**	RunNo: **69259**
Prep Date: **5/28/2020**	Analysis Date: **5/29/2020**	SeqNo: **2400581** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	85.7	80	120			
Toluene	0.92	0.050	1.000	0	91.9	80	120			
Ethylbenzene	0.93	0.050	1.000	0	92.8	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.4	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID: **mb-52747**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **52747**	RunNo: **69259**
Prep Date: **5/28/2020**	Analysis Date: **5/29/2020**	SeqNo: **2400582** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		99.7	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **SMA-CARLSBAD** Work Order Number: **2005B75** RcptNo: **1**

Received By: **Emily Mocho** **5/28/2020 11:00:00 AM**

Completed By: **Desiree Dominguez** **5/28/2020 9:24:17 AM** DD

Reviewed By: DAD 5/28/20

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 ☐
   Samples not frozen.
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: GM 5/28/20

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	-1.1	Good	Not Present			

Chain-of-Custody Record

Client: Souder Miller & Associates

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

Phone #: (505) 516-7469

email or Fax#: Ashley.Maxwell@soudermiller.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

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

Project Name:
Thistle Unit #110H

Project #:
208545004

Project Manager:
Ashley Maxwell

Sampler: CAH

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): -0.9 - 0.2 = -1.1 (°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. 2005B75	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)
5/27/20	8:30	Soil	S3-1'	4oz	NA	-001	X	X					X			
"	8:33	"	S3-1.5'	"	"	-002	X	X					X			
"	8:33	"	S3-2'	"	"	-003	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					5/27/20	1445
5/27/20	1910		Ekan courier		5/28/20	11:00

Remarks: Direct Bill: Devon Energy

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.

CARDINAL Laboratories

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

June 19, 2020

LYNN A ACOSTA

SOUDER MILLER AND ASSOCIATES

201 S. HALAGUENO

CARLSBAD, NM 88220

RE: THISTLE UNIT 110H

Enclosed are the results of analyses for samples received by the laboratory on 06/17/20 11:08.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/17/2020	Sampling Date:	06/16/2020
Reported:	06/19/2020	Sampling Type:	Soil
Project Name:	THISTLE UNIT 110H	Sampling Condition:	Cool & Intact
Project Number:	20845004	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY		

Sample ID: CS1 - 1' (H001605-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/17/2020	ND	1.93	96.7	2.00	10.4	
Toluene*	<0.050	0.050	06/17/2020	ND	1.83	91.5	2.00	8.71	
Ethylbenzene*	<0.050	0.050	06/17/2020	ND	1.82	91.1	2.00	7.50	
Total Xylenes*	<0.150	0.150	06/17/2020	ND	5.28	88.1	6.00	7.23	
Total BTEX	<0.300	0.300	06/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	06/18/2020	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/17/2020	ND	220	110	200	6.84	
DRO >C10-C28*	<10.0	10.0	06/17/2020	ND	237	118	200	2.94	
EXT DRO >C28-C36	<10.0	10.0	06/17/2020	ND					

Surrogate: 1-Chlorooctane *133 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *146 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/17/2020	Sampling Date:	06/16/2020
Reported:	06/19/2020	Sampling Type:	Soil
Project Name:	THISTLE UNIT 110H	Sampling Condition:	Cool & Intact
Project Number:	20845004	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY		

Sample ID: SW 1 (H001605-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/17/2020	ND	1.93	96.7	2.00	10.4	
Toluene*	<0.050	0.050	06/17/2020	ND	1.83	91.5	2.00	8.71	
Ethylbenzene*	<0.050	0.050	06/17/2020	ND	1.82	91.1	2.00	7.50	
Total Xylenes*	<0.150	0.150	06/17/2020	ND	5.28	88.1	6.00	7.23	
Total BTEX	<0.300	0.300	06/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	06/18/2020	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/17/2020	ND	220	110	200	6.84	
DRO >C10-C28*	<10.0	10.0	06/17/2020	ND	237	118	200	2.94	
EXT DRO >C28-C36	<10.0	10.0	06/17/2020	ND					

Surrogate: 1-Chlorooctane *138 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *152 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/17/2020	Sampling Date:	06/16/2020
Reported:	06/19/2020	Sampling Type:	Soil
Project Name:	THISTLE UNIT 110H	Sampling Condition:	Cool & Intact
Project Number:	20845004	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY		

Sample ID: SW 2 (H001605-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/17/2020	ND	1.93	96.7	2.00	10.4	
Toluene*	<0.050	0.050	06/17/2020	ND	1.83	91.5	2.00	8.71	
Ethylbenzene*	<0.050	0.050	06/17/2020	ND	1.82	91.1	2.00	7.50	
Total Xylenes*	<0.150	0.150	06/17/2020	ND	5.28	88.1	6.00	7.23	
Total BTEX	<0.300	0.300	06/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	06/18/2020	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2020	ND	204	102	200	4.48	
DRO >C10-C28*	**14.4**	10.0	06/18/2020	ND	208	104	200	7.10	
EXT DRO >C28-C36	<10.0	10.0	06/18/2020	ND					

Surrogate: 1-Chlorooctane *110 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *119 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/17/2020	Sampling Date:	06/16/2020
Reported:	06/19/2020	Sampling Type:	Soil
Project Name:	THISTLE UNIT 110H	Sampling Condition:	Cool & Intact
Project Number:	20845004	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY		

Sample ID: SW 3 (H001605-04)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/17/2020	ND	1.93	96.7	2.00	10.4	
Toluene*	<0.050	0.050	06/17/2020	ND	1.83	91.5	2.00	8.71	
Ethylbenzene*	<0.050	0.050	06/17/2020	ND	1.82	91.1	2.00	7.50	
Total Xylenes*	<0.150	0.150	06/17/2020	ND	5.28	88.1	6.00	7.23	
Total BTEX	<0.300	0.300	06/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	06/18/2020	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2020	ND	204	102	200	4.48	
DRO >C10-C28*	<10.0	10.0	06/18/2020	ND	208	104	200	7.10	
EXT DRO >C28-C36	<10.0	10.0	06/18/2020	ND					

Surrogate: 1-Chlorooctane *108 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *118 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/17/2020	Sampling Date:	06/16/2020
Reported:	06/19/2020	Sampling Type:	Soil
Project Name:	THISTLE UNIT 110H	Sampling Condition:	Cool & Intact
Project Number:	20845004	Sample Received By:	Tamara Oldaker
Project Location:	DEVON ENERGY		

Sample ID: SW 4 (H001605-05)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/17/2020	ND	1.93	96.7	2.00	10.4	
Toluene*	<0.050	0.050	06/17/2020	ND	1.83	91.5	2.00	8.71	
Ethylbenzene*	<0.050	0.050	06/17/2020	ND	1.82	91.1	2.00	7.50	
Total Xylenes*	<0.150	0.150	06/17/2020	ND	5.28	88.1	6.00	7.23	
Total BTEX	<0.300	0.300	06/17/2020	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	06/18/2020	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/18/2020	ND	204	102	200	4.48	
DRO >C10-C28*	<10.0	10.0	06/18/2020	ND	208	104	200	7.10	
EXT DRO >C28-C36	<10.0	10.0	06/18/2020	ND					

Surrogate: 1-Chlorooctane *108 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *118 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Souder Miller & Associates	**BILL TO**	P.O. #: 20845004	
Project Manager: Lynn A. Acosta		Company: Devon Energy	
Address: 201 S. Halagueno St		Attn: Lupe Carrasco	
City: Carlsbad State: NM Zip: 88220		Address:	
Phone #: (505) 516-7469 Fax #:		City:	
Project #: 20845004 Project Owner: Devon Energy		State: Zip:	
Project Name: Thistle Unit 110H		Phone #:	
Project Location:		Fax #:	
Sampler Name: Lynn A. Acosta			

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST											
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	BTEX (8021)	TPH: 8015D (DRO, MRO, GRO)	Chlorides (CL-)									
H001605																										
1	CS1 - 1'	C				X					X		6/16/20	10:11	X	X	X									
2	SW1	C				X					X			10:15												
3	SW2	C				X					X			10:19												
4	SW3	C				X					X			10:22												
5	SW4	C				X					X			10:24												

Relinquished By: Lynn A Acosta	Date: 6/17/20 Time: 1108	Received By: Jamara Aldaba	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 4.9° C #113	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) TP	REMARKS: Direct Bill Devon Energy Email results: Lynn.acosta@sodermiller.com

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 175051

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 175051
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	3/21/2023