

November 21, 2024

Cooter 16 State Com #5H – Raybaw Operating, LLC



Remediation Plan Report

Written by Sapec-Eco, LLC for Raybaw
Operating, LLC

ATTN: NMOCD District 2
811 S First St
Artesia, NM 88210

RE: Remediation Plan Report
Cooter 16 State Com #5H
API No. 30-015-37875 Raybaw Operating, LLC [330220]
Surface Location: O - 16 - 25S - 29E 330 FSL 2310 FEL
Lat/Long: 32.1236382, -103.9883423 NAD83
NMOCD Incident ID - nAB1517443063

Raybaw Operating, LLC (Raybaw) has contracted Saptec-Eco, LLC (Saptec) to prepare this remediation plan report for a crude oil and produced water mixed release that occurred at the Cooter 16 State Com #5H (Cooter). The New Mexico Oil Conservation Division (NMOCD) has assigned this release the incident ID nAB1517443063. The initial C-141 form was submitted on June 19, 2015 and approved by the NMOCD on July 24, 2015 (Appendix C).

Site Characterization

The Cooter is located in Eddy County, NM approximately eight and a half (8.5) miles southeast of Malaga, NM. This release site is in Unit O, Section 16, Township 25S, Range 29E, at GPS coordinates 32.1236382 latitude and -103.9883423 longitude. It can be accessed by a lease road that bears entry from the south. A Location Map can be referenced in Figure 4.

Per the New Mexico Bureau of Geology and Mineral Resources, the geology in this area is in the Rustler Formation. Siltstone, gypsum, sandstone, and dolomite. A Geologic Unit Map is available for reference in Appendix B.

The soil in this area, according to the United States Department of Agriculture Natural Resources Conservation Service soil survey, is made up of Potter-Simona complex, having 5 to 25 percent slopes (Appendix B). The drainage class for this type of soil is well drained. There is a medium potential for karst geology to be present around the Cooter with the nearest high karst zone being 2.5 miles away (Figure 2).

This site is not in a known Lesser Prairie Chicken or Sand Dune Lizard habitat. The closest LPC Timing Restriction Area zone, according to the LPC Timing Area 2021 Southern Map courtesy of the Bureau of Land Management, is located greater than 15 miles to the northeast of the Cooter. LPC-Dune Lizard Maps can be found in Figure 5.

According to the New Mexico Office of the State Engineer, depth to the nearest groundwater in this area is 60 feet below grade surface (bgs). This data was recorded from C-02371, in 1995, which is located approximately 0.88 miles away from the Cooter. According to the United States Geological Survey, well water data from USGS 320719103584601 25S.29E.16.44444 records depth to the nearest groundwater at 165 feet bgs, with the last gauge being conducted in 1978. This well is approximately 0.5 miles away from the Cooter. Referenced Water Surveys and Water-Related Maps can be found in Appendix A.

The nearest surface water body is the Pecos River located approximately 1.75 miles to the west of this site. The U.S. Fish and Wildlife Service National Wetlands Inventory shows the nearest wetland to be a Riverine approximately 500 feet to the south of this area. According to Fema's National Flood Hazard Layer search, the Cooter is situated in Zone X - Area of Minimal Flood Hazard.

Previously, a remediation took place at this site and a remediation closure report was submitted on December 21, 2020. This same report was submitted for each incident ID listed here. For nAB1517443063, the closure report can be found in OCD Online: Permitting - Application ID 12820. For nAB1614734572, the closure report can be found in OCD Online: Permitting - Application ID 12823. For nAB1701352947, the closure report can be found in OCD Online: Permitting - Application ID 12826. Included in this report for reference in Appendix E are a Talon Sampling Summary from 2020 and SESI Sampling Summary from 2015. Photographic Documentation can be found in Appendix D.

On September 14, 2022, the NMOCD approved the report for nAB1701352947.

On November 14, 2024, the NMOCD denied the closure report submitted for nAB1517443063 citing:

bhall (11/14/2024), Remediation plan denied.

bhall (11/15/2024), OCD will not accept the included analytical results for the confirmation samples and is requiring additional remediation closure samples be collected and analyzed pursuant to 19.15.29 NMAC. OCD is unable to determine if the release was remediated pursuant to 19.15.29 NMAC due to the consultant using similar naming conventions across the release. Additionally, the included results for the confirmation soils samples were not analyzed for all constituents found on Table I of 19.15.29 NMAC. If contamination above the applicable closure is found during the additional remediation closure sampling activities, additional remediation must be completed.

bhall (11/15/2024), Submit a complete and accurate report through the OCD Permitting website by 2/21/2025.

Remediation Plan in response to Denied Report

Raybaw proposes the following remediation plan:

- Submit a 48-Hour notification to the NMOCD for a sampling event of the affected area.
- Collect discrete samples from the affected area on the pad that measures approximately 9,522 square feet and affected approximately 705 cubic yards after the 2' excavation was performed in 2020. With the approval of the Variance Request below, samples should be collected from 24 different sample points within the release area and from 8 different sample points around the edges of the release area. Each sample point will yield 4 samples from depth intervals of surface, 1', 3', and 4' bgs. A Proposed Sampling Map can be referenced in Figure 1.
- A total of 128 samples will be put on ice, prepared for delivery, then delivered to Envirotech Analytical Laboratories for official analysis of all constituents listed in Table 1 19.15.29.12 NMAC.
- Should any samples points show results of contamination that is over the regulatory limits of the less than 50-foot depth to groundwater section of Table 1, those points will be remediated via excavation. Specific area and volume measurements will be calculated at that time.
- If all samples show results of contamination that is under the regulatory limits of the less than 50-foot depth to groundwater section of Table 1, a final closure report documenting all data will be completed and submitted to the Portal for review/approval.

Variance Request

Based on the large area that is entirely on the pad surface and has previously been remediated, Raybaw would like to request a variance regarding the number of samples required for this investigative sampling event. The release area is approximately 9,522 feet squared, requiring 48 samples from within the release area and 8 samples from around the edges of the release area, following the 200 square foot rule. We believe we can obtain an accurate representation of the previously remediated area by collecting samples from every 400 square feet from within the release area. The number of samples collected from the edges of the release will remain the same. The release area in its entirety was excavated to a depth of 2' bgs in the summer of 2020. The Proposed Sampling Map in Figure 1 represents the number of samples requested in this variance. A Written Demonstration of Equal Protection can be referenced in Figure 6.

Approval Request

Raybaw Operating, LLC. respectfully requests that this remediation plan and variance request for incident ID nAB1517443063, be approved. Raybaw has complied with all applicable requirements as per 19.15.29.12 NMAC.

Should you have any questions or need additional information, please feel free to contact:

Raybaw Operating, LLC. – Nancy Winn at 281-793-5452 or nwinn@sbcglobal.net.

Saptec-Eco, LLC. – Tom Bynum at 580-748-1613 or tombynum@saptec-eco.com.

Attachments

Figures:

- 1- Proposed Sampling Map
- 2- Karst Map
- 3- Topographic Map
- 4- Location Map
- 5- LPC-Dune Lizard Maps
- 6- Written Demonstration of Equal Protection

Appendices:

- Appendix A – Water Surveys & Water-Related Maps
- Appendix B – Soil Survey & Geological Data
- Appendix C – Initial C-141 Form & 48-Hour Notifications
- Appendix D – Photographic Documentation
- Appendix E – Talon Sample Summary & SESI Sample Summary

Figures:

1 – Proposed Sampling Map

2 – Karst Map

3 – Topographic Map

4 – Location Map

5 – LPC-Dune Lizard Maps

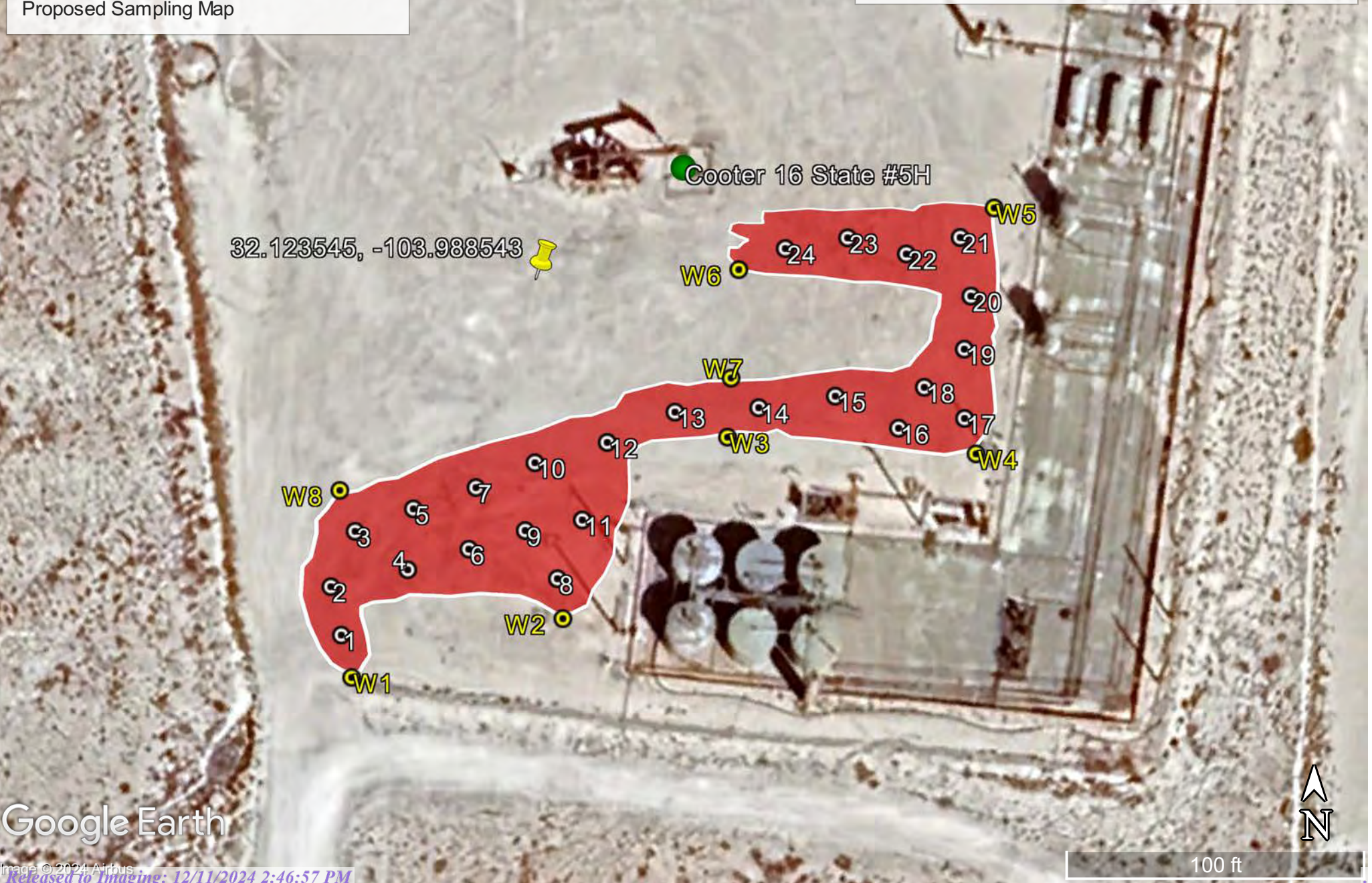
6 – Written Demonstration of Equal Protection

Cooter 16 State Com 5H

Raybaw Operating
API #30-015-37875
Eddy County, NM
nAB1517443063
Proposed Sampling Map

Legend




- Horizontal delineation samples
- nAB1517443063 Release area - 9,522 square feet
- Vertical delineation samples



Cooter 16 State #5H

Raybaw Operating
API #30-015-37875
Eddy County, NM
nAB1517443063
nAB1614734572
Karst Map

Legend

-  High Karst
-  Low Karst
-  Medium Karst

Cooter 16 State #5H

Google Earth

Image © 2024 Airbus

Released to Imaging: 12/11/2024 2:46:57 PM



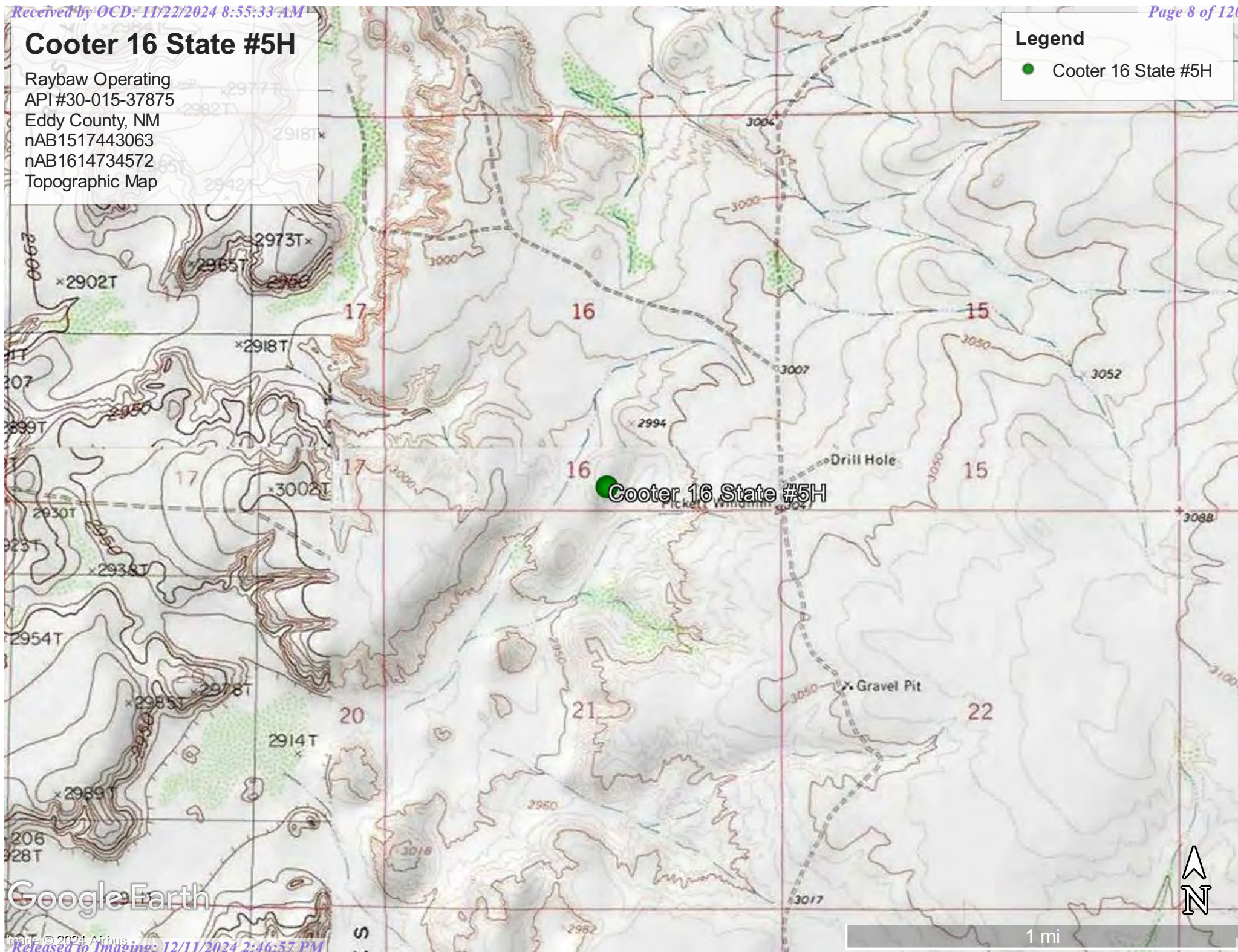
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Cooter 16 State #5H

Raybaw Operating
API #30-015-37875
Eddy County, NM
nAB1517443063
nAB1614734572
Topographic Map

Legend

● Cooter 16 State #5H

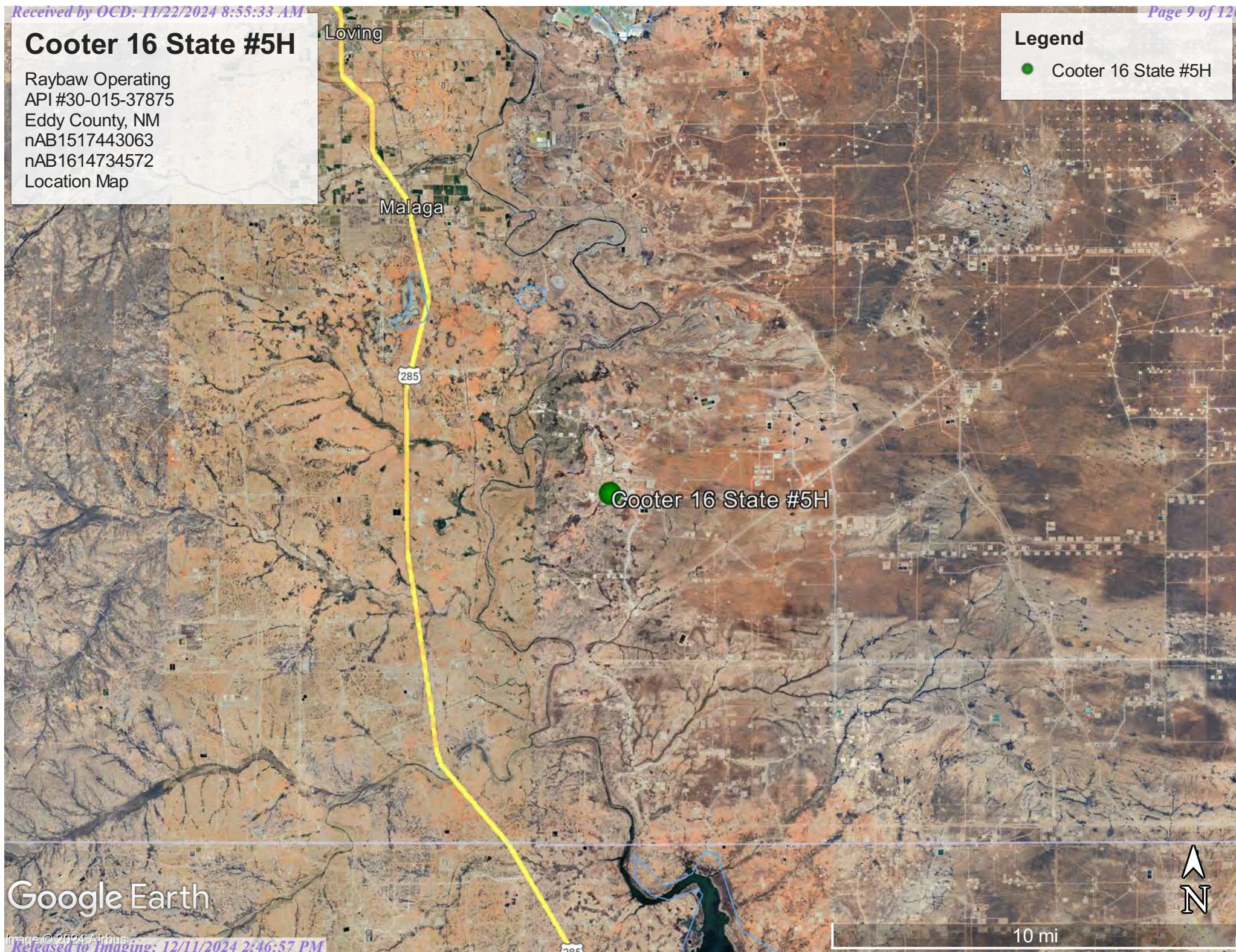


Cooter 16 State #5H

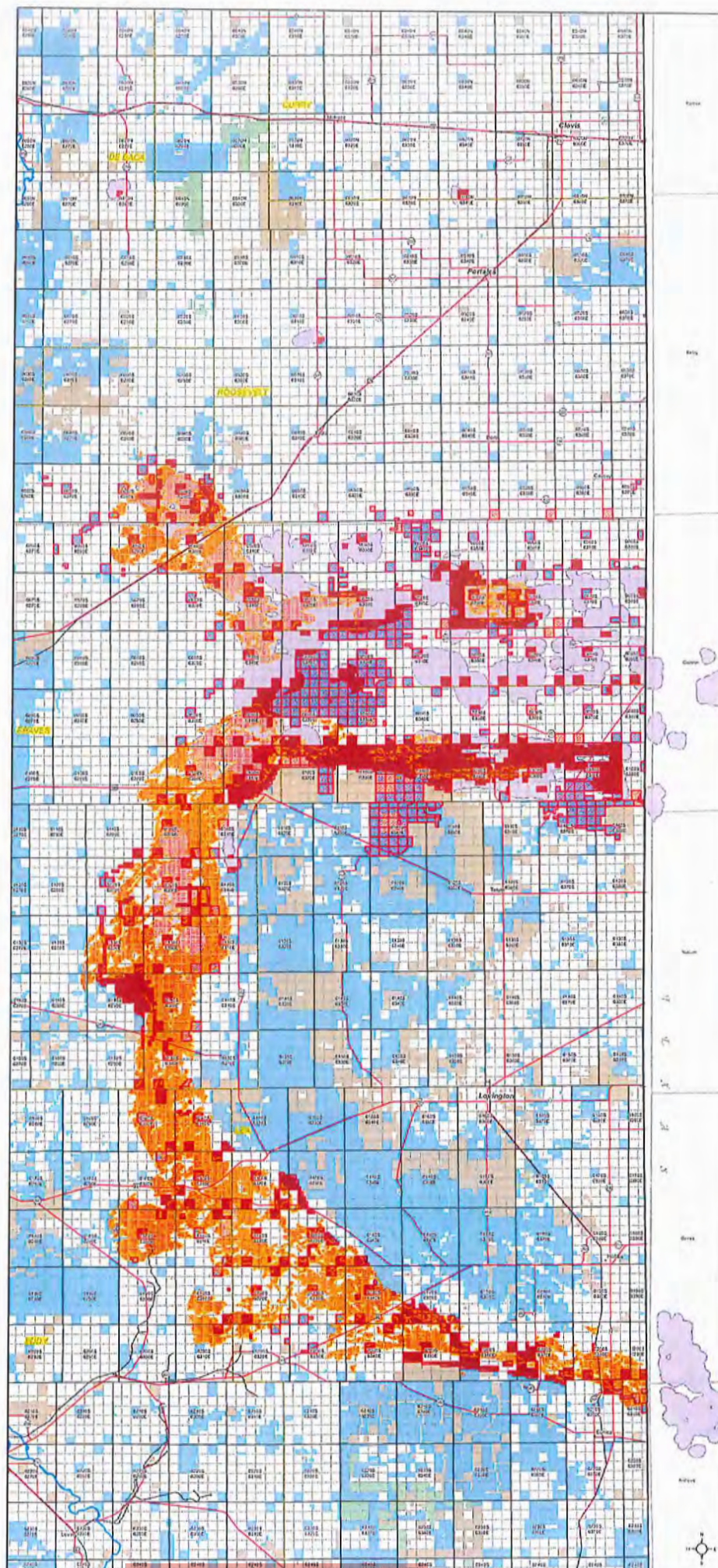
Raybaw Operating
API #30-015-37875
Eddy County, NM
nAB1517443063
nAB1614734572
Location Map

Legend

● Cooter 16 State #5H



Google Earth



NEW MEXICO
STATE LAND OFFICE
When we Take Care of our Land, our Land Takes Care of us!

Ray Powell, M.S., D.V.M.
Commissioner of Public Lands
505-827-5760
www.nmstatelands.org

March 20, 2014 Revisions to Lesser Prairie-Chicken and Sand Dune Sagebrush Lizard CCAA CI-OGOP-025



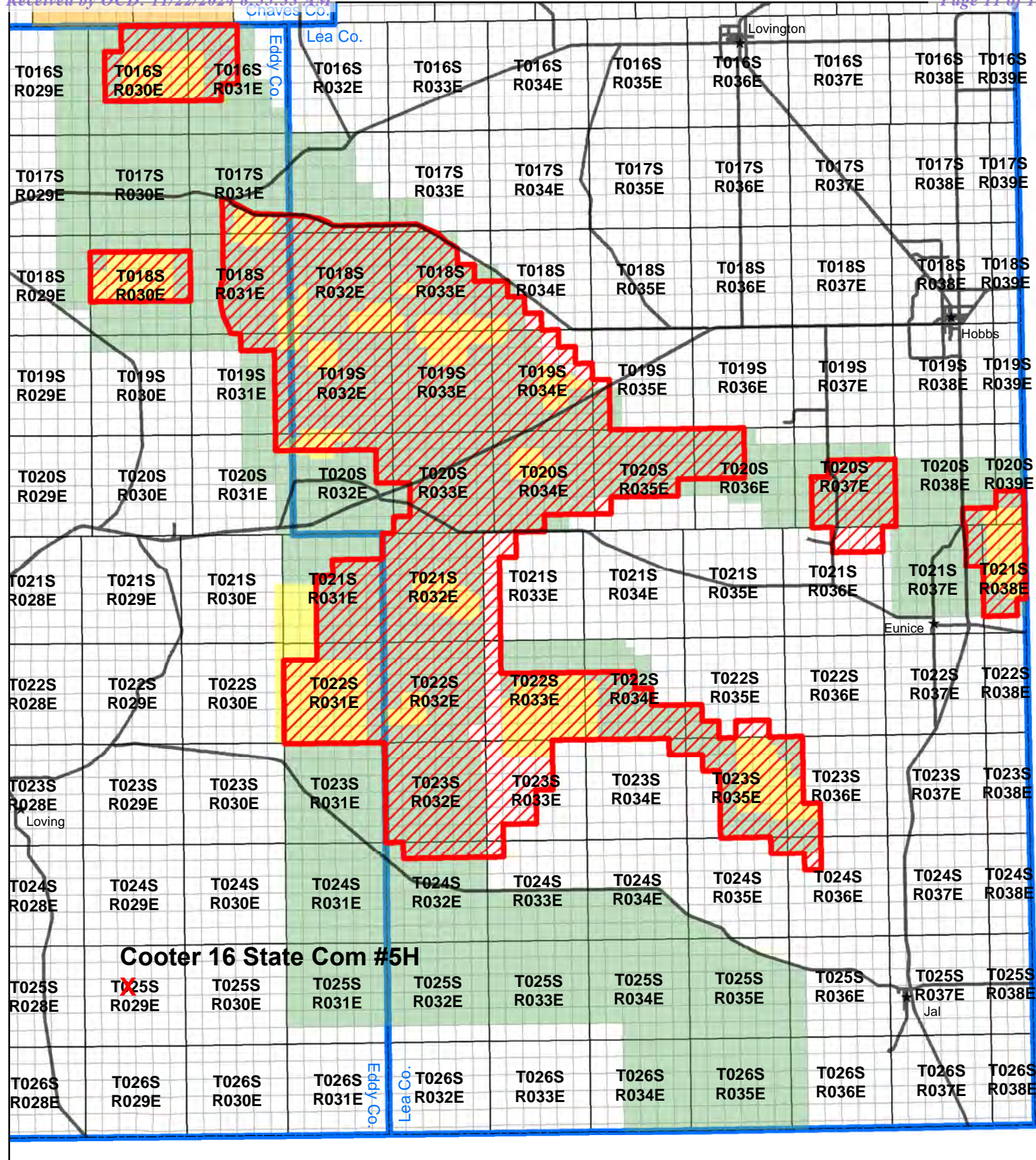
Legend

- Additional State Trust Lands Inclusion
- Rivers
- Towns
- County Seats
- Roads
 - Interstate Highway
 - US Highway
 - State Highway
- Railroads
- Trust Lands within CCAA, March 2012
- Surface Estate
- Subsurface Estate
- Surface and Subsurface Estate
- Core Habitat, Lesser Prairie Chicken
- Updated Sand Dune Lizard Habitat



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Created with ArcGIS 10.0, March 2014
Updated with the CCAA Amendment 2014
Applied to the New Mexico State Land Office 2014
1000 Office Building, Santa Fe, New Mexico 87501
505-827-5760



LPC Timing Area 2021

Southern Map



NM Major Roads

LPC Timing Restriction Area

NM Counties

RMPA Zones

Habitat Area

Sparse and Scattered Population Area

Isolated Population Area

This Timing Restriction Map
only applies to Carlsbad FO

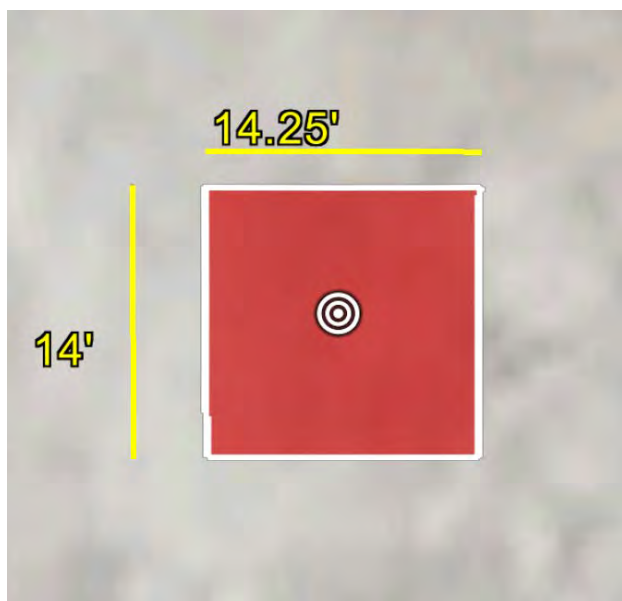
No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data was compiled from various sources. Data accuracy may not meet National Map Accuracy Standards. This information may be updated without notification.



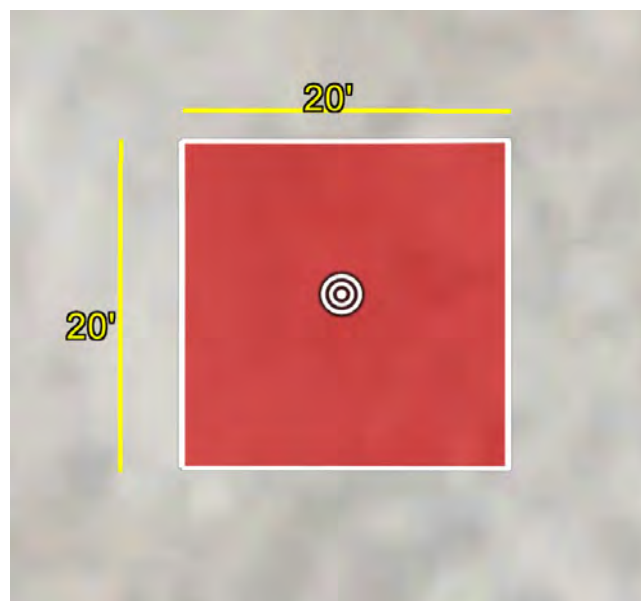
Written Demonstration of Equal Protection

The purpose of this demonstration is to provide sufficient evidence that samples taken from every 400 square feet versus samples taken from every 200 square feet would provide equal or better protection of fresh water, public health, and the environment.

1. This site lies in a medium karst zone. A high karst zone is approximately 2.5 miles to the west (Figure 2).
2. The nearest surface water feature to this site is the Pecos River and is approximately 1.75 miles to the west (Appendix A).
3. According to FEMA, this site is in Zone X - Area of Minimal Flood Hazard (Appendix A).
4. According to the U.S. Fish and Wildlife Service - National Wetlands Inventory, this site is approximately 500 feet north of a Riverine (Appendix A).
5. According to the United States Geological Survey, there is 1 water well within 0.5 miles from this site, and has a water level of 165' bgs. (Appendix A)
6. According to the Office of the State Engineer, there is 1 water well within 0.88 feet from this site, and has a water level of 60' bgs (Appendix A).
7. The impacted difference in collecting samples from every 400 square feet versus every 200 square feet can be seen in the following illustration.
8. Further illustration can be seen in the Proposed Sampling Map included in Figure 1.



200 Square Foot



400 Square Foot

Appendix A

Water Surveys

Water-Related Maps



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 smallest to largest)

(meters)

(In feet)

POD Number	Code	Sub basin	County	Q64	Q16	Q4	Sec	Tws	Range	X	Y	Map	Distance	Well Depth	Depth Water	Water Column
C 02371		C	ED		NE	SW	15	25S	29E	596741.0	3555106.0	*	1430	200	60	140
C 02680		CUB	ED		NE	SW	15	25S	29E	596741.0	3555106.0	*	1430	200		
C 04503 POD1		CUB	ED	SE	SW	SW	09	25S	29E	594883.5	3556142.6		1652			

Average Depth to Water: 60 feet

Minimum Depth: 60 feet

Maximum Depth: 60 feet

Record Count: 3

Basin/County Search:

County: ED

UTM Filters (in meters):

Easting: 595412.24

Northing: 3554577.12

Radius: 02000


* UTM location was derived from PLSS - see Help

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

Point of Diversion Summary

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

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
	C 02371		NE	SW	15	25S	29E	596741.0	3555106.0 *	

* UTM location was derived from PLSS - see Help

Driller License:	1259	Driller Company:	CAMPBELL DRILLING		
Driller Name:	CAMPBELL, MICHAEL R.				
Drill Start Date:	1995-01-12	Drill Finish Date:	1995-01-24	Plug Date:	
Log File Date:	1995-02-01	PCW Rcv Date:		Source:	Shallow
Pump Type:		Pipe Discharge Size:		Estimated Yield:	20
Casing Size:	7.00	Depth Well:	200	Depth Water:	60

Water Bearing Stratifications:

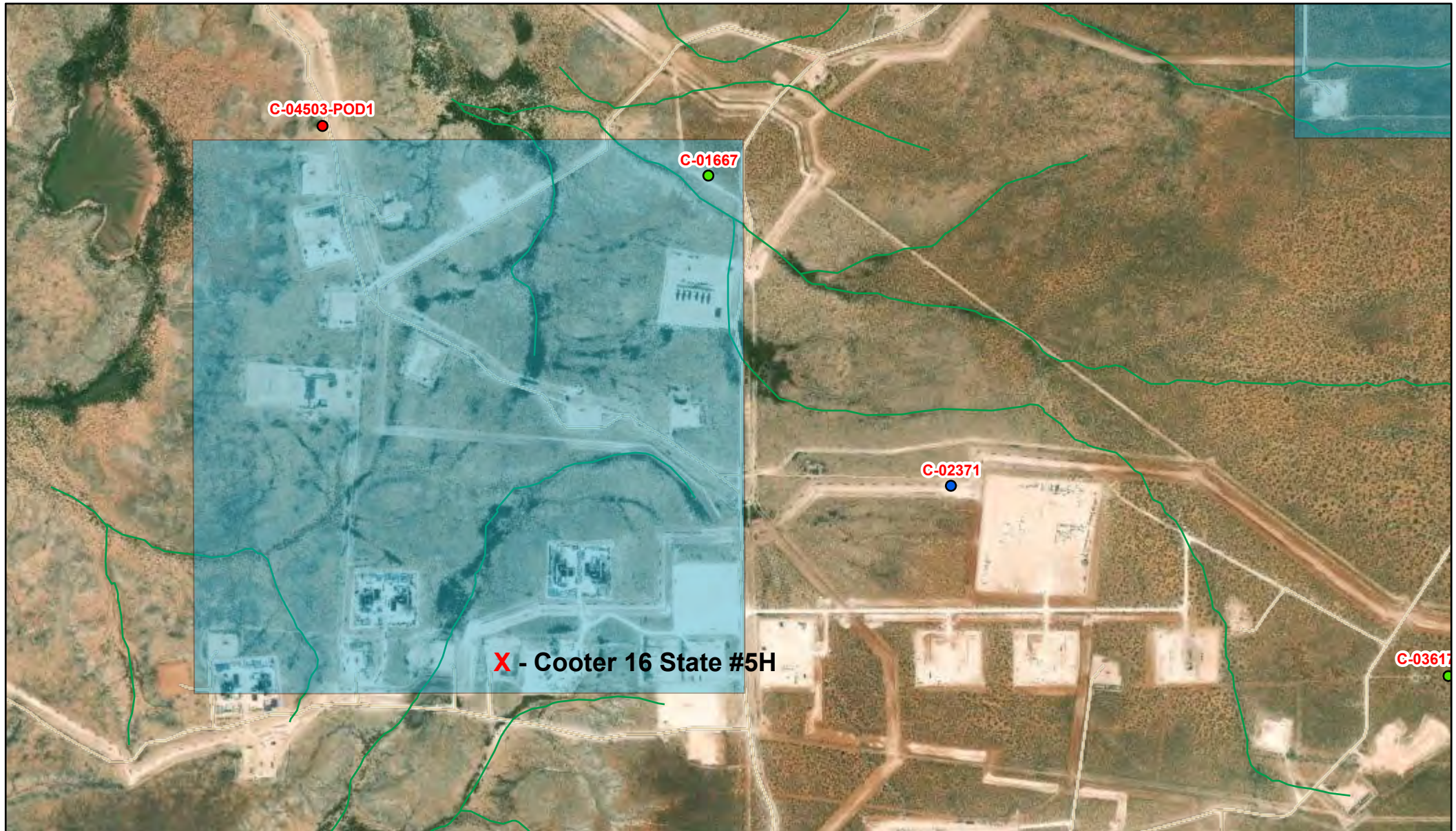
Top	Bottom	Description
162	200	Sandstone/Gravel/Conglomerate

Casing Perforations:

Top	Bottom
140	200

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

OSE POD Location Map



11/4/2024, 8:47:22 AM

GIS WATERS PODs



Active



Pending



Plugged



OSE District Boundary

New Mexico State Trust Lands



Both Estates

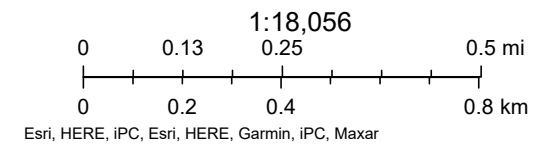
NHD Flowlines



Connector



Stream River





[USGS Home](#)
[Contact USGS](#)
[Search USGS](#)

National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater

Geographic Area:

United States

GO

Click to hide News Bulletins

- Explore the *NEW* [USGS National Water Dashboard](#) interactive map to access real-time water data from over 13,500 stations nationwide.

Groundwater levels for the Nation



Important: [Next Generation Monitoring Location Page](#)

Search Results -- 1 sites found

site_no list =

- 320719103584601

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 320719103584601 25S.29E.16.44444

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°07'19", Longitude 103°58'46" NAD27

Land-surface elevation 3,042 feet above NAVD88

The depth of the well is 200 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

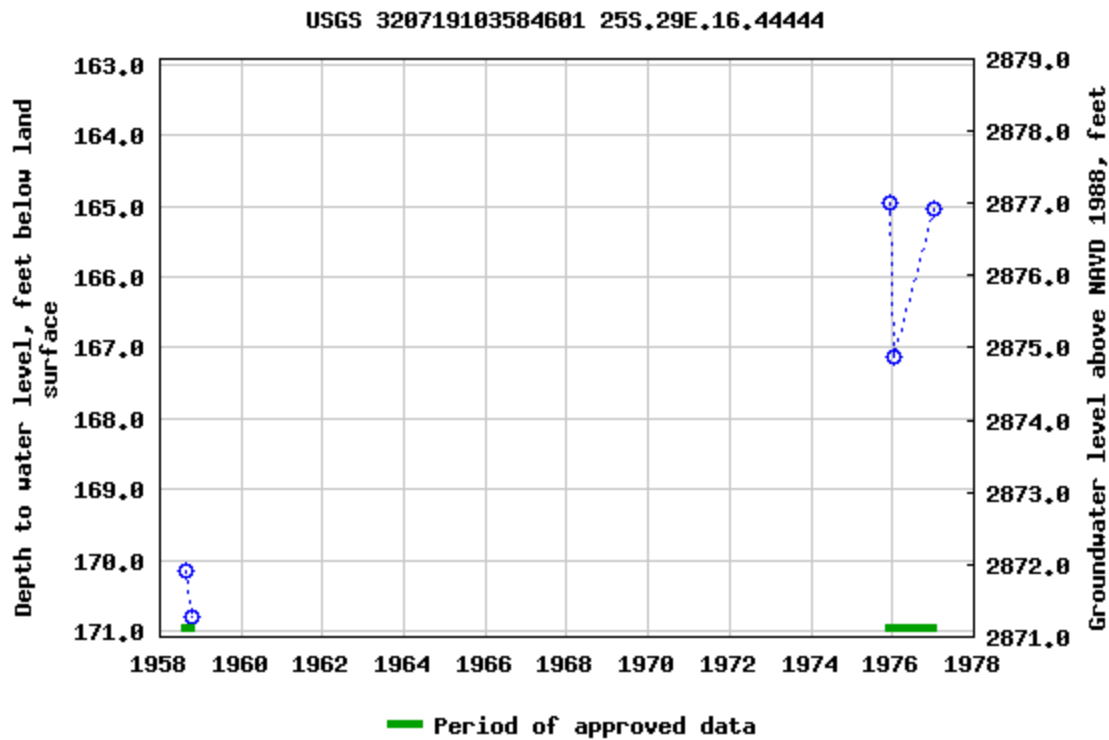
Output formats

[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](#)

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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: 2024-11-21 11:47:05 EST

0.67 0.49 nadww02





National Water Information System: Mapper



Cooter 16 State #5H

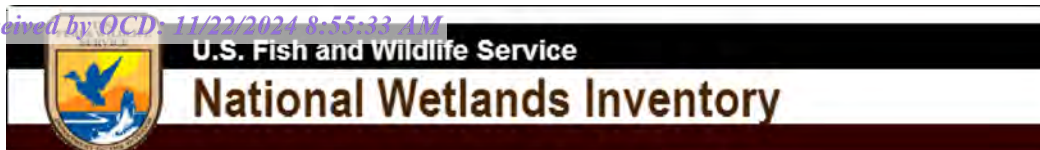
Raybaw Operating
API #30-015-37875
Eddy County, NM
nAB1517443063
nAB1614734572
Surface Water Map

Legend

-  1.75 Miles
-  Pecos River



Google Earth



Wetlands Map



November 4, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

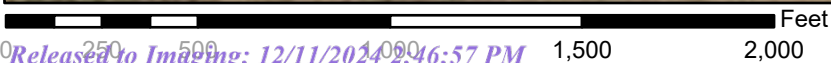
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Flood Hazard Layer FIRMette



103°59'37"W 32°7'39"N



1:6,000

103°58'59"W 32°7'9"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/4/2024 at 2:53 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix B

Soil Survey

Soil Map

Geologic Unit Map

Map Unit Description: Potter-Simona complex, 5 to 25 percent slopes---Eddy Area, New Mexico

Eddy Area, New Mexico

PS—Potter-Simona complex, 5 to 25 percent slopes

Map Unit Setting

National map unit symbol: 1w57

Elevation: 2,750 to 5,000 feet

Mean annual precipitation: 8 to 16 inches

Mean annual air temperature: 57 to 70 degrees F

Frost-free period: 180 to 230 days

Farmland classification: Not prime farmland

Map Unit Composition

Potter and similar soils: 80 percent

Simona and similar soils: 15 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Potter

Setting

Landform: Ridges, hills

Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope

Landform position (three-dimensional): Side slope, head slope, nose slope, crest

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Alluvium

Typical profile

H1 - 0 to 10 inches: gravelly loam

H2 - 10 to 60 inches: cemented material

Properties and qualities

Slope: 5 to 25 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 60 percent

Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum: 1.0

Available water supply, 0 to 60 inches: Very low (about 1.2 inches)

Map Unit Description: Potter-Simona complex, 5 to 25 percent slopes---Eddy Area, New Mexico

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Ecological site: R070BC025NM - Shallow

Hydric soil rating: No

Description of Simona**Setting**

Landform: Plains, alluvial fans

Landform position (three-dimensional): Rise

Down-slope shape: Convex, linear

Across-slope shape: Linear

Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 11 inches: gravelly fine sandy loam

H2 - 11 to 19 inches: gravelly fine sandy loam

H3 - 19 to 60 inches: cemented material

Properties and qualities

Slope: 5 to 10 percent

Depth to restrictive feature: 7 to 20 inches to petrocalcic

Drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 1.0

Available water supply, 0 to 60 inches: Very low (about 2.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: D

Ecological site: R070BD002NM - Shallow Sandy

Hydric soil rating: No

Minor Components**Simona**

Percent of map unit: 3 percent

Ecological site: R070BD002NM - Shallow Sandy

Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent

Map Unit Description: Potter-Simona complex, 5 to 25 percent slopes---Eddy Area, New Mexico

Hydric soil rating: No

Data Source Information

Soil Survey Area: Eddy Area, New Mexico

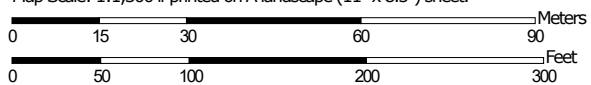
Survey Area Data: Version 20, Sep 3, 2024

Soil Map—Eddy Area, New Mexico



Soil Map may not be valid at this scale.

Map Scale: 1:1,300 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

11/4/2024
Page 1 of 3

Soil Map—Eddy Area, New Mexico

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Eddy Area, New Mexico

Survey Area Data: Version 20, Sep 3, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 12, 2022—Dec 2, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.




Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PS	Potter-Simona complex, 5 to 25 percent slopes	8.2	100.0%
Totals for Area of Interest		8.2	100.0%

Cooter 16 State #5H

Raybaw Operating
API #30-015-37875
Eddy County, NM
nAB1517443063
nAB1614734572
Geologic Unit Map

Legend

-  Eolian and piedmont deposits
-  Older alluvial deposits of upland plains, piedmont areas, calcic soils, eolian cover sediment...
-  Rustler Formation

Cooter 16 State #5H

Google Earth

1 mi



Appendix C

Initial C-141 Form

48-Hour Notifications

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 August 8, 2011

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

Release Notification and Corrective Action

nAB1517443063

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Devon Energy Production	Contact Dan Suniga
Address 6488 Seven Rivers Hwy Artesia, NM 88220	Telephone No. 575.390.5850
Facility Name Cooter 16 State Com 5H	Facility Type Oil

Surface Owner State	Mineral Owner State	API No. 30-015-37627
---------------------	---------------------	----------------------

LOCATION OF RELEASE

Unit Letter D	Section 16	Township 25S	Range 29E	Feet from the 30	North/South Line FNL	Feet from the 1190	East/West Line FWL	County Eddy
------------------	---------------	-----------------	--------------	---------------------	-------------------------	-----------------------	-----------------------	----------------

Latitude: 32.110725 Longitude: 103.9877

NATURE OF RELEASE

Type of Release Spill Mixture of produced water & oil	Volume of Release 8 BBL	Volume Recovered 7 BBL
Source of Release A fire tube gasket on heater treater blown out.	Date and Hour of Occurrence 6/16/15 at 10:35 am	Date and Hour of Discovery 6/16/15 10:35 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Jim Amos BLM Mike Bratcher OCD	
By Whom? Leonard Aguilar	Date and Hour 6/17/15 at 10:00 am	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

NM OIL CONSERVATION
ARTESIA DISTRICT

JUN 22 2015

RECEIVED

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

On 6/16/15 at the Cooter 16-5 Battery at 10:35 am A fire tube gasket on heater treater blown out. Devon employee shut supply to the heater and opened the drain to the water tank, and shut in the cottontail 16-1.

Describe Area Affected and Cleanup Action Taken.*

Lease operator inspected the heater treater and found that the gasket around the fire tube (upper left corner) of the gasket approximately 10" long had blown out causing the release of oil and water. The spill was limited to about 8bbl total 4 BBL of oil and 4 BBL of produced water. 2 BBL was in lined containment and 2 BBL recovered, no holes in lined containment. 6 BBL was spilled on pad a 10 X 20 area and 5 BBL was recovered. An environmental company will be called out to evaluate area.

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: <u>Jeanette Barron</u>	OIL CONSERVATION DIVISION	
Printed Name: <u>Jeanette Barron</u>	Approved by Environmental Specialist: <u>[Signature]</u>	
Title: <u>Field Admin Support</u>	Approval Date: <u>6/23/15</u>	Expiration Date: <u>NIA</u>
E-mail Address: <u>Jeanette.barron@dvn.com</u>	Conditions of Approval:	
Date: <u>6/19/15</u> Phone: <u>575.748.1813</u>	Remediation per O.C.D. Rules & Guidelines SUBMIT REMEDIATION PROPOSAL NO LATER THAN: <u>7/24/15</u>	

Attached ☐

* Attach Additional Sheets If Necessary

2RP-3004



Devon GIS Mapping



Disclaimer: This plat is for illustrative purposes only and is neither a legally recorded map nor a survey and is not intended to be used as one.

Scale: 1:564

Date Printed: 6/19/2015 4:19:02 PM

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

QUESTIONS

Action 399482

QUESTIONS

Operator: RAYBAW Operating, LLC 2626 Cole Avenue Dallas, TX 75204	OGRID: 330220
	Action Number: 399482
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAB1517443063
Incident Name	NAB1517443063 COOTER 16 STATE 5H @ 30-015-37627
Incident Type	Produced Water Release
Incident Status	Remediation Plan Approved
Incident Well	[30-015-37627] COOTER 16 STATE #003H

Location of Release Source	
Site Name	COOTER 16 STATE 5H
Date Release Discovered	06/16/2015
Surface Owner	State

Sampling Event General Information	
Please answer all the questions in this group.	
What is the sampling surface area in square feet	8,150
What is the estimated number of samples that will be gathered	9
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	08/24/2020
Time sampling will commence	08:00 AM
Warning: Notification can not be less than two business days prior to conducting final sampling.	
Please provide any information necessary for observers to contact samplers	Historic release - sampled by Talon in 2020
Please provide any information necessary for navigation to sampling site	32.110725, -103.9877

District I
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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 399482

CONDITIONS

Operator: RAYBAW Operating, LLC 2626 Cole Avenue Dallas, TX 75204	OGRID: 330220
	Action Number: 399482
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
mlee	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	11/5/2024

Appendix D

Photographic Documentation



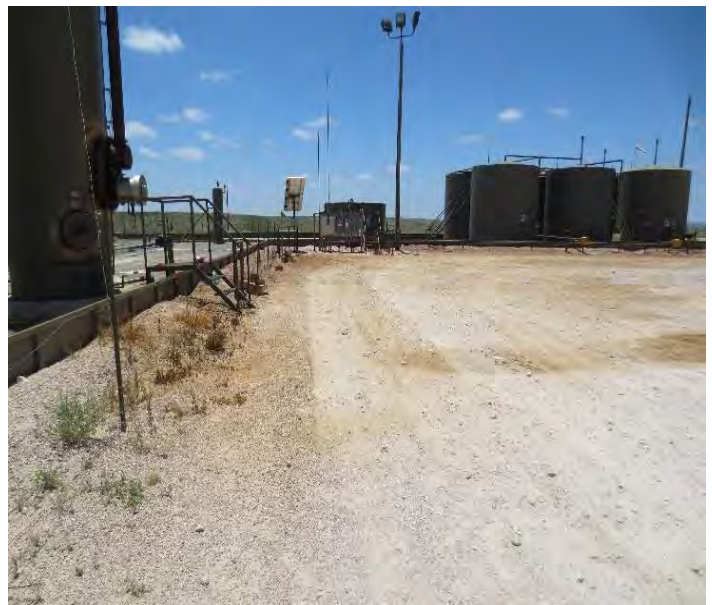
Point of Release



Pad Area



Pad Area



Pad Area



Pad Area



Talon Backfill 2020



Talon Excavation 2020



Talon Excavation 2020

Appendix E

Talon Sampling Summary

SESI Sampling Summary

07-24-2020

Sample ID	Depth (ft.)	Date	BTEX (mg/kg)	Benzene (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	Total TPH (mg/kg)	Cl (mg/kg)
Closure Criteria 19.15.29.12 NMAC			50 mg/kg	10 mg/kg				2,500 mg/kg	10,000 mg/kg
Comp 1	0-1	07/22/2020	ND	ND	ND	ND	ND	-	730
Comp 2	0-1	07/22/2020	ND	ND	ND	10	ND	10	3100
Comp 3	0-1	07/22/2020	ND	ND	ND	ND	ND	-	ND
Comp 4	0-1	07/22/2020	ND	ND	ND	ND	ND	-	150

ND = Analyte Not Detected

07-24-2020

Sample ID	Depth (ft.)	Date	BTEX (mg/kg)	Benzene (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	Total TPH (mg/kg)	Cl (mg/kg)
Closure Criteria 19.15.29.12 NMAC			50 mg/kg	10 mg/kg				2,500 mg/kg	10,000 mg/kg
Comp 1	0-1	07/22/2020	ND	ND	ND	2600	2100	4700	120
Comp 2	0-1	07/22/2020	ND	ND	ND	ND	ND	-	61
Comp 3	0-1	07/22/2020	ND	ND	ND	ND	ND	-	160
Comp 4	0-1	07/22/2020	ND	ND	ND	ND	ND	-	ND

ND = Analyte Not Detected

08-04-2020 (Cooter 3H-5H)

Sample ID	Depth (ft.)	Date	BTEX (mg/kg)	Benzene (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	Total TPH (mg/kg)	Cl (mg/kg)
Closure Criteria 19.15.29.12 NMAC			50 mg/kg	10 mg/kg				2,500 mg/kg	10,000 mg/kg
S1A	1'	08/04/2020	NT	NT	ND	ND	ND	-	510
S2A	1'	8/04/2020	NT	NT	ND	ND	ND	-	18000
S3A	1'	8/04/2020	NT	NT	ND	ND	ND	-	2600
S4A	1'	8/04/2020	NT	NT	ND	ND	340	-	720
N-BG	0-1'	8/04/2020	ND	ND	ND	ND	ND	-	1200
W-BG	0-1'	8/04/2020	ND	ND	ND	120	340	-	600

ND = Analyte Not Detected

NT= Analyte Not Tested

BG=Background Sample

08-26-2020

Sample ID	Depth (ft.)	Date	BTEX (mg/kg)	Benzene (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	Total TPH (mg/kg)	Cl (mg/kg)
Closure Criteria 19.15.29.12 NMAC			50 mg/kg	10 mg/kg				2,500 mg/kg	10,000 mg/kg
S1A S. SW	2'	8/24/2020	NT	NT	ND	ND	ND	-	NT
S1A	2'	8/24/2020	NT	NT	ND	ND	ND	-	NT
S1A N. SW	2'	8/24/2020	NT	NT	ND	ND	ND	-	NT
S2A W. SW	2'	8/24/2020	NT	NT	NT	NT	NT	-	80
S4A N. SW	2'	8/24/2020	NT	NT	ND	ND	ND	-	160
S4A E. SW	2'	8/24/2020	NT	NT	ND	ND	ND	-	160
S4A S. SW	2'	8/24/2020	NT	NT	ND	ND	ND	-	80
WBG	0-1'	8/24/2020	NT	NT	ND	ND	ND	-	180
NBG	0-1'	8/24/2020	NT	NT	ND	ND	ND	-	170

ND = Analyte Not Detected
SW = Sidewall Soil Sample

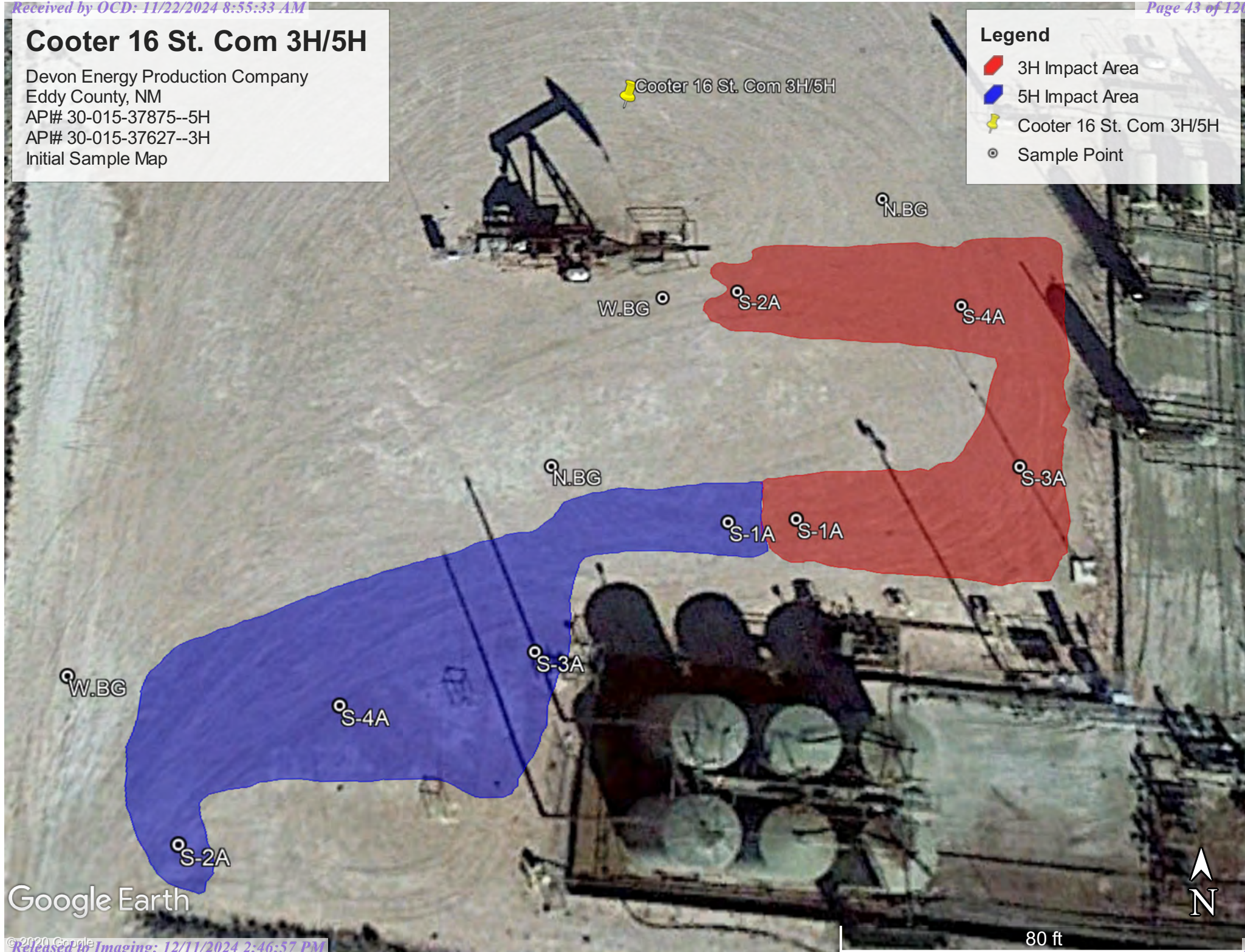
NT= Analyte Not Tested BG=Background Sample

Cooter 16 St. Com 3H/5H

Devon Energy Production Company
Eddy County, NM
AP# 30-015-37875--5H
AP# 30-015-37627--3H
Initial Sample Map

Legend

- 3H Impact Area
- 5H Impact Area
- Cooter 16 St. Com 3H/5H
- Sample Point







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

July 30, 2020

Rebecca Pons
Talon Artesia
408 West Texas Ave
Artesia, NM 88210
TEL:
FAX:

RE: Devon Cooter 16ST5H

OrderNo.: 2007C45

Dear Rebecca Pons:

Hall Environmental Analysis Laboratory received 4 sample(s) on 7/24/2020 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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2007C45

Date Reported: 7/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: #5 Devon Cooter Comp 1

Project: Devon Cooter 16ST5H

Collection Date: 7/22/2020 10:00:00 AM

Lab ID: 2007C45-001

Matrix: SOIL

Received Date: 7/24/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	730	60		mg/Kg	20	7/28/2020 6:36:04 PM	54013
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/28/2020 2:18:06 PM	53977
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/28/2020 2:18:06 PM	53977
Surr: DNOP	127	30.4-154		%Rec	1	7/28/2020 2:18:06 PM	53977
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/25/2020 10:24:45 PM	53942
Surr: BFB	92.8	66.6-105		%Rec	1	7/25/2020 10:24:45 PM	53942
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	7/25/2020 10:24:45 PM	53942
Toluene	ND	0.049		mg/Kg	1	7/25/2020 10:24:45 PM	53942
Ethylbenzene	ND	0.049		mg/Kg	1	7/25/2020 10:24:45 PM	53942
Xylenes, Total	ND	0.097		mg/Kg	1	7/25/2020 10:24:45 PM	53942
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/25/2020 10:24:45 PM	53942

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order 2007C45

Date Reported: 7/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: #5 Devon Cooter Comp 2

Project: Devon Cooter 16ST5H

Collection Date: 7/22/2020 10:15:00 AM

Lab ID: 2007C45-002

Matrix: SOIL

Received Date: 7/24/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	3100	150		mg/Kg	50	7/30/2020 1:01:47 AM	54013
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	10	9.9		mg/Kg	1	7/28/2020 2:42:24 PM	53977
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/28/2020 2:42:24 PM	53977
Surr: DNOP	104	30.4-154		%Rec	1	7/28/2020 2:42:24 PM	53977
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/25/2020 10:48:11 PM	53942
Surr: BFB	88.2	66.6-105		%Rec	1	7/25/2020 10:48:11 PM	53942
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/25/2020 10:48:11 PM	53942
Toluene	ND	0.049		mg/Kg	1	7/25/2020 10:48:11 PM	53942
Ethylbenzene	ND	0.049		mg/Kg	1	7/25/2020 10:48:11 PM	53942
Xylenes, Total	ND	0.099		mg/Kg	1	7/25/2020 10:48:11 PM	53942
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	7/25/2020 10:48:11 PM	53942

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Page 2 of 8

Analytical Report

Lab Order 2007C45

Date Reported: 7/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: #5 Devon Cooter Comp 3

Project: Devon Cooter 16ST5H

Collection Date: 7/22/2020 10:30:00 AM

Lab ID: 2007C45-003

Matrix: SOIL

Received Date: 7/24/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	7/28/2020 7:25:28 PM	54013
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/28/2020 3:06:37 PM	53977
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/28/2020 3:06:37 PM	53977
Surr: DNOP	89.7	30.4-154		%Rec	1	7/28/2020 3:06:37 PM	53977
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/25/2020 11:11:38 PM	53942
Surr: BFB	91.6	66.6-105		%Rec	1	7/25/2020 11:11:38 PM	53942
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	7/25/2020 11:11:38 PM	53942
Toluene	ND	0.049		mg/Kg	1	7/25/2020 11:11:38 PM	53942
Ethylbenzene	ND	0.049		mg/Kg	1	7/25/2020 11:11:38 PM	53942
Xylenes, Total	ND	0.098		mg/Kg	1	7/25/2020 11:11:38 PM	53942
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/25/2020 11:11:38 PM	53942

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order 2007C45

Date Reported: 7/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: #5 Devon Cooter Comp 4

Project: Devon Cooter 16ST5H

Collection Date: 7/22/2020 10:45:00 AM

Lab ID: 2007C45-004

Matrix: SOIL

Received Date: 7/24/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	150	60		mg/Kg	20	7/28/2020 7:37:48 PM	54013
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	7/28/2020 3:30:58 PM	53977
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	7/28/2020 3:30:58 PM	53977
Surr: DNOP	66.0	30.4-154		%Rec	1	7/28/2020 3:30:58 PM	53977
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/25/2020 11:35:08 PM	53942
Surr: BFB	91.3	66.6-105		%Rec	1	7/25/2020 11:35:08 PM	53942
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/25/2020 11:35:08 PM	53942
Toluene	ND	0.049		mg/Kg	1	7/25/2020 11:35:08 PM	53942
Ethylbenzene	ND	0.049		mg/Kg	1	7/25/2020 11:35:08 PM	53942
Xylenes, Total	ND	0.098		mg/Kg	1	7/25/2020 11:35:08 PM	53942
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/25/2020 11:35:08 PM	53942

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Page 4 of 8

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2007C45

30-Jul-20

Client: Talon Artesia

Project: Devon Cooter 16ST5H

Sample ID: MB-54013	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 54013	RunNo: 70680
Prep Date: 7/28/2020	Analysis Date: 7/28/2020	SeqNo: 2459573 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-54013	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 54013	RunNo: 70680
Prep Date: 7/28/2020	Analysis Date: 7/28/2020	SeqNo: 2459574 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 90.4 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 Quantitative 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#: 2007C45
30-Jul-20

Client: Talon Artesia

Project: Devon Cooter 16ST5H

Sample ID: LCS-53977	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 53977	RunNo: 70650								
Prep Date: 7/27/2020	Analysis Date: 7/28/2020	SeqNo: 2458651	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	114	70	130			
Surr: DNOP	6.1		5.000		122	30.4	154			

Sample ID: MB-53977	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 53977	RunNo: 70650								
Prep Date: 7/27/2020	Analysis Date: 7/28/2020	SeqNo: 2458652	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	14		10.00		136	30.4	154			

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 Quantitative 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#: 2007C45

30-Jul-20

Client: Talon Artesia
Project: Devon Cooter 16ST5H

Sample ID: mb-53942	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 53942	RunNo: 70616								
Prep Date: 7/24/2020	Analysis Date: 7/25/2020	SeqNo: 2456612		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	910		1000		90.9	66.6	105			

Sample ID: lcs-53942	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 53942	RunNo: 70616								
Prep Date: 7/24/2020	Analysis Date: 7/25/2020	SeqNo: 2456613		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.1	72.5	106			
Surr: BFB	1000		1000		100	66.6	105			

Sample ID: mb-53947	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 53947	RunNo: 70616								
Prep Date: 7/24/2020	Analysis Date: 7/26/2020	SeqNo: 2456636		Units: %Rec						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	910		1000		90.5	66.6	105			

Sample ID: lcs-53947	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 53947	RunNo: 70616								
Prep Date: 7/24/2020	Analysis Date: 7/26/2020	SeqNo: 2456637		Units: %Rec						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		103	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 Quantitative 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

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2007C45

30-Jul-20

Client: Talon Artesia
Project: Devon Cooter 16ST5H

Sample ID: mb-53942	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 53942	RunNo: 70616								
Prep Date: 7/24/2020	Analysis Date: 7/25/2020	SeqNo: 2456665	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		102	80	120			

Sample ID: LCS-53942	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 53942	RunNo: 70616								
Prep Date: 7/24/2020	Analysis Date: 7/25/2020	SeqNo: 2456666	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.5	80	120			
Toluene	0.93	0.050	1.000	0	92.7	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.0	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.5	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID: mb-53947	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 53947	RunNo: 70616								
Prep Date: 7/24/2020	Analysis Date: 7/26/2020	SeqNo: 2456689	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID: LCS-53947	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 53947	RunNo: 70616								
Prep Date: 7/24/2020	Analysis Date: 7/26/2020	SeqNo: 2456690	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		104	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 Quantitative 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

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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: Talon Artesia

Work Order Number: 2007C45

RcptNo: 1

Received By: Scott Anderson 7/24/2020 9:50:00 AM

Completed By: Juan Rojas 7/24/2020 10:21:07 AM

Reviewed By: JR 7/24/20

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 $>0^{\circ}\text{C}$ 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: CMC 7/24/20

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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.9	Good				

SPA 7.24.20



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

July 30, 2020

Rebecca Pons
Talon Artesia
408 West Texas Ave
Artesia, NM 88210
TEL:
FAX:

RE: Devon Cooter 16ST3H

OrderNo.: 2007C46

Dear Rebecca Pons:

Hall Environmental Analysis Laboratory received 4 sample(s) on 7/24/2020 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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2007C46

Date Reported: 7/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: #3 Devon Cooter Comp 1

Project: Devon Cooter 16ST3H

Collection Date: 7/22/2020 11:00:00 AM

Lab ID: 2007C46-001

Matrix: SOIL

Received Date: 7/24/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	120	60		mg/Kg	20	7/28/2020 8:14:50 PM	54013
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	2600	98		mg/Kg	10	7/28/2020 3:55:07 PM	53977
Motor Oil Range Organics (MRO)	2100	490		mg/Kg	10	7/28/2020 3:55:07 PM	53977
Surr: DNOP	0	30.4-154	S	%Rec	10	7/28/2020 3:55:07 PM	53977
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/25/2020 11:58:47 PM	53942
Surr: BFB	88.0	66.6-105		%Rec	1	7/25/2020 11:58:47 PM	53942
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/25/2020 11:58:47 PM	53942
Toluene	ND	0.049		mg/Kg	1	7/25/2020 11:58:47 PM	53942
Ethylbenzene	ND	0.049		mg/Kg	1	7/25/2020 11:58:47 PM	53942
Xylenes, Total	0.13	0.099		mg/Kg	1	7/25/2020 11:58:47 PM	53942
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	7/25/2020 11:58:47 PM	53942

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order 2007C46

Date Reported: 7/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: #3 Devon Cooter Comp 2

Project: Devon Cooter 16ST3H

Collection Date: 7/22/2020 11:15:00 AM

Lab ID: 2007C46-002

Matrix: SOIL

Received Date: 7/24/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	61	61		mg/Kg	20	7/28/2020 8:27:10 PM	54013
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/29/2020 3:33:13 PM	53977
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/29/2020 3:33:13 PM	53977
Surr: DNOP	108	30.4-154		%Rec	1	7/29/2020 3:33:13 PM	53977
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/26/2020 12:22:13 AM	53942
Surr: BFB	88.0	66.6-105		%Rec	1	7/26/2020 12:22:13 AM	53942
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	7/26/2020 12:22:13 AM	53942
Toluene	ND	0.049		mg/Kg	1	7/26/2020 12:22:13 AM	53942
Ethylbenzene	ND	0.049		mg/Kg	1	7/26/2020 12:22:13 AM	53942
Xylenes, Total	ND	0.097		mg/Kg	1	7/26/2020 12:22:13 AM	53942
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	7/26/2020 12:22:13 AM	53942

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2007C46

Date Reported: 7/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: #3 Devon Cooter Comp 3

Project: Devon Cooter 16ST3H

Collection Date: 7/22/2020 11:30:00 AM

Lab ID: 2007C46-003

Matrix: SOIL

Received Date: 7/24/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	160	60		mg/Kg	20	7/28/2020 8:39:31 PM	54013
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/28/2020 5:07:48 PM	53977
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/28/2020 5:07:48 PM	53977
Surr: DNOP	86.0	30.4-154		%Rec	1	7/28/2020 5:07:48 PM	53977
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/26/2020 12:45:38 AM	53942
Surr: BFB	91.6	66.6-105		%Rec	1	7/26/2020 12:45:38 AM	53942
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/26/2020 12:45:38 AM	53942
Toluene	ND	0.050		mg/Kg	1	7/26/2020 12:45:38 AM	53942
Ethylbenzene	ND	0.050		mg/Kg	1	7/26/2020 12:45:38 AM	53942
Xylenes, Total	ND	0.099		mg/Kg	1	7/26/2020 12:45:38 AM	53942
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	7/26/2020 12:45:38 AM	53942

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2007C46

Date Reported: 7/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: #3 Devon Cooter Comp 4

Project: Devon Cooter 16ST3H

Collection Date: 7/22/2020 11:45:00 AM

Lab ID: 2007C46-004

Matrix: SOIL

Received Date: 7/24/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	7/28/2020 8:51:52 PM	54013
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/28/2020 5:32:24 PM	53977
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/28/2020 5:32:24 PM	53977
Surr: DNOP	82.0	30.4-154		%Rec	1	7/28/2020 5:32:24 PM	53977
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/26/2020 1:09:07 AM	53942
Surr: BFB	92.4	66.6-105		%Rec	1	7/26/2020 1:09:07 AM	53942
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/26/2020 1:09:07 AM	53942
Toluene	ND	0.049		mg/Kg	1	7/26/2020 1:09:07 AM	53942
Ethylbenzene	ND	0.049		mg/Kg	1	7/26/2020 1:09:07 AM	53942
Xylenes, Total	ND	0.098		mg/Kg	1	7/26/2020 1:09:07 AM	53942
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	7/26/2020 1:09:07 AM	53942

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2007C46
30-Jul-20

Client: Talon Artesia

Project: Devon Cooter 16ST3H

Sample ID: MB-54013	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 54013	RunNo: 70680
Prep Date: 7/28/2020	Analysis Date: 7/28/2020	SeqNo: 2459573 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-54013	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 54013	RunNo: 70680
Prep Date: 7/28/2020	Analysis Date: 7/28/2020	SeqNo: 2459574 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 90.4 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 Quantitative 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

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2007C46
30-Jul-20

Client: Talon Artesia

Project: Devon Cooter 16ST3H

Sample ID: LCS-53977	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 53977	RunNo: 70650								
Prep Date: 7/27/2020	Analysis Date: 7/28/2020	SeqNo: 2458651		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	114	70	130			
Surr: DNOP	6.1		5.000		122	30.4	154			

Sample ID: MB-53977	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 53977	RunNo: 70650								
Prep Date: 7/27/2020	Analysis Date: 7/28/2020	SeqNo: 2458652		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	14		10.00		136	30.4	154			

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 Quantitative 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#: 2007C46

30-Jul-20

Client: Talon Artesia
Project: Devon Cooter 16ST3H

Sample ID: mb-53942	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 53942			RunNo: 70616						
Prep Date: 7/24/2020	Analysis Date: 7/25/2020			SeqNo: 2456612	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	910		1000		90.9	66.6	105			

Sample ID: lcs-53942	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 53942			RunNo: 70616						
Prep Date: 7/24/2020	Analysis Date: 7/25/2020			SeqNo: 2456613	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.1	72.5	106			
Surr: BFB	1000		1000		100	66.6	105			

Sample ID: mb-53947	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 53947			RunNo: 70616						
Prep Date: 7/24/2020	Analysis Date: 7/26/2020			SeqNo: 2456636	Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	910		1000		90.5	66.6	105			

Sample ID: lcs-53947	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 53947			RunNo: 70616						
Prep Date: 7/24/2020	Analysis Date: 7/26/2020			SeqNo: 2456637	Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		103	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 Quantitative 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

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2007C46

30-Jul-20

Client: Talon Artesia
Project: Devon Cooter 16ST3H

Sample ID: mb-53942	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 53942	RunNo: 70616								
Prep Date: 7/24/2020	Analysis Date: 7/25/2020	SeqNo: 2456665	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		102	80	120			

Sample ID: LCS-53942	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 53942	RunNo: 70616								
Prep Date: 7/24/2020	Analysis Date: 7/25/2020	SeqNo: 2456666	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.5	80	120			
Toluene	0.93	0.050	1.000	0	92.7	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.0	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.5	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID: mb-53947	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 53947	RunNo: 70616								
Prep Date: 7/24/2020	Analysis Date: 7/26/2020	SeqNo: 2456689	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID: LCS-53947	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 53947	RunNo: 70616								
Prep Date: 7/24/2020	Analysis Date: 7/26/2020	SeqNo: 2456690	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		104	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 Quantitative 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

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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: Talon Artesia

Work Order Number: 2007C46

RcptNo: 1

Received By: Scott Anderson

7/24/2020 9:50:00 AM

Completed By: Juan Rojas

7/24/2020 10:16:57 AM

Reviewed By:

JR 7/24/20

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 $>0^{\circ}\text{C}$ 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: One 7/24/20

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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.9	Good				



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

August 13, 2020

Rebecca Pons
Talon Artesia
408 West Texas Ave
Artesia, NM 88210
TEL:
FAX:

RE: Devon Cooter 5H-3H CTB

OrderNo.: 2008237

Dear Rebecca Pons:

Hall Environmental Analysis Laboratory received 6 sample(s) on 8/6/2020 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,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2008237

Date Reported: 8/13/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: S-1A

Project: Devon Cooter 5H-3H CTB

Collection Date: 8/4/2020 1:10:00 PM

Lab ID: 2008237-001

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	510	60		mg/Kg	20	8/10/2020 5:10:36 PM	54292
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	8/7/2020 12:30:35 PM	54229
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/7/2020 12:30:35 PM	54229
Surr: DNOP	115	30.4-154		%Rec	1	8/7/2020 12:30:35 PM	54229
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/7/2020 2:27:56 PM	54224
Surr: BFB	99.8	75.3-105		%Rec	1	8/7/2020 2:27:56 PM	54224

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2008237

Date Reported: 8/13/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: S-2A

Project: Devon Cooter 5H-3H CTB

Collection Date: 8/4/2020 12:50:00 PM

Lab ID: 2008237-002

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	18000	600		mg/Kg	200	8/12/2020 1:12:21 PM	54292
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/7/2020 12:59:25 PM	54229
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/7/2020 12:59:25 PM	54229
Surr: DNOP	110	30.4-154		%Rec	1	8/7/2020 12:59:25 PM	54229
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/7/2020 3:38:27 PM	54224
Surr: BFB	96.4	75.3-105		%Rec	1	8/7/2020 3:38:27 PM	54224

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order 2008237

Date Reported: 8/13/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: S-3A

Project: Devon Cooter 5H-3H CTB

Collection Date: 8/4/2020 1:20:00 PM

Lab ID: 2008237-003

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	2600	150		mg/Kg	50	8/11/2020 10:42:00 PM	54292
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/7/2020 1:09:02 PM	54229
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/7/2020 1:09:02 PM	54229
Surr: DNOP	107	30.4-154		%Rec	1	8/7/2020 1:09:02 PM	54229
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/7/2020 4:48:49 PM	54224
Surr: BFB	101	75.3-105		%Rec	1	8/7/2020 4:48:49 PM	54224

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2008237

Date Reported: 8/13/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: S-4A

Project: Devon Cooter 5H-3H CTB

Collection Date: 8/4/2020 2:15:00 PM

Lab ID: 2008237-004

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	720	60		mg/Kg	20	8/10/2020 6:12:37 PM	54292
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/10/2020 10:23:24 AM	54229
Motor Oil Range Organics (MRO)	340	48		mg/Kg	1	8/10/2020 10:23:24 AM	54229
Surr: DNOP	110	30.4-154		%Rec	1	8/10/2020 10:23:24 AM	54229
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/7/2020 5:12:17 PM	54224
Surr: BFB	99.4	75.3-105		%Rec	1	8/7/2020 5:12:17 PM	54224

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2008237

Date Reported: 8/13/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: N-BG

Project: Devon Cooter 5H-3H CTB

Collection Date: 8/4/2020 12:40:00 PM

Lab ID: 2008237-005

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	1200	60		mg/Kg	20	8/10/2020 6:25:01 PM	54292
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/7/2020 1:28:19 PM	54229
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/7/2020 1:28:19 PM	54229
Surr: DNOP	114	30.4-154		%Rec	1	8/7/2020 1:28:19 PM	54229
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/7/2020 5:35:48 PM	54224
Surr: BFB	96.2	75.3-105		%Rec	1	8/7/2020 5:35:48 PM	54224
EPA METHOD 8021B: VOLATILES							Analyst: RAA
Benzene	ND	0.024		mg/Kg	1	8/7/2020 5:35:48 PM	54224
Toluene	ND	0.048		mg/Kg	1	8/7/2020 5:35:48 PM	54224
Ethylbenzene	ND	0.048		mg/Kg	1	8/7/2020 5:35:48 PM	54224
Xylenes, Total	ND	0.096		mg/Kg	1	8/7/2020 5:35:48 PM	54224
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	8/7/2020 5:35:48 PM	54224

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order 2008237

Date Reported: 8/13/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: W-BG

Project: Devon Cooter 5H-3H CTB

Collection Date: 8/4/2020 12:30:00 PM

Lab ID: 2008237-006

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	600	61		mg/Kg	20	8/10/2020 6:37:25 PM	54292
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	120	9.5		mg/Kg	1	8/10/2020 10:50:12 AM	54229
Motor Oil Range Organics (MRO)	340	48		mg/Kg	1	8/10/2020 10:50:12 AM	54229
Surr: DNOP	97.7	30.4-154		%Rec	1	8/10/2020 10:50:12 AM	54229
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/7/2020 5:59:16 PM	54224
Surr: BFB	96.9	75.3-105		%Rec	1	8/7/2020 5:59:16 PM	54224
EPA METHOD 8021B: VOLATILES							Analyst: RAA
Benzene	ND	0.025		mg/Kg	1	8/7/2020 5:59:16 PM	54224
Toluene	ND	0.050		mg/Kg	1	8/7/2020 5:59:16 PM	54224
Ethylbenzene	ND	0.050		mg/Kg	1	8/7/2020 5:59:16 PM	54224
Xylenes, Total	ND	0.099		mg/Kg	1	8/7/2020 5:59:16 PM	54224
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/7/2020 5:59:16 PM	54224

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2008237
13-Aug-20

Client: Talon Artesia
Project: Devon Cooter 5H-3H CTB

Sample ID: MB-54292	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 54292	RunNo: 70965
Prep Date: 8/10/2020	Analysis Date: 8/10/2020	SeqNo: 2472350 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-54292	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 54292	RunNo: 70965
Prep Date: 8/10/2020	Analysis Date: 8/10/2020	SeqNo: 2472351 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 91.3 90 110

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative 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

Page 7 of 11

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008237

13-Aug-20

Client: Talon Artesia**Project:** Devon Cooter 5H-3H CTB

Sample ID: 2008237-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: S-1A	Batch ID: 54229	RunNo: 70967								
Prep Date: 8/6/2020	Analysis Date: 8/7/2020	SeqNo: 2472593 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	9.9	49.26	0	104	47.4	136			
Surr: DNOP	5.4		4.926		110	30.4	154			

Sample ID: 2008237-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: S-1A	Batch ID: 54229	RunNo: 70967								
Prep Date: 8/6/2020	Analysis Date: 8/7/2020	SeqNo: 2472594 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	49.75	0	87.3	47.4	136	16.3	43.4	
Surr: DNOP	4.2		4.975		85.2	30.4	154	0	0	

Sample ID: LCS-54229	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 54229	RunNo: 70967								
Prep Date: 8/6/2020	Analysis Date: 8/7/2020	SeqNo: 2472657 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	63	10	50.00	0	125	70	130			
Surr: DNOP	6.6		5.000		131	30.4	154			

Sample ID: MB-54229	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 54229	RunNo: 70967								
Prep Date: 8/6/2020	Analysis Date: 8/7/2020	SeqNo: 2472660 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	15		10.00		145	30.4	154			

Sample ID: LCS-54255	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 54255	RunNo: 70976								
Prep Date: 8/7/2020	Analysis Date: 8/10/2020	SeqNo: 2472908 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		100	30.4	154			

Sample ID: MB-54255	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 54255	RunNo: 70976								
Prep Date: 8/7/2020	Analysis Date: 8/11/2020	SeqNo: 2472909 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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 Quantitative 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#: 2008237
13-Aug-20

Client: Talon Artesia

Project: Devon Cooter 5H-3H CTB

Sample ID: MB-54255	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 54255	RunNo: 70976								
Prep Date: 8/7/2020	Analysis Date: 8/11/2020	SeqNo: 2472909 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.7		10.00		56.6	30.4	154			

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 Quantitative 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#: 2008237
13-Aug-20

Client: Talon Artesia
Project: Devon Cooter 5H-3H CTB

Sample ID: 2008237-001ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: S-1A	Batch ID: 54224	RunNo: 70921
Prep Date: 8/6/2020	Analysis Date: 8/7/2020	SeqNo: 2470444 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	21	4.7 23.54 0 88.7 61.3 114
Surr: BFB	1000	941.6 108 75.3 105 S

Sample ID: 2008237-001amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range
Client ID: S-1A	Batch ID: 54224	RunNo: 70921
Prep Date: 8/6/2020	Analysis Date: 8/7/2020	SeqNo: 2470445 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	23	4.9 24.32 0 95.4 61.3 114 10.5 20
Surr: BFB	1000	972.8 107 75.3 105 0 0 S

Sample ID: lcs-54224	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: LCSS	Batch ID: 54224	RunNo: 70921
Prep Date: 8/6/2020	Analysis Date: 8/7/2020	SeqNo: 2470489 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 97.2 72.5 106
Surr: BFB	1100	1000 110 75.3 105 S

Sample ID: mb-54224	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range
Client ID: PBS	Batch ID: 54224	RunNo: 70921
Prep Date: 8/6/2020	Analysis Date: 8/7/2020	SeqNo: 2470491 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	980	1000 98.3 75.3 105

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 Quantitative 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

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008237

13-Aug-20

Client: Talon Artesia**Project:** Devon Cooter 5H-3H CTB

Sample ID: 2008237-002ams	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: S-2A	Batch ID: 54224		RunNo: 70921							
Prep Date: 8/6/2020	Analysis Date: 8/7/2020		SeqNo: 2470495		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.1	0.097	0.9709	0	114	78.1	153			
Benzene	0.97	0.024	0.9709	0	100	76.3	120			
Toluene	1.0	0.049	0.9709	0	104	78.5	120			
Ethylbenzene	1.0	0.049	0.9709	0	107	78.1	124			
Xylenes, Total	3.1	0.097	2.913	0	107	79.3	125			
Surr: 4-Bromofluorobenzene	1.1		0.9709		109	80	120			

Sample ID: 2008237-002amsd	SampType: MSD		TestCode: EPA Method 8021B: Volatiles							
Client ID: S-2A	Batch ID: 54224		RunNo: 70921							
Prep Date: 8/6/2020	Analysis Date: 8/7/2020		SeqNo: 2470496		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	0.9921	0	99.8	76.3	120	1.56	20	
Toluene	1.0	0.050	0.9921	0	104	78.5	120	2.71	20	
Ethylbenzene	1.1	0.050	0.9921	0	107	78.1	124	2.46	20	
Xylenes, Total	3.2	0.099	2.976	0	108	79.3	125	2.52	20	
Surr: 4-Bromofluorobenzene	1.1		0.9921		110	80	120	0	0	

Sample ID: LCS-54224	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 54224		RunNo: 70921							
Prep Date: 8/6/2020	Analysis Date: 8/7/2020		SeqNo: 2470537		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.1	80	120			
Toluene	0.98	0.050	1.000	0	97.7	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.6	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.8	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID: mb-54224	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 54224		RunNo: 70921							
Prep Date: 8/6/2020	Analysis Date: 8/7/2020		SeqNo: 2470539		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			

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 Quantitative 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
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: Talon Artesia

Work Order Number: 2008237

RcptNo: 1

Received By: Juan Rojas 8/6/2020 8:00:00 AM

Completed By: Juan Rojas 8/6/2020 8:21:27 AM

Reviewed By: *JP*

8/6/20

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 $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☐ No ☒ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐ Not Frozen
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: _____

JO

8/6/20

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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.3	Good				
2	2.1	Good				
3	-0.4	Good				

Tel. 505-345-3975 Fax 505-345-4107

[illegible]

Received by:	Via:	Date	Time
<i>[Signature]</i>	<i>air</i>	<i>6/6/70</i>	<i>6:10</i>

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

September 01, 2020

Rebecca Pons
Talon Artesia
408 West Texas Ave
Artesia, NM 88210
TEL:
FAX

RE: Devon Cooter 16st 3H (Cooter 3H)

OrderNo.: 2008D73

Dear Rebecca Pons:

Hall Environmental Analysis Laboratory received 9 sample(s) on 8/26/2020 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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2008D73

Date Reported: 9/1/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: SIA S.SW 2'

Project: Devon Cooter 16st 3H (Cooter 3H)

Collection Date: 8/24/2020 1:00:00 PM

Lab ID: 2008D73-001

Matrix: SOIL

Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/27/2020 5:57:02 PM	54709
Surr: BFB	102	70-130		%Rec	1	8/27/2020 5:57:02 PM	54709
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/27/2020 12:33:59 PM	54712
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/27/2020 12:33:59 PM	54712
Surr: DNOP	96.9	30.4-154		%Rec	1	8/27/2020 12:33:59 PM	54712

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Page 1 of 12

Analytical Report

Lab Order 2008D73

Date Reported: 9/1/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: SIA 2'

Project: Devon Cooter 16st 3H (Cooter 3H)

Collection Date: 8/24/2020 1:05:00 PM

Lab ID: 2008D73-002

Matrix: SOIL

Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/27/2020 7:23:03 PM	54709
Surr: BFB	104	70-130		%Rec	1	8/27/2020 7:23:03 PM	54709
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/27/2020 12:43:46 PM	54712
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/27/2020 12:43:46 PM	54712
Surr: DNOP	74.2	30.4-154		%Rec	1	8/27/2020 12:43:46 PM	54712

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2008D73

Date Reported: 9/1/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: SIA N.SW 2'

Project: Devon Cooter 16st 3H (Cooter 3H)

Collection Date: 8/24/2020 1:10:00 PM

Lab ID: 2008D73-003

Matrix: SOIL

Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/27/2020 8:48:53 PM	54709
Surr: BFB	105	70-130		%Rec	1	8/27/2020 8:48:53 PM	54709
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	8/27/2020 12:53:34 PM	54712
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/27/2020 12:53:34 PM	54712
Surr: DNOP	82.4	30.4-154		%Rec	1	8/27/2020 12:53:34 PM	54712

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2008D73

Date Reported: 9/1/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: S4A NSW 2'

Project: Devon Cooter 16st 3H (Cooter 3H)

Collection Date: 8/24/2020 2:10:00 PM

Lab ID: 2008D73-005

Matrix: SOIL

Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	160	60		mg/Kg	20	8/30/2020 9:22:23 PM	54785
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/27/2020 9:17:27 PM	54709
Surr: BFB	102	70-130		%Rec	1	8/27/2020 9:17:27 PM	54709
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/27/2020 1:03:23 PM	54712
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/27/2020 1:03:23 PM	54712
Surr: DNOP	82.7	30.4-154		%Rec	1	8/27/2020 1:03:23 PM	54712

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2008D73

Date Reported: 9/1/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: S4A ESW 2'

Project: Devon Cooter 16st 3H (Cooter 3H)

Collection Date: 8/24/2020 2:15:00 PM

Lab ID: 2008D73-006

Matrix: SOIL

Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	160	60		mg/Kg	20	8/30/2020 9:37:20 AM	54786
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/27/2020 9:46:00 PM	54709
Surr: BFB	103	70-130		%Rec	1	8/27/2020 9:46:00 PM	54709
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/27/2020 1:13:12 PM	54712
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/27/2020 1:13:12 PM	54712
Surr: DNOP	107	30.4-154		%Rec	1	8/27/2020 1:13:12 PM	54712

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2008D73

Date Reported: 9/1/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: S4A SSW 2'

Project: Devon Cooter 16st 3H (Cooter 3H)

Collection Date: 8/24/2020 2:20:00 PM

Lab ID: 2008D73-007

Matrix: SOIL

Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	80	60		mg/Kg	20	8/30/2020 10:14:33 AM	54786
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/27/2020 10:14:31 PM	54709
Surr: BFB	104	70-130		%Rec	1	8/27/2020 10:14:31 PM	54709
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	8/27/2020 1:23:02 PM	54712
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/27/2020 1:23:02 PM	54712
Surr: DNOP	86.2	30.4-154		%Rec	1	8/27/2020 1:23:02 PM	54712

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2008D73

Date Reported: 9/1/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: WBG 0'

Project: Devon Cooter 16st 3H (Cooter 3H)

Collection Date: 8/24/2020 2:30:00 PM

Lab ID: 2008D73-008

Matrix: SOIL

Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	180	60		mg/Kg	20	8/30/2020 10:26:57 AM	54786
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/27/2020 10:43:05 PM	54709
Surr: BFB	101	70-130		%Rec	1	8/27/2020 10:43:05 PM	54709
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/27/2020 1:33:01 PM	54712
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/27/2020 1:33:01 PM	54712
Surr: DNOP	71.0	30.4-154		%Rec	1	8/27/2020 1:33:01 PM	54712

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2008D73

Date Reported: 9/1/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Talon Artesia

Client Sample ID: NBG 0'

Project: Devon Cooter 16st 3H (Cooter 3H)

Collection Date: 8/24/2020 2:35:00 PM

Lab ID: 2008D73-009

Matrix: SOIL

Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	170	60		mg/Kg	20	8/30/2020 10:39:22 AM	54786
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/27/2020 11:11:36 PM	54709
Surr: BFB	103	70-130		%Rec	1	8/27/2020 11:11:36 PM	54709
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/27/2020 1:42:58 PM	54712
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/27/2020 1:42:58 PM	54712
Surr: DNOP	54.0	30.4-154		%Rec	1	8/27/2020 1:42:58 PM	54712

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2008D73
01-Sep-20

Client: Talon Artesia
Project: Devon Cooter 16st 3H (Cooter 3H)

Sample ID: MB-54785	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 54785	RunNo: 71487
Prep Date: 8/30/2020	Analysis Date: 8/30/2020	SeqNo: 2496349 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-54785	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 54785	RunNo: 71487
Prep Date: 8/30/2020	Analysis Date: 8/30/2020	SeqNo: 2496350 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

Sample ID: MB-54786	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 54786	RunNo: 71489
Prep Date: 8/30/2020	Analysis Date: 8/30/2020	SeqNo: 2496475 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-54786	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 54786	RunNo: 71489
Prep Date: 8/30/2020	Analysis Date: 8/30/2020	SeqNo: 2496476 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 91.6 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 Quantitative 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#: 2008D73

01-Sep-20

Client: Talon Artesia
Project: Devon Cooter 16st 3H (Cooter 3H)

Sample ID: LCS-54694	SampType: LCS			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch ID: 54694			RunNo: 71442						
Prep Date: 8/26/2020	Analysis Date: 8/27/2020			SeqNo: 2494270	Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.0		5.000		80.5	30.4	154			

Sample ID: LCS-54712	SampType: LCS			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch ID: 54712			RunNo: 71442						
Prep Date: 8/26/2020	Analysis Date: 8/27/2020			SeqNo: 2494271	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	10	50.00	0	77.1	70	130			
Surr: DNOP	4.8		5.000		96.5	30.4	154			

Sample ID: MB-54694	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 54694			RunNo: 71442						
Prep Date: 8/26/2020	Analysis Date: 8/27/2020			SeqNo: 2494272	Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.5		10.00		75.1	30.4	154			

Sample ID: MB-54712	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 54712			RunNo: 71442						
Prep Date: 8/26/2020	Analysis Date: 8/27/2020			SeqNo: 2494273	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		106	30.4	154			

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 Quantitative 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

Page 11 of 12

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008D73

01-Sep-20

Client: Talon Artesia
Project: Devon Cooter 16st 3H (Cooter 3H)

Sample ID: mb-54709	SampType: MBLK			TestCode: EPA Method 8015D Mod: Gasoline Range						
Client ID: PBS	Batch ID: 54709			RunNo: 71441						
Prep Date: 8/26/2020	Analysis Date: 8/27/2020			SeqNo: 2494201		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	540		500.0		107	70	130			

Sample ID: lcs-54709	SampType: LCS			TestCode: EPA Method 8015D Mod: Gasoline Range						
Client ID: LCSS	Batch ID: 54709			RunNo: 71441						
Prep Date: 8/26/2020	Analysis Date: 8/27/2020			SeqNo: 2494202		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.2	70	130			
Surr: BFB	510		500.0		102	70	130			

Sample ID: 2008d73-001ams	SampType: MS			TestCode: EPA Method 8015D Mod: Gasoline Range						
Client ID: SIA S.SW 2'	Batch ID: 54709			RunNo: 71441						
Prep Date: 8/26/2020	Analysis Date: 8/27/2020			SeqNo: 2494204		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.8	24.13	2.344	91.6	49.2	122			
Surr: BFB	520		482.6		108	70	130			

Sample ID: 2008d73-001amsd	SampType: MSD			TestCode: EPA Method 8015D Mod: Gasoline Range						
Client ID: SIA S.SW 2'	Batch ID: 54709			RunNo: 71441						
Prep Date: 8/26/2020	Analysis Date: 8/27/2020			SeqNo: 2494205		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.9	24.37	2.344	87.9	49.2	122	2.85	20	
Surr: BFB	510		487.3		106	70	130	0	0	

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 Quantitative 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
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: Talon Artesia

Work Order Number: 2008D73

RcptNo: 1

Received By: Cheyenne Cason 8/26/2020 8:00:00 AM

Completed By: Juan Rojas 8/26/2020 8:34:29 AM

Reviewed By: Em 8/26/20

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 $>0^{\circ}\text{C}$ 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 CRC 8/26/20

Special Handling (if applicable)

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

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.2	Good				
2	5.4	Good				
3	2.2	Good				
4	0.3	Good				

Sample Date 07/02/2015	Total BTEX	Chloride (mg/kg)	GRO C6-C10	DRO >C10-C28
Depth				
AH-1 @Surface	<0.600	2360	109	11600
AH-1 @ 6"	<0.300	2320	<10.0	1250
AH-1 @ 1'	<0.300	208	<10.0	1360
AH-2 @Surface	1.60	1260	214	30000
AH-2 @ 6"	.658	960	41.1	2720
AH-2 @ 1'	<0.300	160	31.1	1210
AH-3 @Surface	<0.600	1790	123	21400
AH-3 @ 1'	<0.300	64.0	<10.0	373
AH-4 @Surface	.785	2040	214	19700
AH-4 @ 1'	<0.300	112	<10.0	785
AH-5 @Surface	<0.600	336	144	11000
AH-5 @ 1'	<0.300	240	14.9	1640





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

July 13, 2015

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: COOTER 16 ST.5H

Enclosed are the results of analyses for samples received by the laboratory on 07/06/15 8:36.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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 accredited through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received: 07/06/2015
 Reported: 07/13/2015
 Project Name: COOTER 16 ST.5H
 Project Number: ALF-15-011
 Project Location: EDDY COUNTY

Sampling Date: 07/02/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: AH-1 SURFACE (H501708-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	07/10/2015	ND	2.23	112	2.00	0.362	
Toluene*	<0.100	0.100	07/10/2015	ND	1.94	97.1	2.00	2.23	
Ethylbenzene*	<0.100	0.100	07/10/2015	ND	1.82	90.9	2.00	3.67	
Total Xylenes*	<0.300	0.300	07/10/2015	ND	5.39	89.8	6.00	4.08	
Total BTX	<0.600	0.600	07/10/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2360	16.0	07/08/2015	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	109	10.0	07/07/2015	ND	192	96.0	200	1.65	
DRO >C10-C28	11600	10.0	07/07/2015	ND	183	91.3	200	1.55	

Surrogate: 1-Chlorooctane 125 % 47.2-157

Surrogate: 1-Chlorooctadecane 229 % 52.1-176

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Received: 07/06/2015
 Reported: 07/13/2015
 Project Name: COOTER 16 ST.5H
 Project Number: ALF-15-011
 Project Location: EDDY COUNTY

Sampling Date: 07/02/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: AH-1 6 " (H501708-02)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/10/2015	ND	2.23	112	2.00	0.362		
Toluene*	<0.050	0.050	07/10/2015	ND	1.94	97.1	2.00	2.23		
Ethylbenzene*	<0.050	0.050	07/10/2015	ND	1.82	90.9	2.00	3.67		
Total Xylenes*	<0.150	0.150	07/10/2015	ND	5.39	89.8	6.00	4.08		
Total BTEx	<0.300	0.300	07/10/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2320	16.0	07/08/2015	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/07/2015	ND	192	96.0	200	1.65	
DRO >C10-C28	1250	10.0	07/07/2015	ND	183	91.3	200	1.55	

Surrogate: 1-Chlorooctane 86.4 % 47.2-157

Surrogate: 1-Chlorooctadecane 101 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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 Fax To: (575) 393-4388

Received: 07/06/2015
 Reported: 07/13/2015
 Project Name: COOTER 16 ST.5H
 Project Number: ALF-15-011
 Project Location: EDDY COUNTY

Sampling Date: 07/02/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: AH-1 1' (H501708-03)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/10/2015	ND	2.23	112	2.00	0.362		
Toluene*	<0.050	0.050	07/10/2015	ND	1.94	97.1	2.00	2.23		
Ethylbenzene*	<0.050	0.050	07/10/2015	ND	1.82	90.9	2.00	3.67		
Total Xylenes*	<0.150	0.150	07/10/2015	ND	5.39	89.8	6.00	4.08		
Total BTEx	<0.300	0.300	07/10/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	07/08/2015	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/07/2015	ND	192	96.0	200	1.65	
DRO >C10-C28	1360	10.0	07/07/2015	ND	183	91.3	200	1.55	

Surrogate: 1-Chlorooctane 102 % 47.2-157

Surrogate: 1-Chlorooctadecane 113 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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Received: 07/06/2015
 Reported: 07/13/2015
 Project Name: COOTER 16 ST.5H
 Project Number: ALF-15-011
 Project Location: EDDY COUNTY

Sampling Date: 07/02/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: AH-2 SURFACE (H501708-04)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	07/10/2015	ND	2.23	112	2.00	0.362	
Toluene*	<0.100	0.100	07/10/2015	ND	1.94	97.1	2.00	2.23	
Ethylbenzene*	0.149	0.100	07/10/2015	ND	1.82	90.9	2.00	3.67	
Total Xylenes*	1.45	0.300	07/10/2015	ND	5.39	89.8	6.00	4.08	
Total BTEx	1.60	0.600	07/10/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 143 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1260	16.0	07/08/2015	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	214	50.0	07/07/2015	ND	192	96.0	200	1.65	
DRO >C10-C28	30000	50.0	07/07/2015	ND	183	91.3	200	1.55	

Surrogate: 1-Chlorooctane 136 % 47.2-157

Surrogate: 1-Chlorooctadecane 283 % 52.1-176

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Received: 07/06/2015
 Reported: 07/13/2015
 Project Name: COOTER 16 ST.5H
 Project Number: ALF-15-011
 Project Location: EDDY COUNTY

Sampling Date: 07/02/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: AH-2 6" (H501708-05)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/10/2015	ND	2.23	112	2.00	0.362	
Toluene*	0.113	0.050	07/10/2015	ND	1.94	97.1	2.00	2.23	
Ethylbenzene*	0.089	0.050	07/10/2015	ND	1.82	90.9	2.00	3.67	
Total Xylenes*	0.457	0.150	07/10/2015	ND	5.39	89.8	6.00	4.08	
Total BTEX	0.658	0.300	07/10/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	960	16.0	07/08/2015	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	41.1	10.0	07/08/2015	ND	192	96.0	200	1.65	
DRO >C10-C28	2720	10.0	07/08/2015	ND	183	91.3	200	1.55	

Surrogate: 1-Chlorooctane 100 % 47.2-157

Surrogate: 1-Chlorooctadecane 132 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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Received: 07/06/2015
 Reported: 07/13/2015
 Project Name: COOTER 16 ST.5H
 Project Number: ALF-15-011
 Project Location: EDDY COUNTY

Sampling Date: 07/02/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: AH-2 1' (H501708-06)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/10/2015	ND	2.23	112	2.00	0.362	
Toluene*	<0.050	0.050	07/10/2015	ND	1.94	97.1	2.00	2.23	
Ethylbenzene*	<0.050	0.050	07/10/2015	ND	1.82	90.9	2.00	3.67	
Total Xylenes*	0.280	0.150	07/10/2015	ND	5.39	89.8	6.00	4.08	
Total BTEX	<0.300	0.300	07/10/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	07/08/2015	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	31.1	10.0	07/08/2015	ND	192	96.0	200	1.65	
DRO >C10-C28	1210	10.0	07/08/2015	ND	183	91.3	200	1.55	

Surrogate: 1-Chlorooctane 90.6 % 47.2-157

Surrogate: 1-Chlorooctadecane 96.5 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received: 07/06/2015
 Reported: 07/13/2015
 Project Name: COOTER 16 ST.5H
 Project Number: ALF-15-011
 Project Location: EDDY COUNTY

Sampling Date: 07/02/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: AH-3 SURFACE (H501708-07)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	07/10/2015	ND	2.23	112	2.00	0.362	
Toluene*	<0.100	0.100	07/10/2015	ND	1.94	97.1	2.00	2.23	
Ethylbenzene*	<0.100	0.100	07/10/2015	ND	1.82	90.9	2.00	3.67	
Total Xylenes*	0.485	0.300	07/10/2015	ND	5.39	89.8	6.00	4.08	
Total BTEX	<0.600	0.600	07/10/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 124 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1790	16.0	07/08/2015	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	123	50.0	07/08/2015	ND	192	96.0	200	1.65	
DRO >C10-C28	21400	50.0	07/08/2015	ND	183	91.3	200	1.55	

Surrogate: 1-Chlorooctane 115 % 47.2-157

Surrogate: 1-Chlorooctadecane 235 % 52.1-176

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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received: 07/06/2015
 Reported: 07/13/2015
 Project Name: COOTER 16 ST.5H
 Project Number: ALF-15-011
 Project Location: EDDY COUNTY

Sampling Date: 07/02/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: AH-3 1' (H501708-08)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/10/2015	ND	2.23	112	2.00	0.362		
Toluene*	<0.050	0.050	07/10/2015	ND	1.94	97.1	2.00	2.23		
Ethylbenzene*	<0.050	0.050	07/10/2015	ND	1.82	90.9	2.00	3.67		
Total Xylenes*	<0.150	0.150	07/10/2015	ND	5.39	89.8	6.00	4.08		
Total BTEx	<0.300	0.300	07/10/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/08/2015	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/08/2015	ND	199	99.4	200	6.45	
DRO >C10-C28	373	10.0	07/08/2015	ND	207	104	200	7.40	

Surrogate: 1-Chlorooctane 90.1 % 47.2-157

Surrogate: 1-Chlorooctadecane 99.0 % 52.1-176

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Analytical Results For:

Safety & Environmental Solutions
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 Hobbs NM, 88240
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Received: 07/06/2015
 Reported: 07/13/2015
 Project Name: COOTER 16 ST.5H
 Project Number: ALF-15-011
 Project Location: EDDY COUNTY

Sampling Date: 07/02/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: AH-4 SURFACE (H501708-09)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.100	0.100	07/10/2015	ND	2.23	112	2.00	0.362		
Toluene*	<0.100	0.100	07/10/2015	ND	1.94	97.1	2.00	2.23		
Ethylbenzene*	<0.100	0.100	07/10/2015	ND	1.82	90.9	2.00	3.67		
Total Xylenes*	0.785	0.300	07/10/2015	ND	5.39	89.8	6.00	4.08		
Total BTEX	0.785	0.600	07/10/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2040	16.0	07/08/2015	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	214	50.0	07/08/2015	ND	199	99.4	200	6.45	
DRO >C10-C28	19700	50.0	07/08/2015	ND	207	104	200	7.40	

Surrogate: 1-Chlorooctane 144 % 47.2-157

Surrogate: 1-Chlorooctadecane 400 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Safety & Environmental Solutions
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 Fax To: (575) 393-4388

Received: 07/06/2015
 Reported: 07/13/2015
 Project Name: COOTER 16 ST.5H
 Project Number: ALF-15-011
 Project Location: EDDY COUNTY

Sampling Date: 07/02/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: AH-4 1' (H501708-10)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/10/2015	ND	2.23	112	2.00	0.362		
Toluene*	<0.050	0.050	07/10/2015	ND	1.94	97.1	2.00	2.23		
Ethylbenzene*	<0.050	0.050	07/10/2015	ND	1.82	90.9	2.00	3.67		
Total Xylenes*	<0.150	0.150	07/10/2015	ND	5.39	89.8	6.00	4.08		
Total BTEx	<0.300	0.300	07/10/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	07/09/2015	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/08/2015	ND	199	99.4	200	6.45	
DRO >C10-C28	785	10.0	07/08/2015	ND	207	104	200	7.40	

Surrogate: 1-Chlorooctane 85.0 % 47.2-157

Surrogate: 1-Chlorooctadecane 66.3 % 52.1-176

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Analytical Results For:

Safety & Environmental Solutions
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 Fax To: (575) 393-4388

Received: 07/06/2015
 Reported: 07/13/2015
 Project Name: COOTER 16 ST.5H
 Project Number: ALF-15-011
 Project Location: EDDY COUNTY

Sampling Date: 07/02/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: AH-5 SURFACE (H501708-11)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	07/10/2015	ND	2.23	112	2.00	0.362	
Toluene*	<0.100	0.100	07/10/2015	ND	1.94	97.1	2.00	2.23	
Ethylbenzene*	<0.100	0.100	07/10/2015	ND	1.82	90.9	2.00	3.67	
Total Xylenes*	0.493	0.300	07/10/2015	ND	5.39	89.8	6.00	4.08	
Total BTEX	<0.600	0.600	07/10/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 124 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	336	16.0	07/09/2015	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	144	10.0	07/08/2015	ND	199	99.4	200	6.45	
DRO >C10-C28	11000	10.0	07/08/2015	ND	207	104	200	7.40	

Surrogate: 1-Chlorooctane 119 % 47.2-157

Surrogate: 1-Chlorooctadecane 190 % 52.1-176

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Analytical Results For:

Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received: 07/06/2015
 Reported: 07/13/2015
 Project Name: COOTER 16 ST.5H
 Project Number: ALF-15-011
 Project Location: EDDY COUNTY

Sampling Date: 07/02/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: AH-5 1' (H501708-12)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/10/2015	ND	2.23	112	2.00	0.362		
Toluene*	<0.050	0.050	07/10/2015	ND	1.94	97.1	2.00	2.23		
Ethylbenzene*	<0.050	0.050	07/10/2015	ND	1.82	90.9	2.00	3.67		
Total Xylenes*	<0.150	0.150	07/10/2015	ND	5.39	89.8	6.00	4.08		
Total BTEX	<0.300	0.300	07/10/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	07/09/2015	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	14.9	10.0	07/08/2015	ND	199	99.4	200	6.45	
DRO >C10-C28	1640	10.0	07/08/2015	ND	207	104	200	7.40	

Surrogate: 1-Chlorooctane 91.1 % 47.2-157

Surrogate: 1-Chlorooctadecane 88.2 % 52.1-176

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Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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

Celey D. Keene, Lab Director/Quality Manager



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101 East Marland, Hobbs, NM 88240
(505) 393-2326 Fax (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 3 of 3

Company Name: Safety & Environmental Solutions, Inc.		BILL TO		ANALYSIS REQUEST																	
Project Manager: Bob Allen		P.O. #:																			
Address: 703 East Clinton		Company: Same																			
City: Hobbs State: NM Zip: 88240		Attn:																			
Phone #: 575-397-0510 Fax #: 575-393-4388		Address:																			
Project #: A17-15-011 Project Owner: A17LEADS		City:																			
Project Name: COOPER 16 ST. 5A		State: Zip:																			
Project Location: GOSBY COUNTY		Phone #:																			
Sampler Name: JOSE JERRY		Fax #:																			
FOR LAB USE ONLY																					
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							
H501708																					
1	AH-1 Surface	G	1			X					X		07/02	1055	X	X	X				
2	AH-1 6 inches	G	1			X					X		07/02	1110							
3	AH-1 1 ft	G	1			X					X		07/02	1420							
4	AH-2 Surface	G	1			X					X		07/02	1120							
5	AH-2 6 inches	G	1			X					X		07/02	1130							
6	AH-2 1 ft	G	1			X					X		07/02	1145							
7	AH-3 Surface	G	1			X					X		07/02	1215							
8	AH-3 1 ft	G	1			X					X		07/02	1230							
9	AH-4 Surface	G	1			X					X		07/02	1310							
10	AH-4 1 ft	G	1			X					X		07/02	1315	X	X	X				

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Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date: 07/06/15	Received By: Judy Garcia	Phone Result: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By: Jose Jerry	Time: 0800		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One)	Date: 7/6/15	Received By:	REMARKS:	
Sampler - UPS - Bus - Other:	Time: 8:36			
Temp. 56°	Sample Condition	CHECKED BY: (Initials)		
	Cool Intact			
	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
	<input type="checkbox"/> No <input type="checkbox"/> No			

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.

#54



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page of

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Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS

Action 405759

QUESTIONS

Operator: RAYBAW Operating, LLC 2626 Cole Avenue Dallas, TX 75204	OGRID: 330220
	Action Number: 405759
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAB1517443063
Incident Name	NAB1517443063 COOTER 16 STATE 5H @ 30-015-37627
Incident Type	Produced Water Release
Incident Status	Remediation Plan Approved
Incident Well	[30-015-37627] COOTER 16 STATE #003H

Location of Release Source

Please answer all the questions in this group.

Site Name	COOTER 16 STATE 5H
Date Release Discovered	06/16/2015
Surface Owner	State

Incident Details

Please answer all the questions in this group.

Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.

Crude Oil Released (bbls) Details	Cause: Equipment Failure Gasket Crude Oil Released: 3 BBL Recovered: 2 BBL Lost: 1 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure Gasket Produced Water Released: 5 BBL Recovered: 5 BBL Lost: 0 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS, Page 2

Action 405759

QUESTIONS (continued)

Operator: RAYBAW Operating, LLC 2626 Cole Avenue Dallas, TX 75204	OGRID: 330220
	Action Number: 405759
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	No
Reasons why this would be considered a submission for a notification of a major release	Unavailable.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

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	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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.

I hereby agree and sign off to the above statement	Name: Michael Lee Title: COO Email: michael@raybawoperating.com Date: 11/22/2024
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Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

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QUESTIONS, Page 3

Action 405759

QUESTIONS (continued)

Operator: RAYBAW Operating, LLC 2626 Cole Avenue Dallas, TX 75204	OGRID: 330220
	Action Number: 405759
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS**Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 51 and 75 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 500 and 1000 (ft.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride (EPA 300.0 or SM4500 Cl B)	18000
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	4700
GRO+DRO (EPA SW-846 Method 8015M)	2600
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	07/25/2020
On what date will (or did) the final sampling or liner inspection occur	12/21/2024
On what date will (or was) the remediation complete(d)	12/31/2024
What is the estimated surface area (in square feet) that will be reclaimed	9522
What is the estimated volume (in cubic yards) that will be reclaimed	705
What is the estimated surface area (in square feet) that will be remediated	9522
What is the estimated volume (in cubic yards) that will be remediated	705

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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QUESTIONS, Page 4

Action 405759

QUESTIONS (continued)

Operator: RAYBAW Operating, LLC 2626 Cole Avenue Dallas, TX 75204	OGRID: 330220
	Action Number: 405759
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	LEA LAND LANDFILL [fEEM0112342028]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
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.	
I hereby agree and sign off to the above statement	Name: Michael Lee Title: COO Email: michael@raybawoperating.com Date: 11/22/2024
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 5

Action 405759

QUESTIONS (continued)

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	Action Number: 405759
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS, Page 6

Action 405759

QUESTIONS (continued)

Operator: RAYBAW Operating, LLC 2626 Cole Avenue Dallas, TX 75204	OGRID: 330220
	Action Number: 405759
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	399482
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	08/24/2020
What was the (estimated) number of samples that were to be gathered	9
What was the sampling surface area in square feet	8150

Remediation Closure Request

Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.

Requesting a remediation closure approval with this submission	No
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CONDITIONS

Action 405759

CONDITIONS

Operator: RAYBAW Operating, LLC 2626 Cole Avenue Dallas, TX 75204	OGRID: 330220
	Action Number: 405759
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
bhall	Remediation plan conditionally approved.	12/11/2024
bhall	Additional sampling points must be installed: one (1) sampling point approximately halfway between W5 and W6 in order to horizontally delineate the northernmost edge of the release, one (1) sampling point approximately halfway between W1 and W8 in order to horizontally delineate the westernmost edge of the release, one (1) sampling point approximately halfway between W7 and W8 to ensure horizontal delineation of the approximately 200 ft long boundary, and one (1) sampling point approximately halfway between W4 and W5 in order to horizontally delineate the easternmost edge of the release.	12/11/2024
bhall	All sampling locations must have grab samples collected from surface, 1', 2', 3', and 4' bgs.	12/11/2024
bhall	All samples must meet the most stringent closure criteria (DTW less than 50') of Table I of 19.15.29 NMAC.	12/11/2024
bhall	Additional samples must be collected to define vertical and horizontal delineation if any of the proposed sample locations return results above the most stringent closure criteria.	12/11/2024
bhall	Submit a complete and accurate report through the OCD permitting website by 3/11/2024.	12/11/2024