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

July 22, 2020

#5E29133-BG20

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

SUBJECT: Remediation Closure Report for the Salado Draw 6 Fed #001H Release (NRM2012242719), Lea, New Mexico

To Whom it May Concern:

On behalf of Devon Production Company (Devon), Souder, Miller & Associates (SMA) has prepared this Remediation Closure Report that describes the remediation of a release of liquids related to oil and gas production activities at the Salado Draw 6 Fed #001H site. The site is in Unit M, Section 06, Township 26S, Range 34E, Lea County, New Mexico, on Federal land. Figure 1 illustrates the vicinity and site location on an USGS 7.5 minute quadrangle map.

Table 1 summarizes release information and Closure Criteria.

Table 1: Release Information and Closure Criteria			
Name	Salado Draw 6 Fed #001H	Company	Devon Energy Production Company
API Number	30-025-41293	Location	32.0657196 -103.5146942
Incident Number	NRM2012242719		
Estimated Date of Release	April 24, 2020	Date Reported to NMOCD	May 1, 2020
Land Owner	Federal	Reported To	NMOCD, BLM
Source of Release	Water Transfer Pump		
Released Volume	6.45 BBLS	Released Material	Produced Water
Recovered Volume	4.8 BBLS	Net Release	1.65 BBLS
NMOCD Closure Criteria	<50 feet to groundwater		
SMA Response Dates	June 5, July 2, July 17, 2020		

1.0 Background

On April 24, 2020, a release was discovered at the Salado Draw 6 Fed #001H site due to a leak on the water transfer pump. Initial response activities were conducted by Devon, and included source elimination, containment and site stabilization activities, which recovered approximately 4.8 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 Salado Draw 6 Fed #001H is located approximately 19 miles southwest from Jal, New Mexico on Federal (BLM) land at an elevation of approximately 3,316 feet above mean sea level (amsl).

Groundwater

Based upon New Mexico Office of the State Engineer data (Appendix B), depth to groundwater in the area is estimated to be 148-170 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 7/8/2020). There are 7 water wells (C-02295, USGS 320419103302202, USGS 320419103302201, C-02292, C-03442, C-03441, and C-02291) with depth to groundwater information within 1.02 miles from the point of release. Using depth-to-groundwater data from these wells, and elevational differences, depth-to-groundwater calculations for this area are included in Table 4.

The depth to groundwater determination also included a design of groundwater level well network utilizing ordinary kriging and creating a potentiometric surface map of groundwater elevation. The design comes from NMOSE observational data of groundwater levels used to estimate the potential state of the groundwater system. Ordinary kriging provides estimates of the variable and a standard error of the estimate, kriging standard deviation is used as a criterion for the determination of well density, and the GIS-based method was analyzed, results of the method are seen in Figure 1A. A potentiometric surface map was created utilizing thirteen (13) NMOSE water wells in the area. Based on the location of each well and its groundwater elevation, the groundwater gradient for the vicinity of the release is 0.02671 ft/ft with flow direction 196 degrees from North (positive y axis) gradient, which was calculated using EPA On-line Tools for Site Assessment Calculation (Appendix D), see Figure 1B.

Surface Water

The nearest significant watercourse is an unnamed playa, located approximately 2,824 feet to the southwest. Figure 2 illustrates the site with 200 and 300-foot radii to indicate that it does not lie within a sensitive area as described in 19.15.29.12.C(4) NMAC.

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

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

3.0 Release Characterization and Remediation Activities

On June 5 and July 2, 2020, SMA personnel arrived on site in response to the release associated with Salado Draw 6 Fed #001H. SMA performed site delineation by conducting a liner inspection and

collecting soil samples, which where field-screened for chloride using an electrical conductivity (EC) meter, and titration.

One sample location (SL1) was investigated from within the visually impacted area located within aboveground electrical lines using a hand-auger, to a depth of two (2) feet bgs. A background sample was also collected at 2 feet bgs, for analysis of chloride only. 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. On July 2, 2020 SMA returned to further delineate sample location (SL1). As summarized in Table 3, no results exceed NMOCD Closure Criteria for this site.

On July 17, 2020, SMA conducted a liner integrity inspection per the requirements of 19.15.29.11.A(5)(a) NMAC. Notice was given to New Mexico Oil Conservation Division on July 14, 2020 that the inspection was to occur on the date mentioned above. After a thorough visual inspection of the containment structure, the liner appeared to be intact and had the ability to contain the leak. The containment did have some standing water due to recent rain event, supporting evidence of liner integrity. A photo log documenting the inspection is included in Appendix C.

The release area outside the containment has been delineated and meets NMOCD Closure Criteria.

On behalf of Devon Energy, SMA recommends no further action for the referenced release, and requests NMOCD closure.

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 Lynn Acosta at 505-516-7469 or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:

Lynn A. Acosta

Lynn A. Acosta
Staff Geoscientist

Shawna Chubbuck

Shawna Chubbuck
Senior Scientist

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map
Figure 1A: NMOSE Depth to Groundwater
Figure 1B: Potentiometric Surface Map
Figure 2: Surface Water Radius Map
Figure 3: Site and Sample Location Map

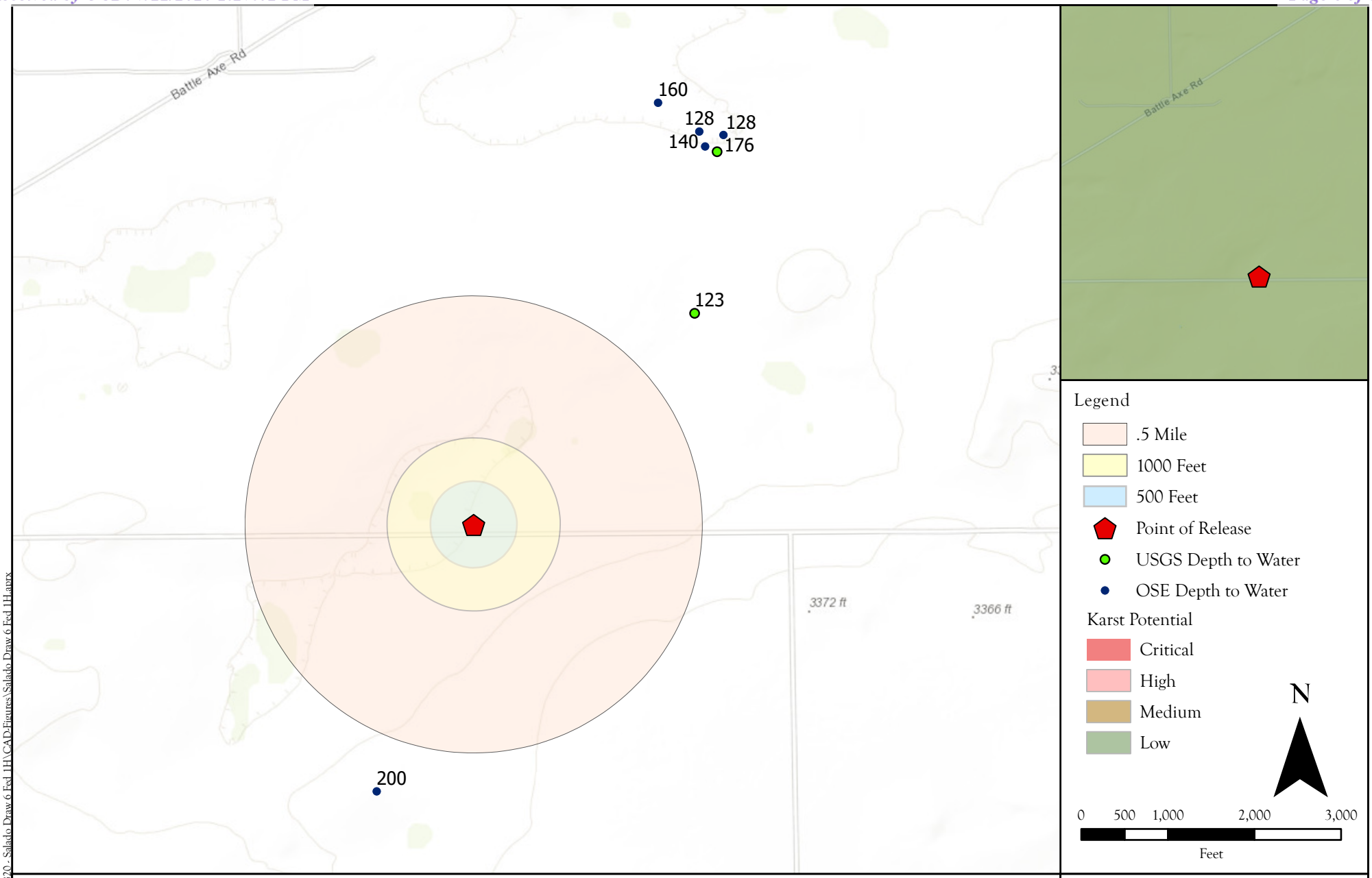
Tables:

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

Appendices:

Appendix A: Form C141
Appendix B: NMOSE Wells Report
Appendix C: Sampling Protocol, Field Notes & Photo Log
Appendix D: EPA On-line Tools for Site Assessment Calculation
Appendix E: Laboratory Analytical Reports

FIGURES



Site Map
Salado Draw 6 Fed #001H- Devon Energy Production Company
UL: M S: 06 T: 26S R: 34E, Lea County, New Mexico

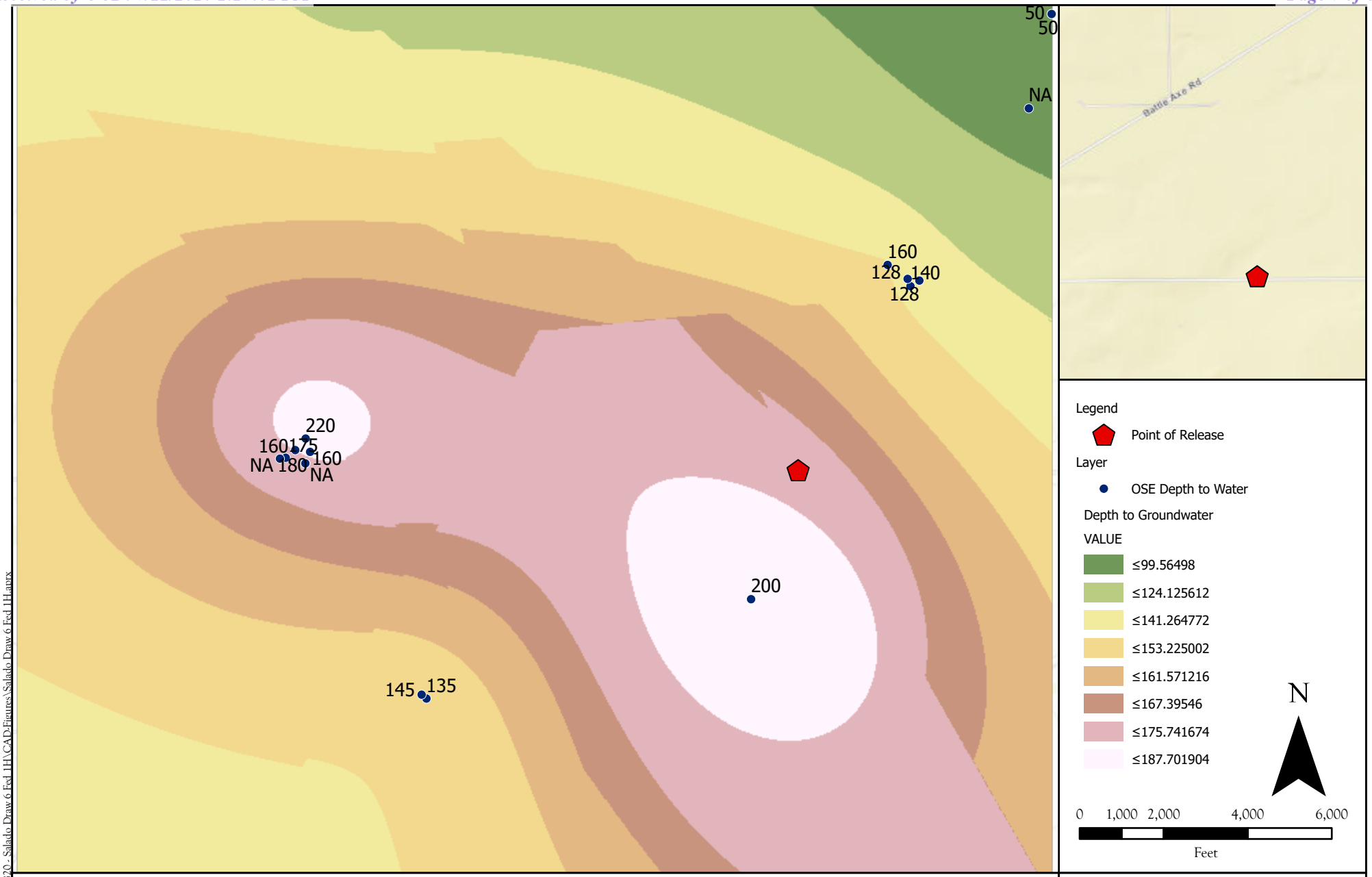
Figure 1

P:\5-Devon MSA 2020 (5E29133)\RG20 - Salado Draw 6 Fed 1H\CAD\Figures\Salado Draw 6 Fed 1H.aprx
Date Saved: 6/16/2020

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

Drawn Lynn A. Acosta
Date 6/16/2020
Checked
Approved

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



Site Map

Salado Draw 6 Fed #001H- Devon Energy Production Company

UL: M S: 06 T: 26S R: 34E, Lea County, New Mexico

Figure 1A

P:\5-Devon MSA 2020 (5E29133)\FG20 - Salado Draw 6 Fed 1H\CAD\Figures\Salado Draw 6 Fed 1H.aprx
Date Saved: 6/16/2020

Revisions

By: _____ Date: _____ Descr: _____

By: _____ Date: _____ Descr: _____

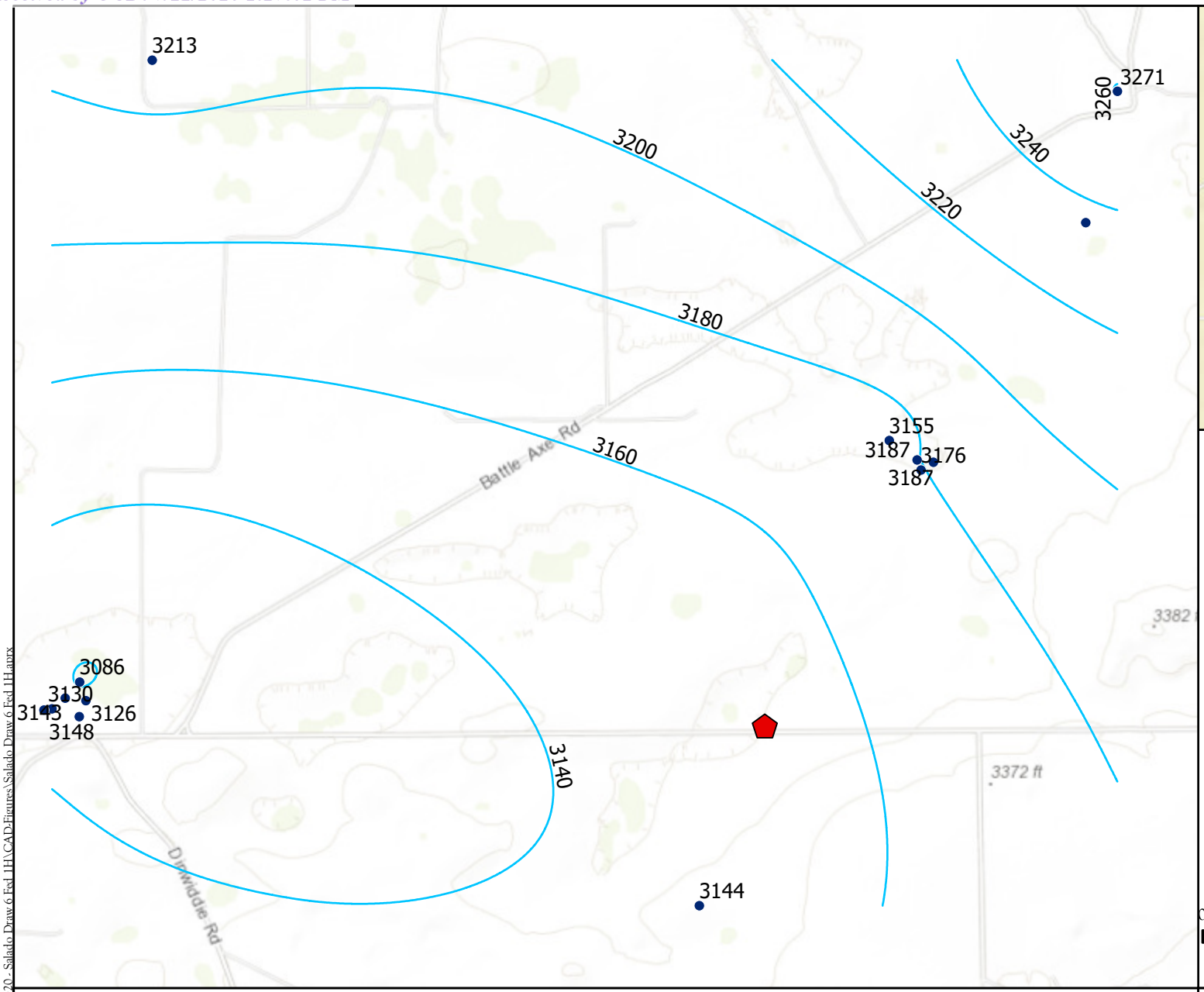
Drawn Lynn A. Acosta

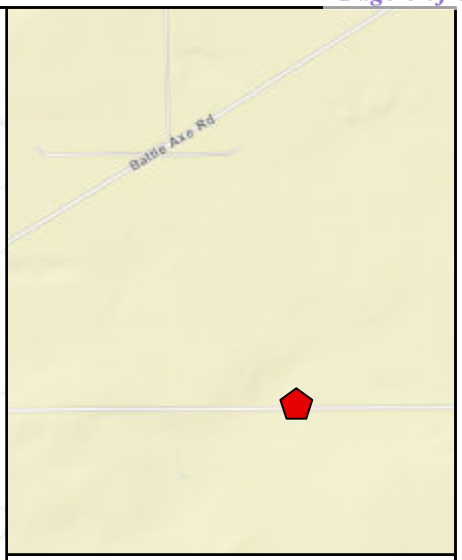
Date 6/16/2020

Checked _____

Approved _____

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





Legend

Point of Release

Layer

OSE Groundwater Elevation

20' Contours

N

0 1,000 2,000 4,000 6,000

Feet

Potentiometric Surface Map
Salado Draw 6 Fed #001H- Devon Energy Production Company
UL: M S: 06 T: 26S R: 34E, Lea County, New Mexico

Figure 1B

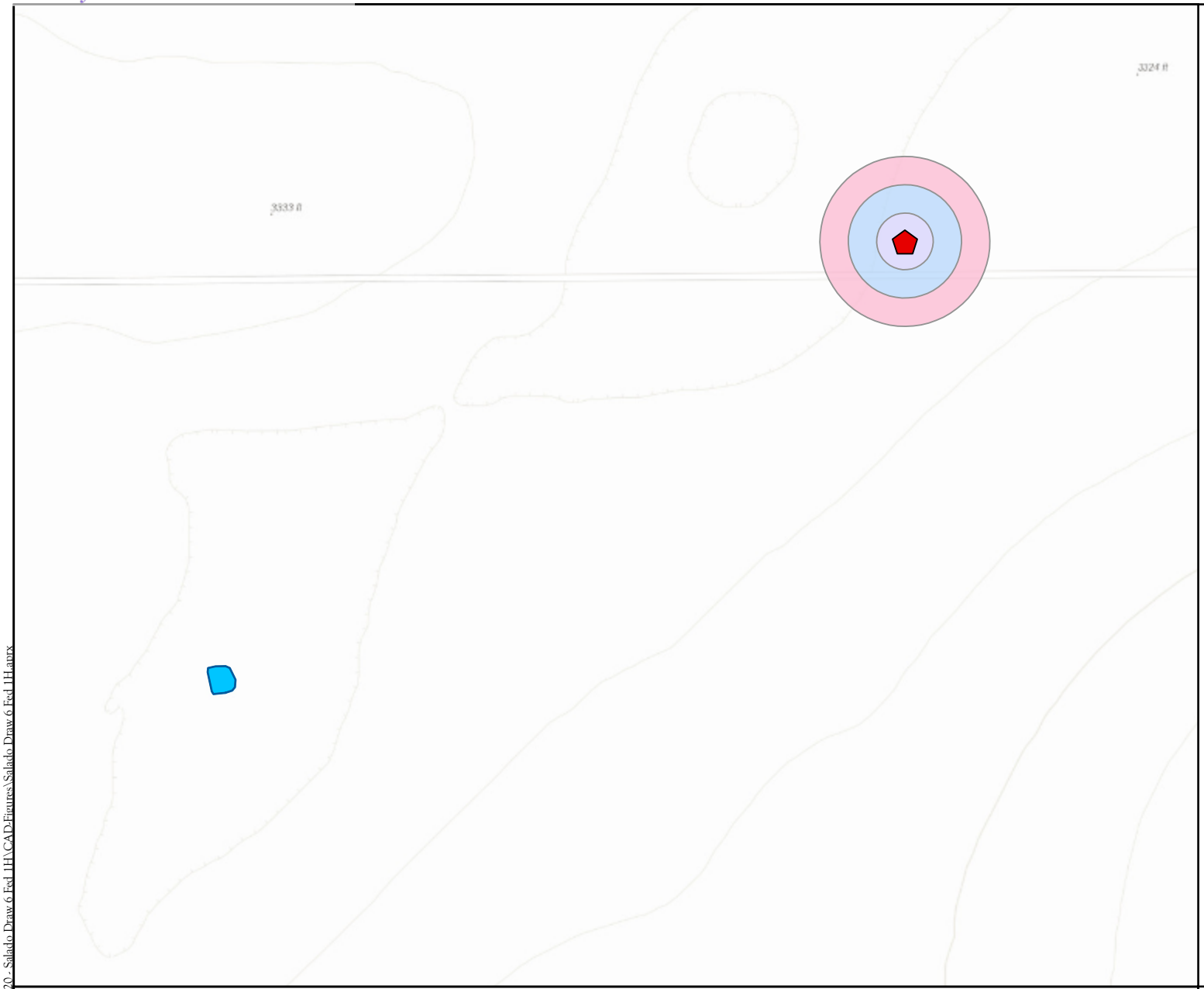
P:\5-Devon MSA 2020 (5E29133)\RG20 - Salado Draw 6 Fed 1H\CAD\Figures\Salado Draw 6 Fed 1H.aprx
Date Saved: 6/16/2020

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

Drawn Lynn A. Acosta
Date 6/16/2020
Checked
Approved

SMA

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



Point of Release

Buffer Distance

300 Feet

200 Feet

100 Feet

Springs & Seeps

Streams & Canals

Rivers

Flowlines SENM

NM Wetlands

Lakes & Playas

FEMA Flood Zones 2011

N

0 170 340 680 1,020

Feet

Surface Water Protection Map
Salado Draw 6 Fed #001H- Devon Energy Production Company
UL: M S: 06 T: 26S R: 34E Lea County, New Mexico

Figure 2

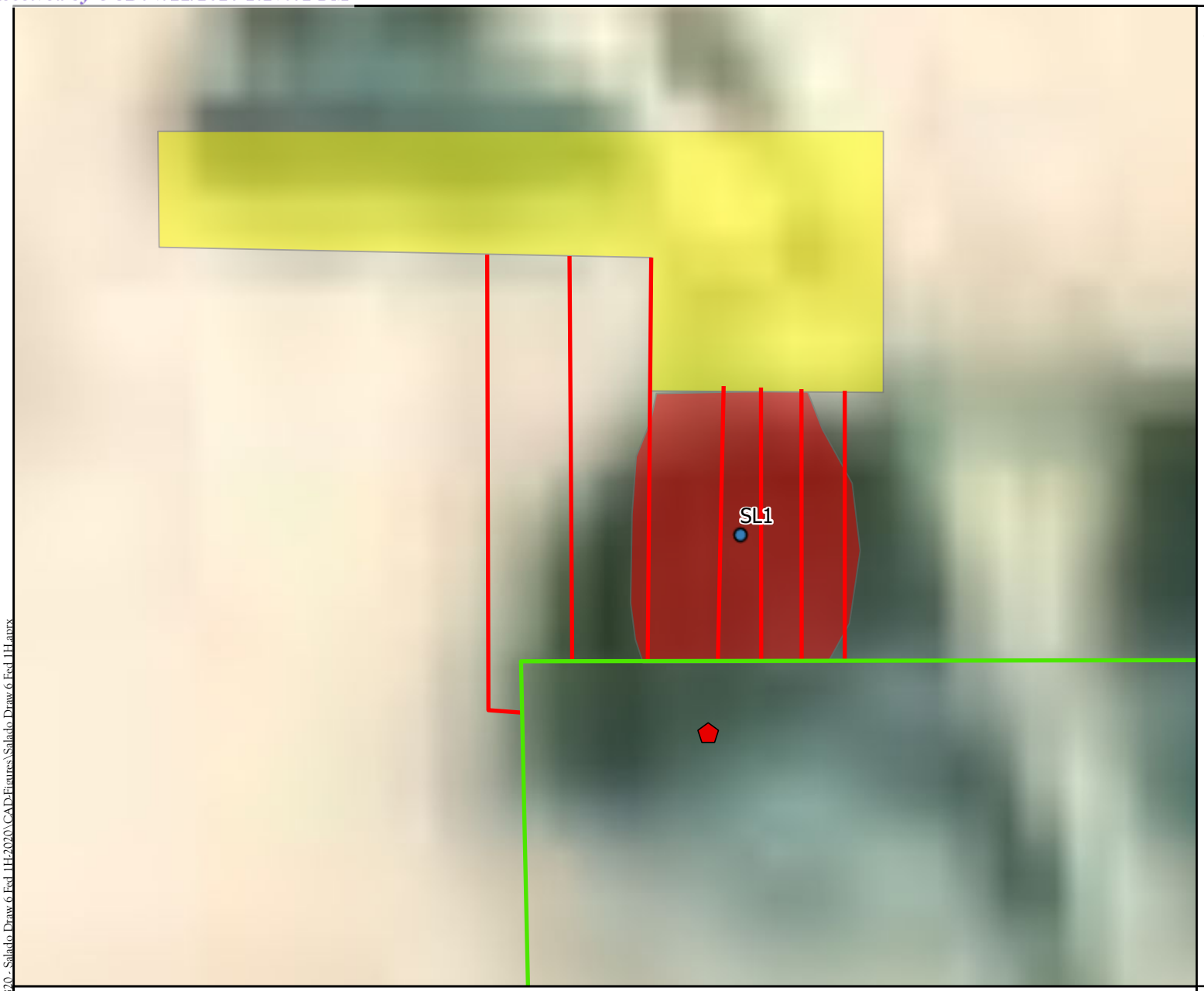
P:\5-Devon MSA 2020 (5E29133)\RG20 - Salado Draw 6 Fed 1H\CAD\Figures\Salado Draw 6 Fed 1H.mxd
Date Saved: 6/16/2020

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

Drawn Lynn A. Acosta
Date 7/8/2020
Checked
Approved

SMA

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



Legend

- Electrical
- Containment Boundary
- Release Area
- Electrical/Control Box
- Soil Sample
- Point of Release

N

0 1.5 3 6 9

Feet

Site and Sample Location Map
Salado Draw 6 Fed #001H - Devon Energy Production Company
UL: M S: 06 T: 26S R: 34E Lea County, New Mexico

Figure 3

P:\5-Devon MSA 2020 (5E29133)\FG20 - Salado Draw 6 Fed 1H-2020\CAD\Figures\Salado Draw 6 Fed 1H.aprx
Date Saved: 7/17/2020

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

Drawn Lynn A. Acosta
Date 7/22/2020
Checked
Approved

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

TABLES

Table 2:
NMOCD Closure Criteria

Devon Energy Production Company
Salado Draw #6 Fed #001H
NRM2012242719

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	148-170	New Mexico Office of the State Engineer
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	NA	United States Geological Survey
Hortizontal Distance to Nearest Significant Watercourse (ft)	2,824	Un-named Playa

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

SMA #

Table 3:
Summary of Sample Results

Devon Energy Production Company
Salado Daw 6 Fed 1H
NRM2012242719

Sample ID	Sample Date	Depth (feet bgs)	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	GRO + DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria			50	10			1,000		2,500	20,000
SL1	6/5/2020	Surface	<0.222	<0.025	<4.9	12	12	<48	12	18000
		0.5	<0.221	<0.025	<4.9	<9.4	<14.3	<47	<61.3	4400
		1	<0.225	<0.025	<5.0	<9.3	<14.3	<46	<60.3	4400
		1.5	<0.222	<0.025	<4.9	<9.1	<14	<46	<60	1400
	7/2/2020	2	-	-	-	-	-	-	-	<60
BG	7/2/2020	1-1.5	-	-	-	-	-	-	-	<60

"--" = Not Analyzed

APPENDIX A

FORM C141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NRM2012242719
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Devon Energy Production Company	OGRID 6137
Contact Name Lupe Carrasco	Contact Telephone 575-748-0165
Contact email Lupe.Carrasco@dvn.com	Incident # *(assigned by OCD)*
Contact mailing address 6488 Seven Rivers HWY	

Location of Release Source

Latitude 32.0657196 Longitude -103.5146942
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Salado Draw 6 Fed #001H	Site Type Oil
Date Release Discovered 4/24/2020	API# *(if applicable)* 30-025-41293

Unit Letter	Section	Township	Range	County
M	06	26S	34E	Lea

Surface Owner: ☐ State ■ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
■ Produced Water	Volume Released (bbls) 6.45	Volume Recovered (bbls) 4.8
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Leak on water transfer pump. Fluid released into containment and some fluid sprayed outside of containment from the discharge side of pump.

State of New Mexico
Oil Conservation Division

Incident ID	NRM2012242719
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ■ The source of the release has been stopped.
- ■ The impacted area has been secured to protect human health and the environment.
- ■ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ■ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Fluid that was released into containment remained in containment.

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: Kendra DeHoyos Title: EHS Associate

Signature: Kendra DeHoyos Date: 5/1/2020

email: kendra.dehoyos@dvn.com Telephone: 575-748-3371

OCD Only

Received by: Ramona Marcus Date: 5/1/2020

State of New Mexico
Oil Conservation Division

Incident ID	NRM2012242719
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	148-170 (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	NRM2012242719
District RP	
Facility ID	
Application ID	

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

Printed Name: Tom Bynum Title: EHS Consultant

Signature: Tom Bynum Date: 7/22/2020

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

OCD Only

Received by: _____ Date: _____

Incident ID	NRM2012242719
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated.

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

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

Printed Name: Tom Bynum Title: EHS Consultant

Signature: Tom Bynum Date: 7/22/2020

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

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	NRM2012242719
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☑ Description of remediation activities

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

Printed Name: Tom Bynum Title: EHS Consultant

Signature: Tom Bynum Date: 7/22/2020

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

NRM2012242719

Spill Volume(Bbls) Calculator		
Inputs in blue, Outputs in red		
Contaminated Soil measurement		
Length(Ft)	Width(Ft)	Depth(Ft)
36	20.000	0.083
Cubic Feet of Soil Impacted		59.760
Barrels of Soil Impacted		10.65
Soil Type		Clay/Sand
Barrels of Oil Assuming 100% Saturation		1.60
Saturation	Fluid present with shovel/backhoe	
Estimated Barrels of Oil Released		1.60
Free Standing Fluid Only		
Length(Ft)	Width(Ft)	Depth(Ft)
0	0.000	0.000
Standing fluid		0.000
Total fluids spilled		**1.598**

Spills In Lined Containment	
Measurements Of Standing Fluid	
Length(Ft)	125
Width(Ft)	30
Depth(in.)	0.125
Total Capacity without tank displacements (bbls)	6.96
No. of 500 bbl Tanks In Standing Fluid	6
No. of Other Tanks In Standing Fluid	
OD Of Other Tanks In Standing Fluid(feet)	12.417
Total Volume of standing fluid accounting for tank displacement.	4.86

APPENDIX B
NMOSE WELLS REPORT

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y		Distance	Depth Well	Depth Water	Water Column
C 02295		CUB	LE	2	2	4	12	26S	33E	639865	3547624		1074	250	200	50
C 02292 POD1		CUB	LE	4	1	2	06	26S	34E	640992	3549987		1561	200	140	60
C 03441 POD1		C	LE	4	1	2	06	26S	34E	640971	3550039		1596	250		

Average Depth to Water: **170 feet**

Minimum Depth: **140 feet**

Maximum Depth: **200 feet**

Record Count: 3

UTMNAD83 Radius Search (in meters):

Easting (X): 640183 **Northing (Y):** 3548651 **Radius:** 1600

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2010 MAY 17 A 11:12

1. GENERAL AND WELL LOCATION

POD NUMBER (WELL NUMBER): C-3941-POD1	OSE FILE NUMBER(S): C 03441
WELL OWNER NAME(S): Dinwiddie Cattle Company	PHONE (OPTIONAL):
WELL OWNER MAILING ADDRESS: PO Box 963	CITY: Capitan STATE: NM ZIP: 88316

WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS
LATITUDE	N32	04	~~41.6~~ 40.224 N
LONGITUDE	W103	30	~~00.9~~ 22.864 W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84 (OSE GPS)

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS:

2. OPTIONAL

(2.5 ACRE)	(10 ACRE)	(40 ACRE)	(160 ACRE)	SECTION	TOWNSHIP	RANGE
NW ¼	SE ¼	NW ¼	NE ¼	6	26 ☐ NORTH ☑ SOUTH	34 ☑ 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
WD1044	Alan Eades	Eades Drilling & Pump Service

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
05-03-10	05-03-10	250	250	

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	20	11	PVC	slip joint	6.166	.255	
20	190	9.75	PVC	slip joint	6.166	.255	
190	250	9.75	PVC - screen	slip joint	6.166	.255	.035

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)
128	189	61	sandy red clay	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA	TOTAL ESTIMATED WELL YIELD (GPM)

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

FILE NUMBER C-3941	POD NUMBER POD1	TRN NUMBER
LOCATION 26.34.6.214122		PAGE 1 OF 2

5. SEAL AND PUMP

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

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	11	bentonite chips - hydrated	9	gravity fed
	20	250	9.75	gravel	84	gravity fed

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	1	1	top soil	☐ YES ☐ NO
1	25	24	sandy clay	☐ YES ☐ NO
25	37	12	caliche & sand	☐ YES ☐ NO
37	85	48	sand & sandstone stringers	☐ YES ☐ NO
85	108	23	red sandstone with red clay streaks	☐ YES ☐ NO
108	128	20	sandstone with yellow clay streaks	☐ YES ☐ NO
128	189	61	sandy red clay	☐ YES ☐ NO
189	249	60	white sandstone with red clay streaks	☐ YES ☐ NO
249	250	1	red clay	☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ 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:

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, NEW MEXICO
2010 MAY 17 A 11:19

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:

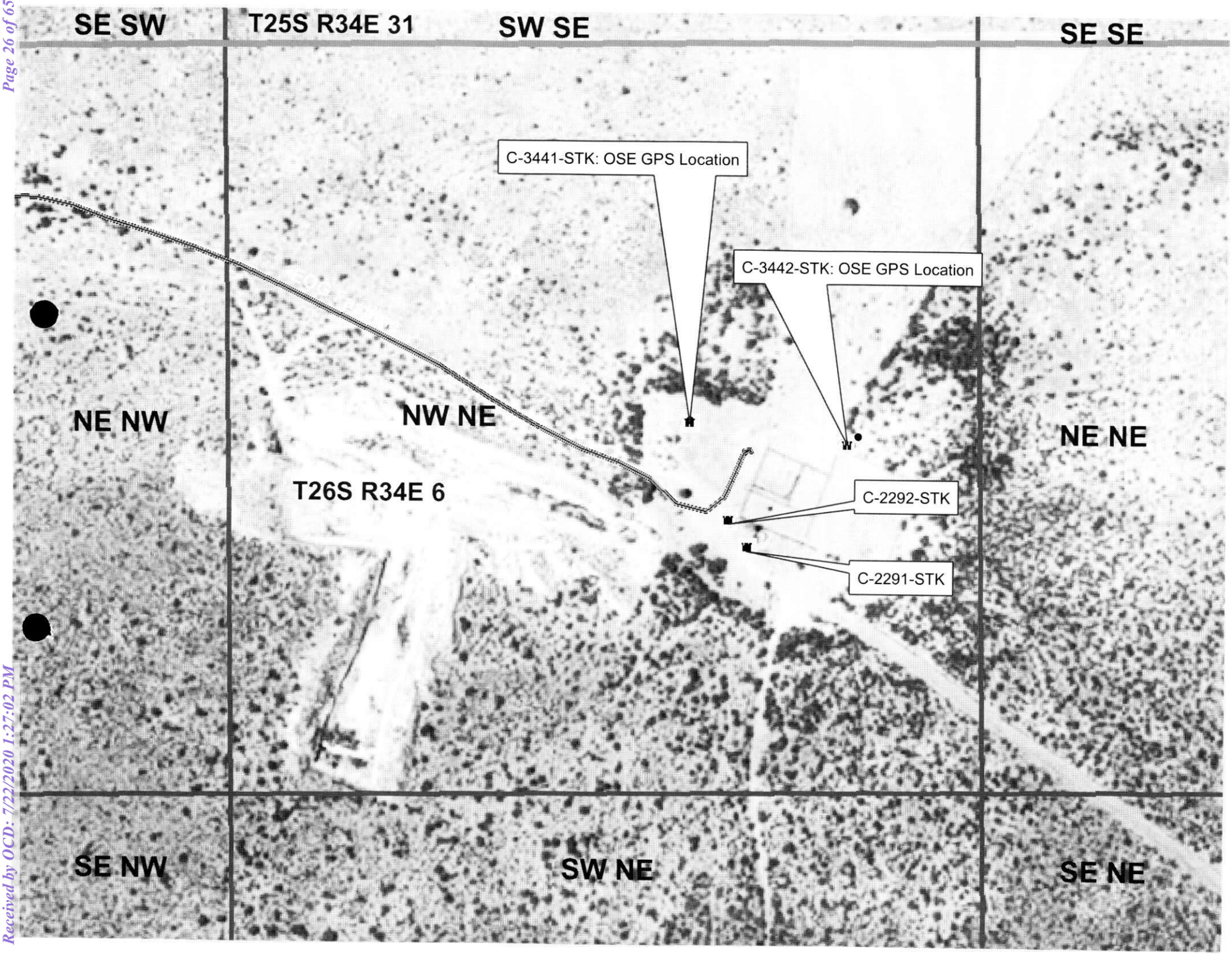
Alan Eades by Lindsay Eades — May 14, 2010

SIGNATURE OF DRILLER — DATE

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

FILE NUMBER	C-3941	POD NUMBER	POD 1	TRN NUMBER	
LOCATION	26.34.6.[redacted]				PAGE 2 OF 2

2141122



Locator Tool Report

General Information:

Application ID:29 Date: 02-01-2011 Time: 11:32:20

WR File Number: C-03441-STK
Purpose: POINT OF DIVERSION

Applicant First Name: DINWIDDIE CATTLE CO
Applicant Last Name: NEW STOCK WELL (OSE FIELD GPS)

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):

NW 1/4 of SE 1/4 of NW 1/4 of NE 1/4 of Section 06, Township 26S, Range 34E.

Coordinate System Details:

Geographic Coordinates:

Latitude:	32 Degrees	4 Minutes	40.2 Seconds	N
Longitude:	103 Degrees	30 Minutes	22.9 Seconds	W

Universal Transverse Mercator Zone: 13N

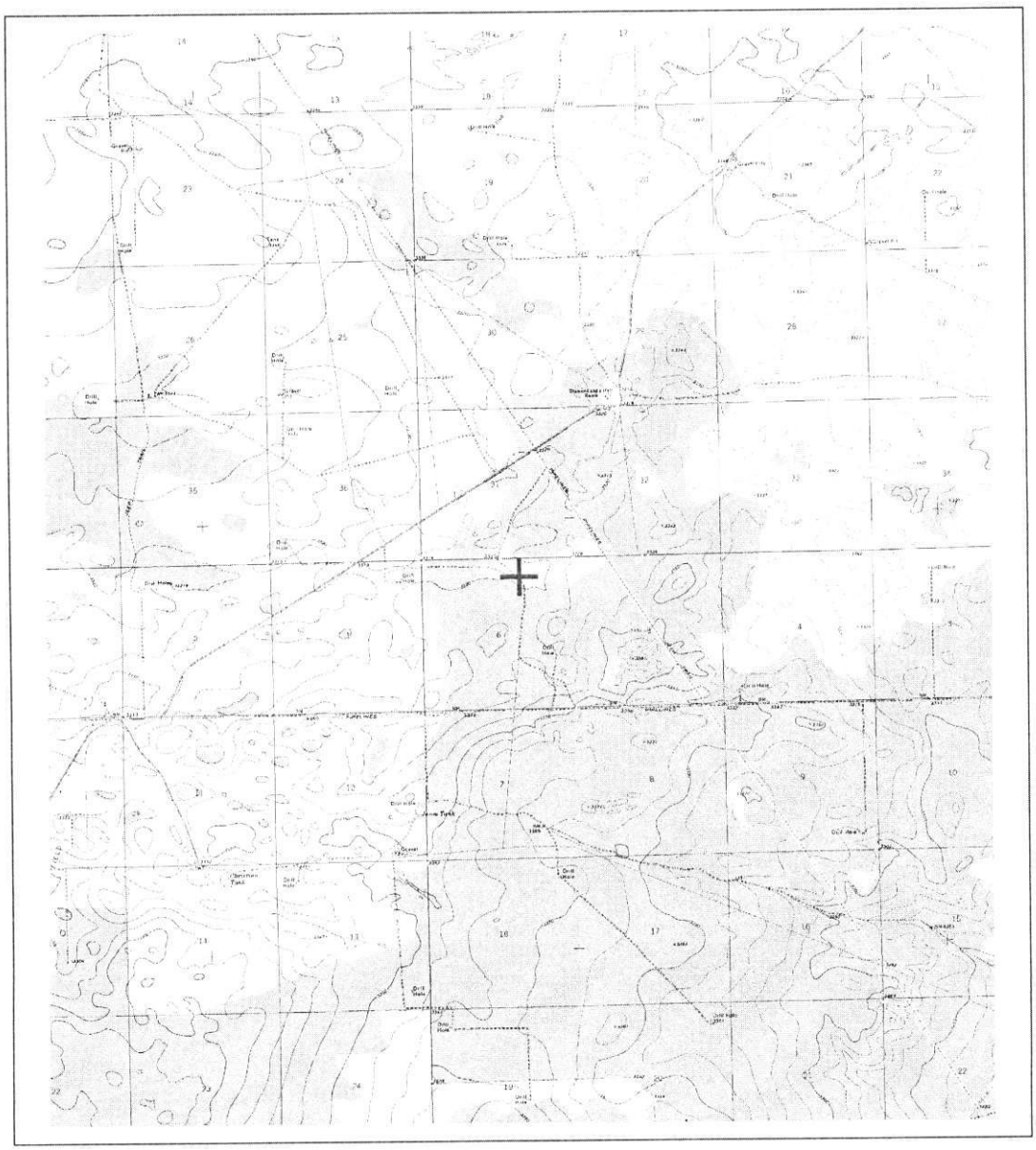
NAD 1983(92) (Meters)	N: 3,550,040	E: 640,971
NAD 1983(92) (Survey Feet)	N: 11,647,089	E: 2,102,918
NAD 1927 (Meters)	N: 3,549,839	E: 641,018
NAD 1927 (Survey Feet)	N: 11,646,429	E: 2,103,073

State Plane Coordinate System Zone: New Mexico East

NAD 1983(92) (Meters)	N: 119,798	E: 243,072
NAD 1983(92) (Survey Feet)	N: 393,037	E: 797,479
NAD 1927 (Meters)	N: 119,780	E: 230,518
NAD 1927 (Survey Feet)	N: 392,980	E: 756,292

NEW MEXICO OFFICE OF STATE ENGINEER

Locator Tool Report



WR File Number: C-03441-STK Scale: 1:77,058

Northing/Easting: UTM83(92) (Meter): N: 3,550,040 E: 640,971

Northing/Easting: SPCS83(92) (Feet): N: 393,037 E: 797,479

GW Basin: Carlsbad

Print Date: 02/01/2011

National Water Information System: Web Interface

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 320419103302201

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

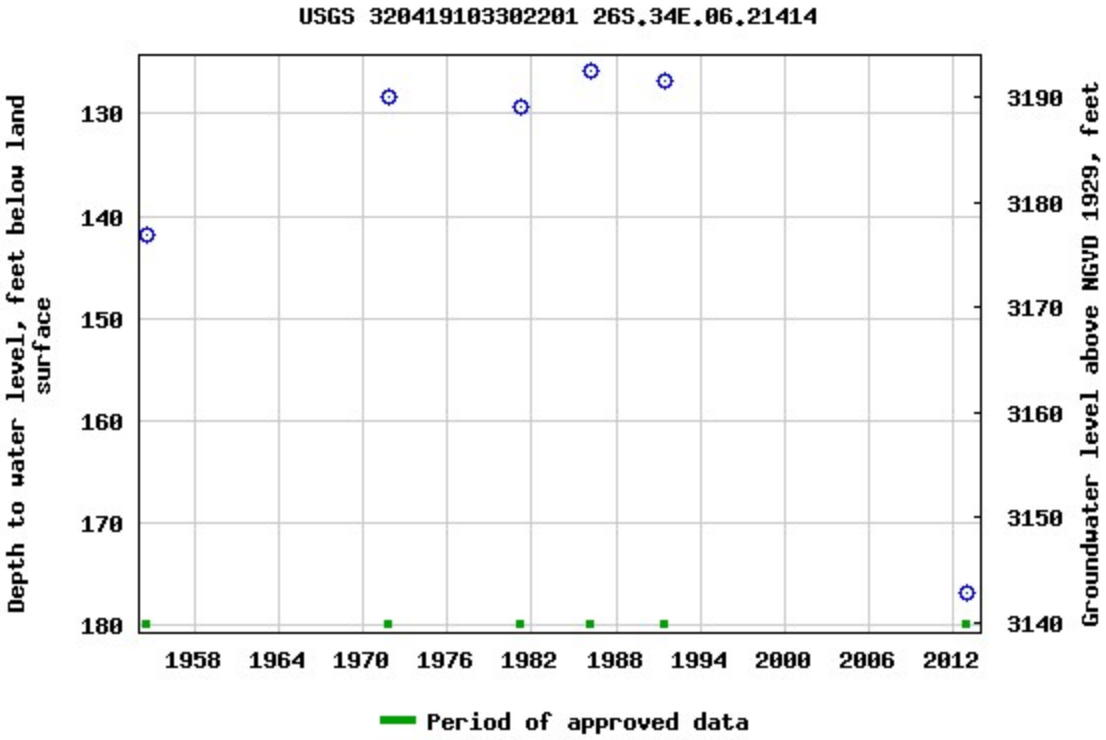
USGS 320419103302201 26S.34E.06.21414

Available data for this site Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°04'37.9", Longitude 103°30'20.5" NAD83
Land-surface elevation 3,319.00 feet above NGVD29
The depth of the well is 360 feet below land surface.
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2020-06-16 09:05:55 EDT
0.66 0.58 nadww01

National Water Information System: Web Interface

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 320419103302202

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

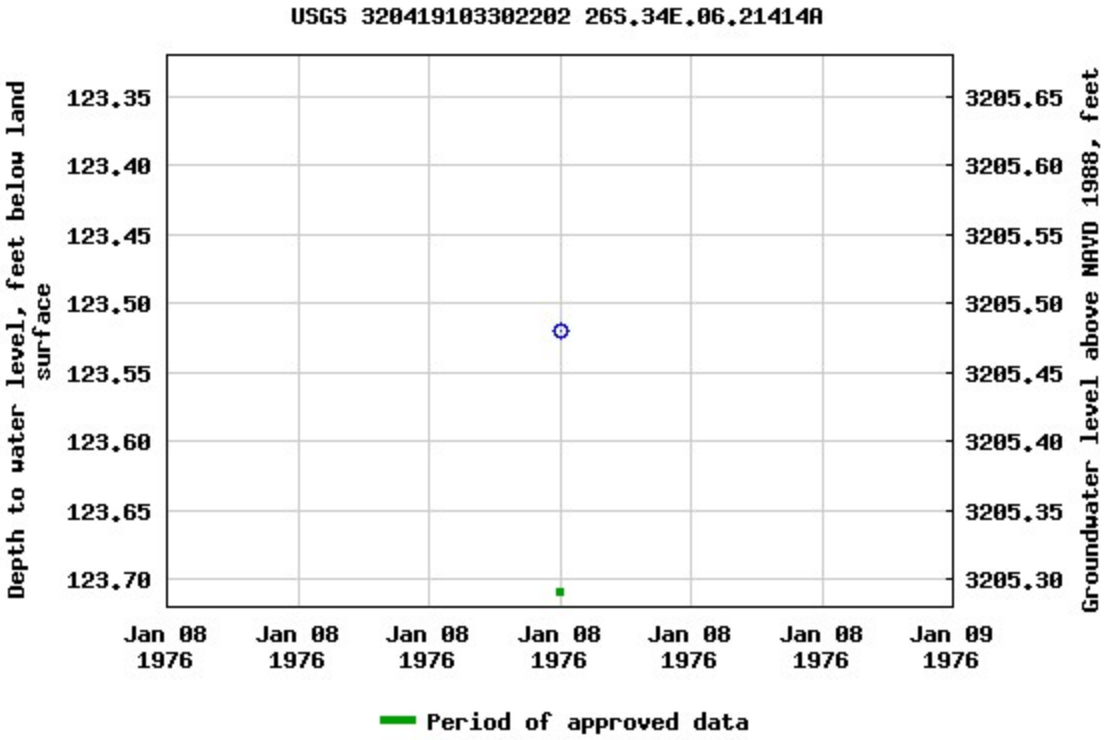
USGS 320419103302202 26S.34E.06.21414A

Available data for this site Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°04'19", Longitude 103°30'22" NAD27
Land-surface elevation 3,329 feet above NAVD88
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

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 Salado Draw 6 Fed #001H 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 soil samples were collected in laboratory supplied containers in accordance with this sampling protocol, immediately placed on ice and sent under standard chain-of-custody protocols to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for analysis. A total of one (1) 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.

Souder, Miller & Associates
Liner Inspection Form

Project Name: Salado Inspection Date: 7/16/2020

Client Name: Devon

Client Representative(s): _____

SMA Inspector(s): Alicia A Lopez / Sebastian O

Project Location: _____ Latitude: 32.065401 Longitude: -103.514801
NRM 2012242719

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

PRIOR TO INSPECTION:

Two (2) Business Day Notification of Inspection to Appropriate Division Office (Y/N): Y
Date of Notice: 7/14/2020

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

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

INSPECTION:

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

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

To Be Completed by Client Representative:

Can Responsible Party Demonstrate:

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

If **YES**:
Certify on Form C-141 That Liner Remains Intact

If **NO** to Any of Above:
Responsible Party Must Delineate Horizontal & Vertical Extent
Depending on Release:
See Table 1 19.15.29.12 NMAC
See Subparagraph (e) Paragraph (5) of Subsection A 19.15.29.11 NMAC

Additional Comments:

SMA INSPECTOR SIGNATURE

Date: 7/16/2020

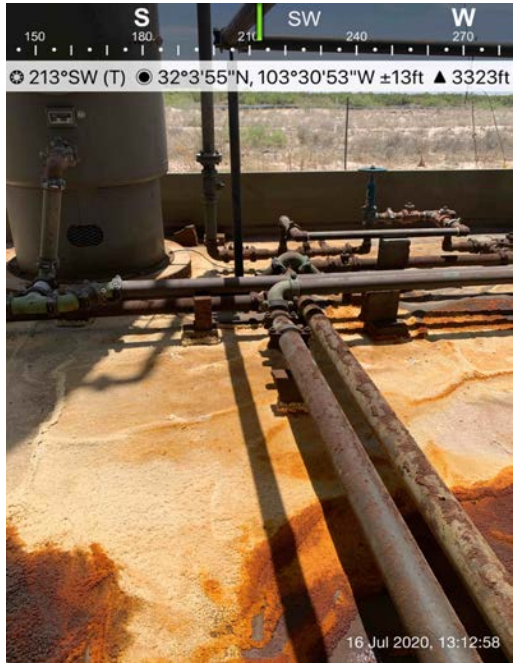
CLIENT REPRESENTATIVE

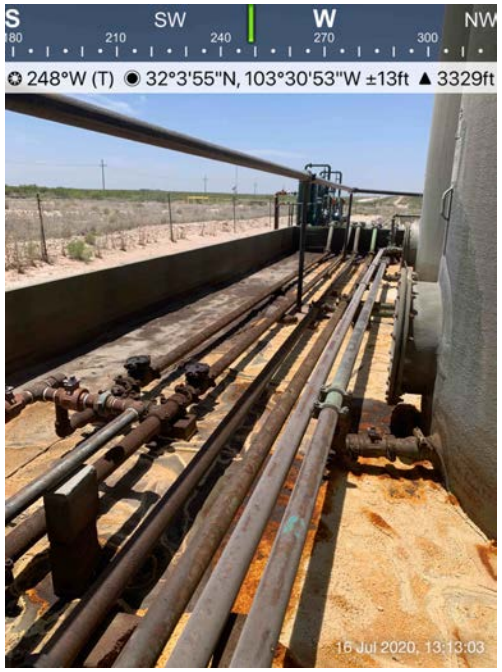
Date: 7/17/20

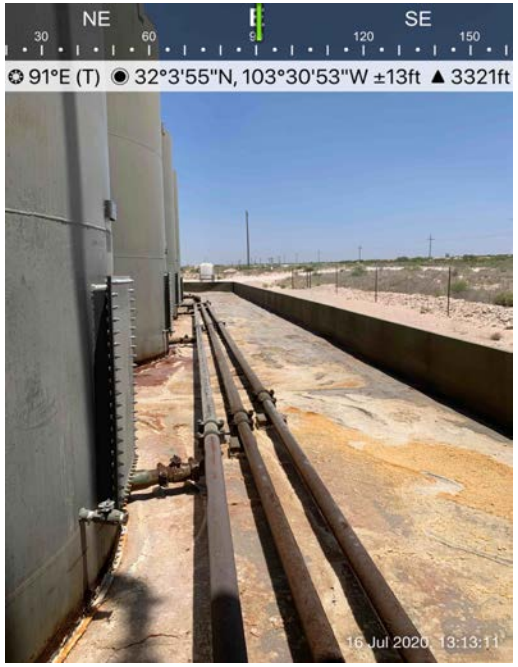

SW
166°S (T) 32°3'55"N, 103°30'53"W ±13ft 3325ft
16 Jul 2020, 13:12:32

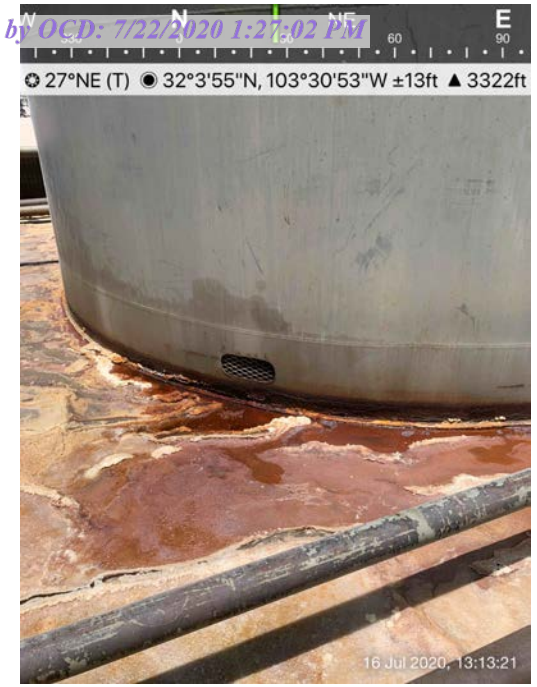

NE
E
SE
72°E (T) 32°3'55"N, 103°30'53"W ±16ft 3323ft
16 Jul 2020, 13:12:43

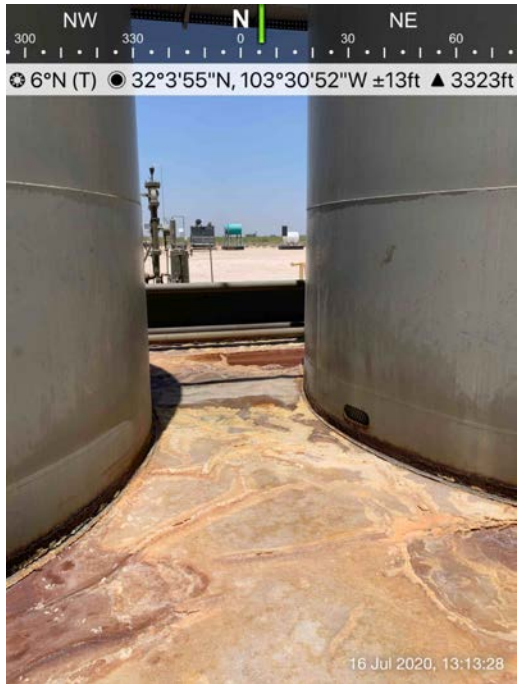

SW
W
NW
274°W (T) 32°3'55"N, 103°30'53"W ±13ft 3323ft
16 Jul 2020, 13:12:48


S
SW
W
213°SW (T) 32°3'55"N, 103°30'53"W ±13ft 3323ft
16 Jul 2020, 13:12:58

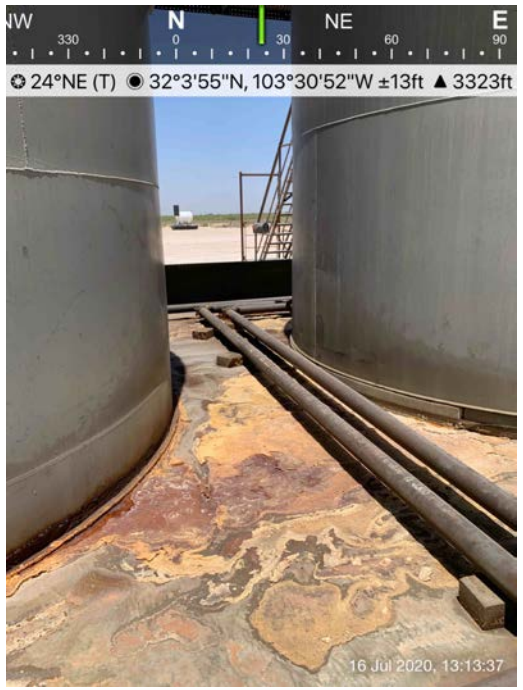

S
SW
W
NW
248°W (T) 32°3'55"N, 103°30'53"W ±13ft 3329ft
16 Jul 2020, 13:13:03

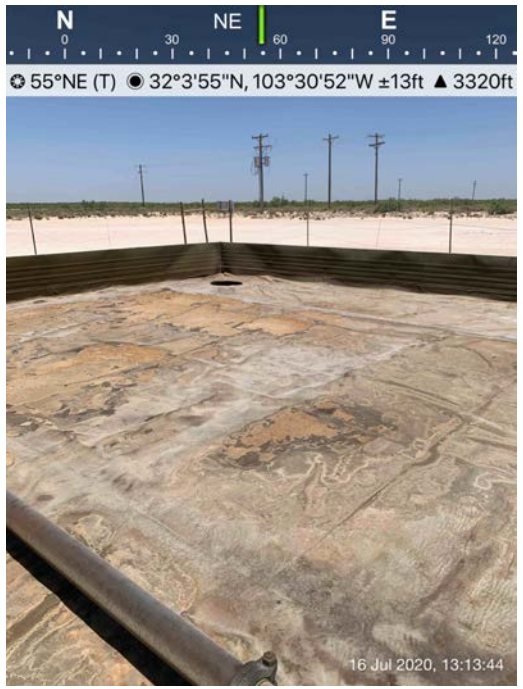

NE
SE
91°E (T) 32°3'55"N, 103°30'53"W ±13ft 3321ft
16 Jul 2020, 13:13:11

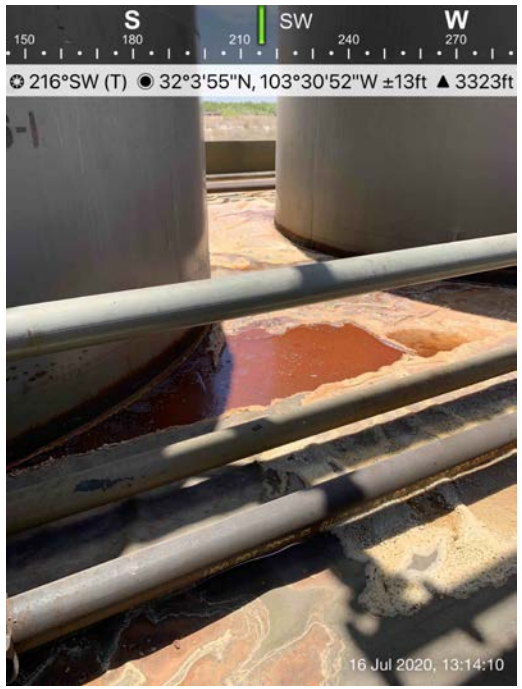

N
E
27°NE (T) 32°3'55"N, 103°30'53"W ±13ft ▲3322ft
16 Jul 2020, 13:13:21


NW
N
NE
6°N (T) 32°3'55"N, 103°30'52"W ±13ft ▲3323ft
16 Jul 2020, 13:13:28


NE
SE
91°E (T) 32°3'55"N, 103°30'52"W ±13ft ▲3323ft
16 Jul 2020, 13:13:35


N
NE
E
24°NE (T) 32°3'55"N, 103°30'52"W ±13ft ▲3323ft
16 Jul 2020, 13:13:37


N
NE
E
55°NE (T) 32°3'55"N, 103°30'52"W ±13ft ▲3320ft
16 Jul 2020, 13:13:44


S
SW
W
216°SW (T) 32°3'55"N, 103°30'52"W ±13ft ▲3323ft
16 Jul 2020, 13:14:10

APPENDIX D

EPA ON-LINE TOOLS FOR SITE ASSESSMENT CALCULATION

EPA On-line Tools for Site Assessment Calculation

Hydraulic Gradient -- Magnitude and Direction

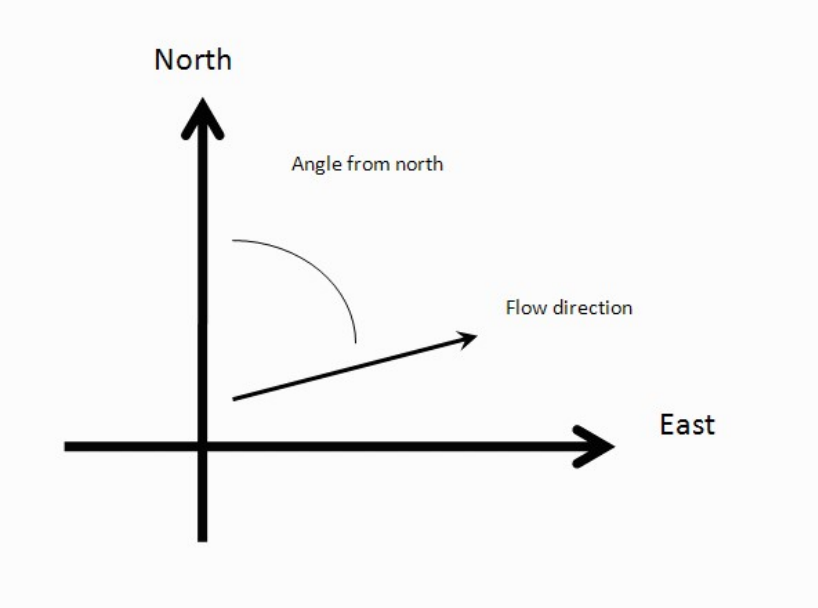
Gradient Calculation from fitting a plane to as many as thirty points

$a x_1 + b y_1 + c = h_1$
$a x_2 + b y_2 + c = h_2$
$a x_3 + b y_3 + c = h_3$
. . .
$a x_{30} + b y_{30} + c = h_{30}$

where (x_i, y_i) are the coordinates of the well and
h_i is the head

i = 1,2,3, ... , 30
The coefficients a, b, and c are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of $(a^2 + b^2)$ and the angle from the arctangent of a/b or b/a depending on the quadrant



Inputs

Example Data Set 1 | Example Data Set 2 | Calculate | Clear
Save Data | Recall Data | Go Back
Site Name: Salado Draw 6
Date: 6/16/2020 | Current Date
Calculation basis: Head
Coordinates: ft

I.D.		x-coordinate	y-coordinate	head (ft)
1)	C-02313	636971	3552098	3213
2)	C-02316	642003	3551967	3260
3)	C-02316	642003	3551967	3271
4)	C-02291	640825	3550140	3155
5)	C-03441	640970.7	3550039.6	3187
6)	C-03442	641055.8	3550028.1	3187
7)	C-02292	640991.6	3549987.2	3176
8)	C-02295	639850	3547710	3144
9)	C-02287	636612	3548675	3148
10)	C-02288	636645.9	3548758.5	3126
11)	C-02285	636612.9	3548855	3086
12)	C-2290	636538	3548770.9	3143
13)	C-02286	636469.5	3548714.8	3130
14)				
15)				
16)				
17)				

18)				
19)				
20)				
21)				
22)				
23)				
24)				
25)				
26)				
27)				
28)				
29)				
30)				

Results

Number of Points Used in Calculation	13
Max. Difference Between Head Values	56.39
Gradient Magnitude (i)	0.02671
Flow direction as degrees from North (positive y axis)	196.0
Coefficient of Determination (R^2)	0.837

WCMS

Last updated on 2/23/2016

APPENDIX E

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

June 17, 2020

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

RE: Salado Draw 6 OrderNo.: 2006370

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/6/2020 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 **2006370**
Date Reported: **6/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SL1-1'
Project: Salado Draw 6
Collection Date: 6/5/2020 10:49:00 AM
Lab ID: 2006370-001 **Matrix:** SOIL **Received Date:** 6/6/2020 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	4300	150		mg/Kg	50	6/15/2020 9:39:23 PM	53073
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/8/2020 6:55:38 AM	52926
Surr: BFB	102	70-130		%Rec	1	6/8/2020 6:55:38 AM	52926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	6/8/2020 1:38:10 PM	52935
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/8/2020 1:38:10 PM	52935
Surr: DNOP	97.9	55.1-146		%Rec	1	6/8/2020 1:38:10 PM	52935
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	6/8/2020 6:55:38 AM	52926
Toluene	ND	0.050		mg/Kg	1	6/8/2020 6:55:38 AM	52926
Ethylbenzene	ND	0.050		mg/Kg	1	6/8/2020 6:55:38 AM	52926
Xylenes, Total	ND	0.10		mg/Kg	1	6/8/2020 6:55:38 AM	52926
Surr: 1,2-Dichloroethane-d4	92.9	70-130		%Rec	1	6/8/2020 6:55:38 AM	52926
Surr: 4-Bromofluorobenzene	95.2	70-130		%Rec	1	6/8/2020 6:55:38 AM	52926
Surr: Dibromofluoromethane	99.2	70-130		%Rec	1	6/8/2020 6:55:38 AM	52926
Surr: Toluene-d8	95.1	70-130		%Rec	1	6/8/2020 6:55:38 AM	52926

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 **2006370**
Date Reported: **6/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SL1-1.5'
Project: Salado Draw 6
Collection Date: 6/5/2020 10:50:00 AM
Lab ID: 2006370-002 **Matrix:** SOIL **Received Date:** 6/6/2020 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	1400	60		mg/Kg	20	6/15/2020 1:52:53 AM	53073
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/8/2020 7:24:15 AM	52926
Surr: BFB	97.0	70-130		%Rec	1	6/8/2020 7:24:15 AM	52926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	6/8/2020 2:02:25 PM	52935
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/8/2020 2:02:25 PM	52935
Surr: DNOP	97.4	55.1-146		%Rec	1	6/8/2020 2:02:25 PM	52935
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	6/8/2020 7:24:15 AM	52926
Toluene	ND	0.049		mg/Kg	1	6/8/2020 7:24:15 AM	52926
Ethylbenzene	ND	0.049		mg/Kg	1	6/8/2020 7:24:15 AM	52926
Xylenes, Total	ND	0.099		mg/Kg	1	6/8/2020 7:24:15 AM	52926
Surr: 1,2-Dichloroethane-d4	96.0	70-130		%Rec	1	6/8/2020 7:24:15 AM	52926
Surr: 4-Bromofluorobenzene	91.4	70-130		%Rec	1	6/8/2020 7:24:15 AM	52926
Surr: Dibromofluoromethane	105	70-130		%Rec	1	6/8/2020 7:24:15 AM	52926
Surr: Toluene-d8	91.4	70-130		%Rec	1	6/8/2020 7:24:15 AM	52926

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#: **2006370**

17-Jun-20

Client: Souder, Miller & Associates

Project: Salado Draw 6

Sample ID: **MB-53073** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **53073** RunNo: **69641**

Prep Date: **6/14/2020** Analysis Date: **6/14/2020** SeqNo: **2417494** Units: **mg/Kg**

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

Sample ID: **LCS-53073** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **53073** RunNo: **69641**

Prep Date: **6/14/2020** Analysis Date: **6/14/2020** SeqNo: **2417495** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.6	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#: **2006370**
17-Jun-20

Client: Souder, Miller & Associates
Project: Salado Draw 6

Sample ID: **MB-52935** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **52935** RunNo: **69465**
Prep Date: **6/7/2020** Analysis Date: **6/8/2020** SeqNo: **2410165** 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	7.9		10.00		79.0	55.1	146			

Sample ID: **LCS-52935** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **52935** RunNo: **69465**
Prep Date: **6/7/2020** Analysis Date: **6/8/2020** SeqNo: **2410166** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.0	70	130			
Surr: DNOP	3.9		5.000		77.4	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#: **2006370**
17-Jun-20

Client: Souder, Miller & Associates
Project: Salado Draw 6

Sample ID: **mb-52926** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **52926** RunNo: **69467**
Prep Date: **6/6/2020** Analysis Date: **6/7/2020** SeqNo: **2410169** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		92.5	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.3	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		98.8	70	130			
Surr: Toluene-d8	0.48		0.5000		96.3	70	130			

Sample ID: **lcs-52926** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **52926** RunNo: **69467**
Prep Date: **6/6/2020** Analysis Date: **6/7/2020** SeqNo: **2410170** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	80	120			
Toluene	0.99	0.050	1.000	0	98.9	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		92.8	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.8	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		101	70	130			
Surr: Toluene-d8	0.47		0.5000		93.5	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2006370**

17-Jun-20

Client: Souder, Miller & Associates

Project: Salado Draw 6

Sample ID: **mb-52926** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **PBS** Batch ID: **52926** RunNo: **69467**

Prep Date: **6/6/2020** Analysis Date: **6/7/2020** SeqNo: **2410208** Units: **mg/Kg**

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

Sample ID: **lcs-52926** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **LCSS** Batch ID: **52926** RunNo: **69467**

Prep Date: **6/6/2020** Analysis Date: **6/7/2020** SeqNo: **2410209** 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	82.2	70	130			
Surr: BFB	490		500.0		98.6	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **SMA-CARLSBAD** Work Order Number: **2006370** RcptNo: **1**

Received By: **Desiree Dominguez** **6/6/2020 9:00:00 AM** DD

Completed By: **Desiree Dominguez** **6/6/2020 9:24:42 AM** DD

Reviewed By: DF 6/6/2020

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: DAD 6/6/20

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	3.0	Good	Not Present			

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: Salado Draw #6

Project #: WO# 208594194

Project Manager: Ashley Maxwell

Sampler: ZAA

On Ice: ☐ Yes ☐ No

# of Coolers:

Cooler Temp(including CF): 2.8+0.2=3.0 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2006370	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)
6/5/20	1049	Soil	SS-SH-1'	4oz		-001	X	X					X			
"	1050	"	SS-SH-1.5'	"		-002	"	"					"			

Analysis Request

Date: 6/5/20 Time: 1330 Relinquished by:

Received by: Via: Date Time 6/5/20 1330

Date: 6/5/20 Time: 1900 Relinquished by:

Received by: Via: courier Date Time 6/6/20 9:00

Remarks: Direct Bill: Devon Energy
(Hold Samples)

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 17, 2020

Ashley Maxwell

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

RE: Salado Draw 6 OrderNo.: 2006371

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/6/2020 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 **2006371**
Date Reported: **6/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SL1-Surface
Project: Salado Draw 6
Collection Date: 6/5/2020 10:46:00 AM
Lab ID: 2006371-001 **Matrix:** SOIL **Received Date:** 6/6/2020 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	16000	600		mg/Kg	200	6/15/2020 9:51:48 PM	53073
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/8/2020 7:53:02 AM	52926
Surr: BFB	99.8	70-130		%Rec	1	6/8/2020 7:53:02 AM	52926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	12	9.7		mg/Kg	1	6/8/2020 2:26:39 PM	52935
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/8/2020 2:26:39 PM	52935
Surr: DNOP	97.6	55.1-146		%Rec	1	6/8/2020 2:26:39 PM	52935
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	6/8/2020 7:53:02 AM	52926
Toluene	ND	0.049		mg/Kg	1	6/8/2020 7:53:02 AM	52926
Ethylbenzene	ND	0.049		mg/Kg	1	6/8/2020 7:53:02 AM	52926
Xylenes, Total	ND	0.099		mg/Kg	1	6/8/2020 7:53:02 AM	52926
Surr: 1,2-Dichloroethane-d4	93.5	70-130		%Rec	1	6/8/2020 7:53:02 AM	52926
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	6/8/2020 7:53:02 AM	52926
Surr: Dibromofluoromethane	101	70-130		%Rec	1	6/8/2020 7:53:02 AM	52926
Surr: Toluene-d8	92.5	70-130		%Rec	1	6/8/2020 7:53:02 AM	52926

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 **2006371**
Date Reported: **6/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SL1-0.5'
Project: Salado Draw 6
Collection Date: 6/5/2020 10:48:00 AM
Lab ID: 2006371-002 **Matrix:** SOIL **Received Date:** 6/6/2020 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	4100	150		mg/Kg	50	6/15/2020 10:04:13 PM	53073
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/8/2020 8:21:38 AM	52926
Surr: BFB	97.2	70-130		%Rec	1	6/8/2020 8:21:38 AM	52926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	6/8/2020 2:51:01 PM	52935
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/8/2020 2:51:01 PM	52935
Surr: DNOP	92.5	55.1-146		%Rec	1	6/8/2020 2:51:01 PM	52935
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	6/8/2020 8:21:38 AM	52926
Toluene	ND	0.049		mg/Kg	1	6/8/2020 8:21:38 AM	52926
Ethylbenzene	ND	0.049		mg/Kg	1	6/8/2020 8:21:38 AM	52926
Xylenes, Total	ND	0.098		mg/Kg	1	6/8/2020 8:21:38 AM	52926
Surr: 1,2-Dichloroethane-d4	93.5	70-130		%Rec	1	6/8/2020 8:21:38 AM	52926
Surr: 4-Bromofluorobenzene	91.2	70-130		%Rec	1	6/8/2020 8:21:38 AM	52926
Surr: Dibromofluoromethane	101	70-130		%Rec	1	6/8/2020 8:21:38 AM	52926
Surr: Toluene-d8	91.8	70-130		%Rec	1	6/8/2020 8:21:38 AM	52926

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#: **2006371**

17-Jun-20

Client: Souder, Miller & Associates

Project: Salado Draw 6

Sample ID: **MB-53073** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **53073** RunNo: **69641**

Prep Date: **6/14/2020** Analysis Date: **6/14/2020** SeqNo: **2417494** Units: **mg/Kg**

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

Sample ID: **LCS-53073** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **53073** RunNo: **69641**

Prep Date: **6/14/2020** Analysis Date: **6/14/2020** SeqNo: **2417495** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.6	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#: **2006371**
17-Jun-20

Client: Souder, Miller & Associates
Project: Salado Draw 6

Sample ID: **MB-52935** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **52935** RunNo: **69465**
Prep Date: **6/7/2020** Analysis Date: **6/8/2020** SeqNo: **2410165** 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	7.9		10.00		79.0	55.1	146			

Sample ID: **LCS-52935** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **52935** RunNo: **69465**
Prep Date: **6/7/2020** Analysis Date: **6/8/2020** SeqNo: **2410166** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.0	70	130			
Surr: DNOP	3.9		5.000		77.4	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#: **2006371**
17-Jun-20

Client: Souder, Miller & Associates
Project: Salado Draw 6

Sample ID: **mb-52926** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **52926** RunNo: **69467**
Prep Date: **6/6/2020** Analysis Date: **6/7/2020** SeqNo: **2410169** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		92.5	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.3	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		98.8	70	130			
Surr: Toluene-d8	0.48		0.5000		96.3	70	130			

Sample ID: **lcs-52926** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **52926** RunNo: **69467**
Prep Date: **6/6/2020** Analysis Date: **6/7/2020** SeqNo: **2410170** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	80	120			
Toluene	0.99	0.050	1.000	0	98.9	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		92.8	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.8	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		101	70	130			
Surr: Toluene-d8	0.47		0.5000		93.5	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2006371**
17-Jun-20

Client: Souder, Miller & Associates
Project: Salado Draw 6

Sample ID: **mb-52926** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **52926** RunNo: **69467**
Prep Date: **6/6/2020** Analysis Date: **6/7/2020** SeqNo: **2410208** Units: **mg/Kg**

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

Sample ID: **lcs-52926** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **52926** RunNo: **69467**
Prep Date: **6/6/2020** Analysis Date: **6/7/2020** SeqNo: **2410209** 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	82.2	70	130			
Surr: BFB	490		500.0		98.6	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **SMA-CARLSBAD** Work Order Number: **2006371** RcptNo: 1

Received By: **Desiree Dominguez** **6/6/2020 9:00:00 AM** DD

Completed By: **Desiree Dominguez** **6/6/2020 9:29:33 AM** DD

Reviewed By: DF 6/6/2020

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: DAD 6/6/20

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	3.0	Good	Not Present			

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: Salado Draw #6

Project #: WO # 208 59194

Project Manager: Ashley Maxwell

Sampler: LAA

On Ice: ☐ Yes ☐ No

# of Coolers:

Cooler Temp(including CF): 2.8 + 0.2 = 3.0 (°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. 2006371	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)
6/5/20	1046	Soil	SLS SH 0.5' Surface	4oz	Ice	-001	X	X					X			
	1048		SLS SH 0.5'													

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
6/5/20	1330				6/5/20	1330
6/5/20	1900			Courier	6/6/20	9:00

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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 14, 2020

Ashley Maxwell

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

RE: Salado Draw 6 Fed 1H OrderNo.: 2007223

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 2 sample(s) on 7/7/2020 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 **2007223**
Date Reported: **7/14/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SL1-2'
Project: Salado Draw 6 Fed 1H
Collection Date: 7/2/2020 1:30:00 PM
Lab ID: 2007223-001 **Matrix:** SOIL **Received Date:** 7/7/2020 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	7/10/2020 6:34:10 PM	53632

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 **2007223**
Date Reported: **7/14/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BG1
Project: Salado Draw 6 Fed 1H
Collection Date: 7/2/2020 1:43:00 PM
Lab ID: 2007223-002 **Matrix:** SOIL **Received Date:** 7/7/2020 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	61		mg/Kg	20	7/10/2020 7:11:12 PM	53632

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#: **2007223**

14-Jul-20

Client: Souder, Miller & Associates

Project: Salado Draw 6 Fed 1H

Sample ID: **MB-53632**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **53632**	RunNo: **70271**							
Prep Date: **7/10/2020**	Analysis Date: **7/10/2020**	SeqNo: **2442502**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-53632**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **53632**	RunNo: **70271**							
Prep Date: **7/10/2020**	Analysis Date: **7/10/2020**	SeqNo: **2442503**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.5	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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Souder, Miller & Associates | Work Order Number: 2007223 | RcptNo: 1

Received By: **Juan Rojas** 7/7/2020 9:40:00 AM

Completed By: **Juan Rojas** 7/7/2020 9:53:45 AM

Reviewed By: JR 7/7/20

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: SPA 7.7.20

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				

Chain-of-Custody Record

Client: Souder Miller & Associates

Mailing Address: 208 S. Halagueno
Carlsbad, NM 88220

Phone #: (505)516-7469

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 TAT

Project Name:
Salado Draw 6 Fed 1H

Project #:
WO# 208594194

Project Manager:
Ashley Maxwell

Sampler: CA

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.1-0=1.1 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2007223	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)
7/2/2020	1:30	Soil	SL1-2'	4oz	Ice	-001							X			
1	1:43		BG1			-002							X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
7/6/20	1330				7/6/20	1330
7/6/20	1900			courier	7/7/20	9:40

Remarks:
Direct Bill: Devon Energy
ATTN: Lupe Carrasco

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.