



**CLOSURE REQUEST**

**DEVON ENERGY COMPANY**

Created for submission to New Mexico Oil Conservation Division on 10/21/2022

**ASHLEY GIOVENGO**  
*Project Environmental Scientist*

**ENERGIZING AMERICA**

October 21, 2022

**Environmental Incident Group**

State of New Mexico  
Energy, Minerals, and Natural Resources  
New Mexico Oil Conservation Division  
811 South First Street  
Artesia, New Mexico 88210

**RE: CLOSURE REQUEST**

<b>COMPANY</b>	Devon Energy Company
<b>LOCATION</b>	North Brushy Header
<b>API</b>	N/A
<b>PLSS</b>	Unit M Sec 36 T25S R29E
<b>GPS</b>	32.079119, -103.944930
<b>INCIDENT ID</b>	nAPP2134442133

**BACKGROUND**

Wescom, Inc., hereafter referred to as Wescom, has prepared this Closure Request on behalf of Devon Energy Company, hereafter referred to as Devon, regarding the release at the North Brushy Header (Site) located in Unit M, Section 36 Township 25 South and Range 29 East in Eddy County, New Mexico. The GPS coordinates are as follows: North 32.079119 and West -103.944930. Surface owner of the Site is State Land. On November 29, 2022, a hammer union was not correctly tightened on a newly installed line resulting in the release of 56 barrels (bbls) of produced water onto the pipeline Right of Way (ROW). Devon immediately isolated the source of the leak. The spill area is located on the North side of the pipeline header as shown in Figure 1.

Wescom personnel arrived onsite on February 2, 2022, and March 3, 2022, to complete delineation of the spill area. A remediation plan for the Site was submitted to NMOCD on May 03, 2022. Based on the proximity of the spill area to active lines, Devon requested a variance to maintain a safe distance, 15 feet from the active gas line and two feet from the produced water line and to leave soils in place. In addition to leaving soils in place, a variance for confirmation sampling every 500 square feet was requested.

On May 26, 2022, Devon received notice that the remediation plan had been approved with the condition that “composite confirmation samples be collected from the bottom and sidewalls of the excavation from areas representing no more than four hundred square feet. “ Devon requested an additional 180 days to complete

the remediation of the spill area. Wescom personnel returned onsite on August 04, 2022, to excavate the spill area and collect confirmation samples.

## SURFACE & GROUND WATER

The New Mexico Office of the State Engineer (OSE) records indicates the nearest depth to groundwater measurement is greater than 105 feet below ground surface (bgs) and is 0.39 miles West of the Site. No playas or lakes are located within a one-mile radius of this Site (Attachment C).

## KARST POTENTIAL

According to data from the Bureau of Land Management, this Site is located within medium karst potential as shown in Attachment D. There are no indicators of karst around the Site surface.

## TARGET REMEDIAL LEVELS

The target cleanup levels are determined using the NMOCD Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC, inserted below) including karst guidelines from the Bureau of Land Management. Due to the fact that this release is located entirely off-pad, the applicable reclamation requirements for impacts above four feet are as follows: 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethyl benzene, and xylene (BTEX), 100 ppm Total Petroleum Hydrocarbons (TPH) and 600 ppm chlorides.

The applicable Recommended Remediation Action Levels (RRALs) for soils that are greater than four feet bgs are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethyl benzene, and xylene (BTEX) and 2500 ppm Total Petroleum Hydrocarbons (TPH) and 1000 ppm combined Gasoline Range Organics (GRO) and Diesel Range Organics (DRO). Characterization of the vertical and horizontal extent of chloride concentration in the soil to a level of 20000 mg/kg (ppm) is also required.



Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
North Brushy Header — 32.079119, -103.944930						
Depth to Groundwater		Closure Criteria (unites in mg/kg)				
		Chloride * numerical limit or background, whichever is greater	TPH	GRO+DRO	BTEX	Benzene
Based on high karst potential		600	100		50	10
less than 50 ft bgs or no water data within 1/2 mile		600	100		50	10
51 ft to 100 ft		10000	2500	1000	50	10
greater than 100 ft		> 105 <b>20000</b>	<b>2500</b>	<b>1000</b>	<b>50</b>	<b>10</b>
Surface Water		If yes, then				
Yes or No						
< 300 feet from continuously flowing watercourse or other significant watercourse?		No				
< 200 feet from lakebed, sinkhole or playa lake		No				
Water Well or Water Source						
< 500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?		No				
< 1000 feet from fresh water well or spring?		No				
Human and Other Areas						
< 300 feet from an occupied permanent residence, school, hospital, institution or church?		No				
Within incorporated municipal boundaries or within a defined municipal fresh water well field?		No				
< 100 feet from wetland?		No				
Within area overlying a subsurface mine?		No				
Within an unstable area?		No				
Within a 100-year floodplan?		No				

Table: Closure Criteria Statistics

## REMEDIATION ACTIVITES

Beginning on August 4, 2022, Wescom personnel arrived onsite to oversee the removal of impacted soil. A background sample, BG01, was collected 70 feet to the West of the spill area, as shown in Figure 1. Wescom personnel returned on August 8, 2022, to oversee the removal of impacted soil from the off-pad spill area and to conduct confirmation sampling activities. A track hoe and front-end loader were used to remove approximately 1260 cubic yards of contaminated soil from the spill area. Impacted material from the spill area was hauled to an approved disposal facility.

Wescom personnel collected a total of 21 composite confirmation samples over the seven-day sampling and excavation period. All the confirmation samples were below the applicable RRALs for the Site (see Table 2). All soil samples were properly packaged, preserved, and transported to Envirotech, Inc. by chain of custody, and analyzed for Total Petroleum Hydrocarbons, or TPH, —Method 8015D, BTEX—Method 8021B, and Chlorides—Method 300.0. Confirmation sample locations are presented in Figure 2 and laboratory analytical reports are included in Attachment E.

The required 48-hour confirmation sampling notification was sent on February 15, 2022, March 07, 2022, and August 02, 2022, to [OCD.Enviro@state.nm.us](mailto:OCD.Enviro@state.nm.us) and are included in Attachment G.

## REQUEST FOR CLOSURE

On behalf of Devon, Wescom hereby requests closure for the release associated with incident number nAPP2134442133 based on the logic below.

- The spill area has been horizontally and vertically delineated.
- Excavation of the accessible spill area has been completed in accordance with the reclamation standard NMAC 19.15.29.13.D(1).
- All confirmation areas and samples are below applicable RRALs for the Site.
- Impacted material was removed and properly disposed of at an approved facility.
- Excavated area has been backfilled with native soils to four feet bgs and reseeded.

If you have any questions or comments, please do not hesitate to call Ms. Ashley Giovengo at (505) 382-1211.

Sincerely,

Wescom, Inc.

**Ashley Giovengo**

Project Environmental Scientist

cc: Jim Raley, Devon Energy Company  
Environmental Incident Group, NMOCD



# REFERENCE MATERIALS

## FIGURES

**FIGURE 1.** Delineation Sampling

**FIGURE 2.** Confirmation Sampling

## TABLES

**TABLE 1.** Laboratory Analysis Results: Delineation Samples

**TABLE 2.** Laboratory Analysis Results: Confirmation Samples

## ATTACHMENTS

**ATTACHMENT A.** C-141

**ATTACHMENT B.** Site Photos

**ATTACHMENT C.** Closure Criteria Supporting Documents

**ATTACHMENT D.** Karst Map

**ATTACHMENT E.** Envirotech Inc. Laboratory Analysis Reports

**ATTACHMENT F.** NSDA Soil Resource Report

**ATTACHMENT G.** 48-hour Confirmation Sampling Notification Emails

**ATTACHMENT H.** Right-of-Entry Permit



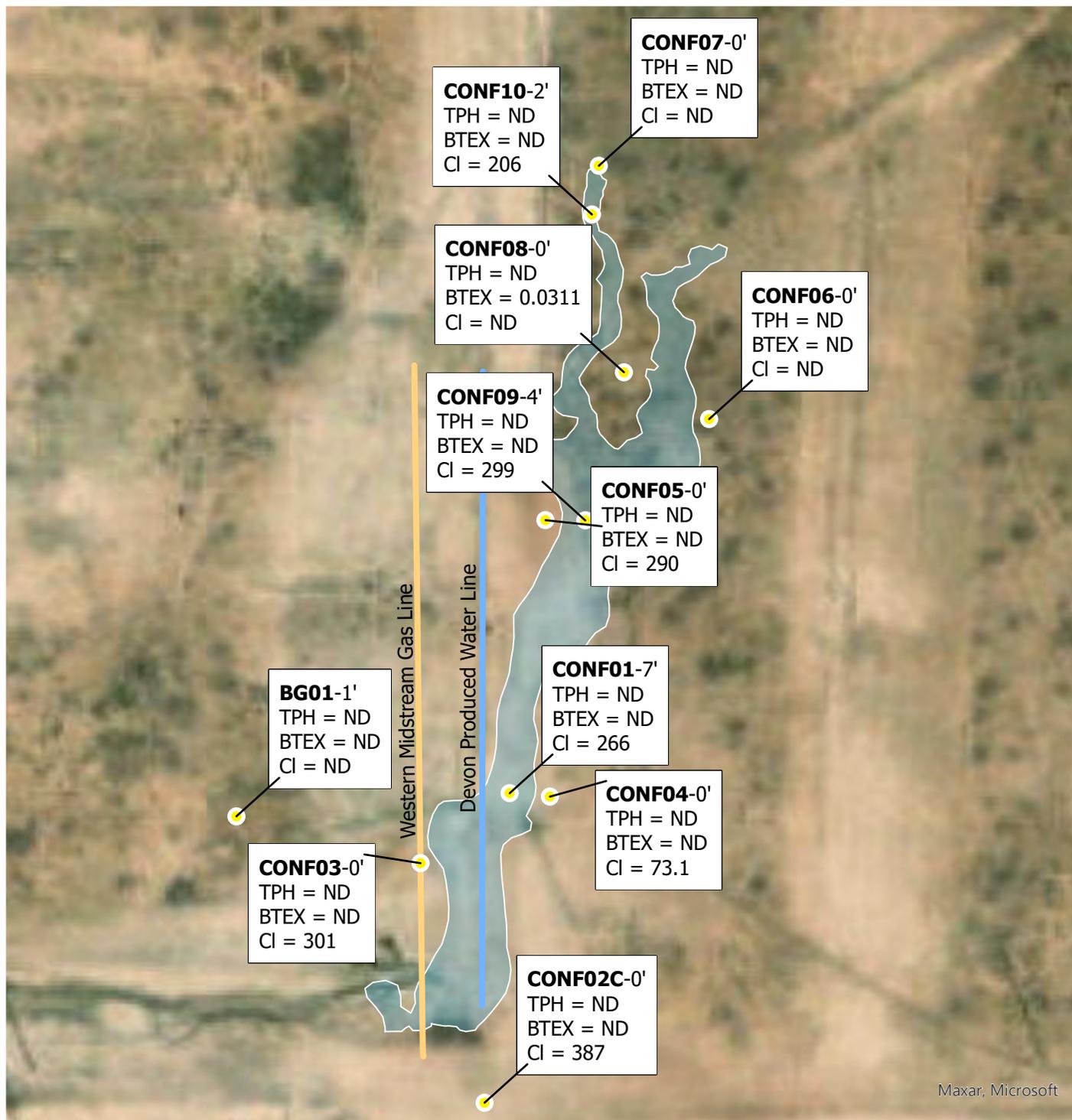
# FIGURES



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**North Brushy Header** | Incident ID: nAPP2134442133



**FIGURE 1.  
DELINEATION SAMPLING**

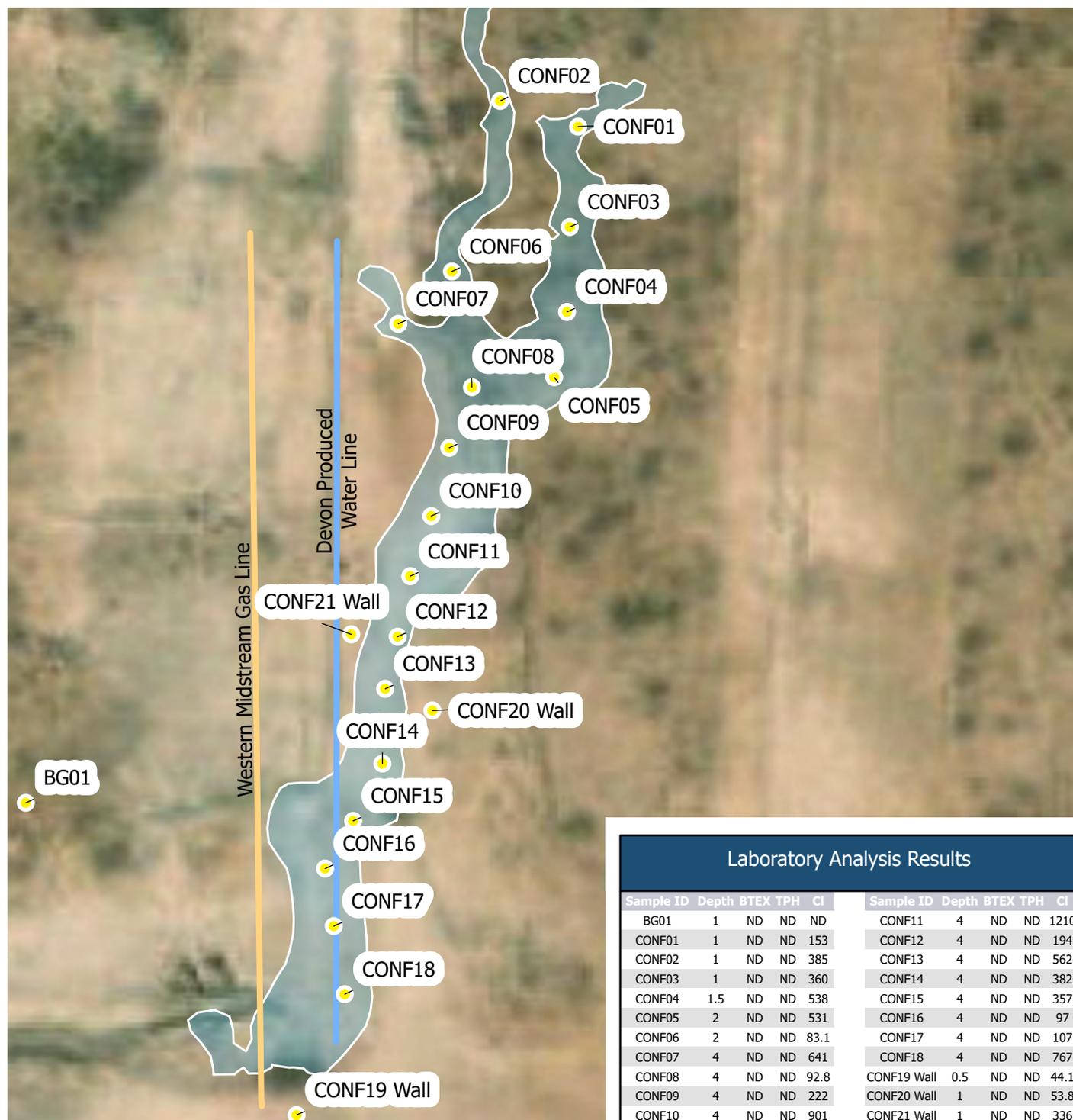


North Brushy Header  
 Incident ID: nAPP2134442133  
 GPS Coordinates: 32.079119, -103.944930  
 Eddy County, New Mexico  
 Devon Energy

**LEGEND**

- Delineation Sample Locations
- Western Midstream Gas line
- Devon Energy Produced Water Line
- Spill Area





**FIGURE 2.**  
**CONFIRMATION SAMPLING**



North Brushy Header  
 Incident ID: nAPP2134442133  
 GPS Coordinates: 32.079119, -103.944930  
 Eddy County, New Mexico  
 Devon Energy

**LEGEND**

- Confirmation Sample Locations
- Western Midstream Gas line
- Devon Energy Produced Water Line
- Spill Area



# TABLE



North Brushy Header   nAPP2134442133						
Devon Energy   03.18.2022						
Table 1. Laboratory Analysis Results: Delineation Samples						
Sample Description			Petroleum Hydrocarbons			Inorganic
Sample ID	Depth (ft.)	Date	Volatile		Extractable	Chloride (mk/kg)
			Benzene (mk/kg)	Total BTEX (mk/kg)	TPH (mk/kg)	
<b>Closure Criteria</b>			<b>10</b>	<b>50</b>	<b>100</b>	<b>600</b>
BG01	0	3/7/2022	ND	0.0259	ND	ND
BG01	1	3/7/2022	ND	ND	ND	ND
CONF01	7	3/18/2022	ND	ND	ND	266
CONF02C	0	3/7/2022	ND	ND	ND	387
CONF03	0	3/7/2022	ND	0.0396	ND	301
CONF04	0	3/7/2022	ND	ND	ND	73.1
CONF05	0	3/7/2022	ND	0.0276	ND	290
CONF06	0	3/7/2022	ND	ND	ND	ND
CONF07	0	3/7/2022	ND	ND	ND	ND
CONF08	0	3/7/2022	ND	0.0311	ND	ND
CONF09	4	3/18/2022	ND	ND	ND	229
CONF10	2	3/18/2022	ND	ND	ND	206
ABBREVIATIONS						
BTEX — Benzene, Toluene, Ethylene, Xylene			GRO — Gasoline Range Organics			
DRO — Diesel Range Organics			ND — Non-detect			
ft. — Feet			mg/kg — Milligrams per Kilogram			
TPH — Total Petroleum Hydrocarbons						
Notes						
<b>Bold Red</b> - Results are above closure criteria						
Gray Highlight - Background Samples						



## North Brushy Header | nAPP2134442133

Devon Energy | 08.31.2022

Table 2. Laboratory Analysis Results: Confirmation Samples

Sample Description			Petroleum Hydrocarbons				Inorganic
Sample ID	Depth (ft.)	Date	Volatile		Extractable		Chloride (mk/kg)
			Benzene (mk/kg)	Total BTEX (mk/kg)	TPH (mk/kg)	GRO+DRO (mk/kg)	
<b>Closure Criteria</b>			<b>10</b>	<b>50</b>	<b>2500</b>	<b>1000</b>	<b>20000</b>
CONF01	1	8/9/2022	ND	ND	ND	ND	153
CONF02	1	8/9/2022	ND	ND	ND	ND	385
CONF03	1	8/9/2022	ND	ND	ND	ND	360
CONF04	1.5	8/9/2022	ND	ND	ND	ND	538
CONF05	2	8/10/2022	ND	ND	ND	ND	53.1
CONF06	2	8/12/2022	ND	ND	ND	ND	83.1
CONF07	4	8/12/2022	ND	ND	ND	ND	641
CONF08	4	8/12/2022	ND	ND	ND	ND	92.8
CONF09	4	8/12/2022	ND	ND	ND	ND	222
CONF10	4	8/12/2022	ND	ND	ND	ND	901
CONF11	4	8/15/2022	ND	ND	ND	ND	1210
CONF12	4	8/15/2022	ND	ND	ND	ND	194
CONF13	4	8/15/2022	ND	ND	ND	ND	562
CONF14	4	8/15/2022	ND	ND	ND	ND	382
CONF15	4	8/15/2022	ND	ND	ND	ND	357
CONF16	4	8/15/2022	ND	ND	ND	ND	97
CONF17	4	8/15/2022	ND	ND	ND	ND	107
CONF18	4	8/15/2022	ND	ND	ND	ND	767
CONF19 Wall	0.5	8/15/2022	ND	ND	ND	ND	44.1
CONF20 Wall	1	8/15/2022	ND	ND	ND	ND	53.8
CONF21 Wall	1	8/15/2022	ND	ND	ND	ND	336

**ABBREVIATIONS**

BTEX — Benzene, Toluene, Ethylene, Xylene

GRO — Gasoline Range Organics

DRO — Diesel Range Organics

ND — Non-detect

ft. — Feet

mg/kg — Milligrams per Kilogram

TPH — Total Petroleum Hydrocarbons

**Notes****Bold Red** - Results are above closure criteria

Gray Highlight - Background Samples



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# ATTACHMENT A

C-141



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**North Brushy Header** | Incident ID: nAPP2134442133

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

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

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

Incident ID	nAPP2134442133
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party: WPX Energy Permian, LLC	OGRID: 246289
Contact Name: Jim Raley	Contact Telephone: 575-689-7597
Contact email: jim.ralej@dvn.com	Incident # (assigned by OCD) nAPP2134442133
Contact mailing address: 5315 Buena Vista Dr., Carlsbad NM 88220	

### Location of Release Source

Latitude 32.079119 \_\_\_\_\_ Longitude -103.944930 \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: North Brushy Header	Site Type: Produced Water Transfer Line
Date Release Discovered: November 29 <sup>th</sup> , 2021	API# (if applicable) N/A

Unit Letter	Section	Township	Range	County
M	36	25S	29E	Eddy

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

### Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls) 0	Volume Recovered (bbls) 0
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 56	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Hammer Union was not correctly tightened on newly installed line, allowing for release of fluids to pipeline ROW. (Release occurred at 32.079119, -103.944930 and traveled to North approx. 100')

Spill sqft. x (1 cubic yard/27 cubic feet) x (porosity) x (6.41187384 bbls fluid/1 cubic yard) = approximately 56 bbls released fluids.

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Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Volume exceeds 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc) Yes. By email to Mike Bratcher and Emily Hernandez on 12/01/2021	

### Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
If all the actions described above have <u>not</u> been undertaken, explain why:   
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.
Printed Name: <u>James Raley</u> Title: <u>Environmental Specialist</u>  Signature:  Date: <u>12/10/2021</u>  email: <u>jim.raley@dvn.com</u> Telephone: <u>575-689-7597</u>
<b><u>OCD Only</u></b>  Received by: _____ Date: _____

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Facility ID	
Application ID	

## Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	_305 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

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

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Application ID	

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

Printed Name: Jim Raley

Title: Environmental Specialist

Signature: \_\_\_\_\_  


Date: 10/25/2022

email: jim.raley@dvn.com

Telephone: 575-689-7597

**OCD Only**

Received by: \_\_\_\_\_

Date: \_\_\_\_\_

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District RP	
Facility ID	
Application ID	

## Closure

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

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

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

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

Printed Name: Jim Raley Title: Environmental Specialist

Signature:  Date: 10/25/2022

email: jim.raley@dvn.com Telephone: 575-689-7597

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Closure Approved by:  Date: 11/18/2022

Printed Name: Jennifer Nobui Title: Environmental Specialist A

# ATTACHMENT B

## Site Photos



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**North Brushy Header** | Incident ID: nAPP2134442133



Spill Area

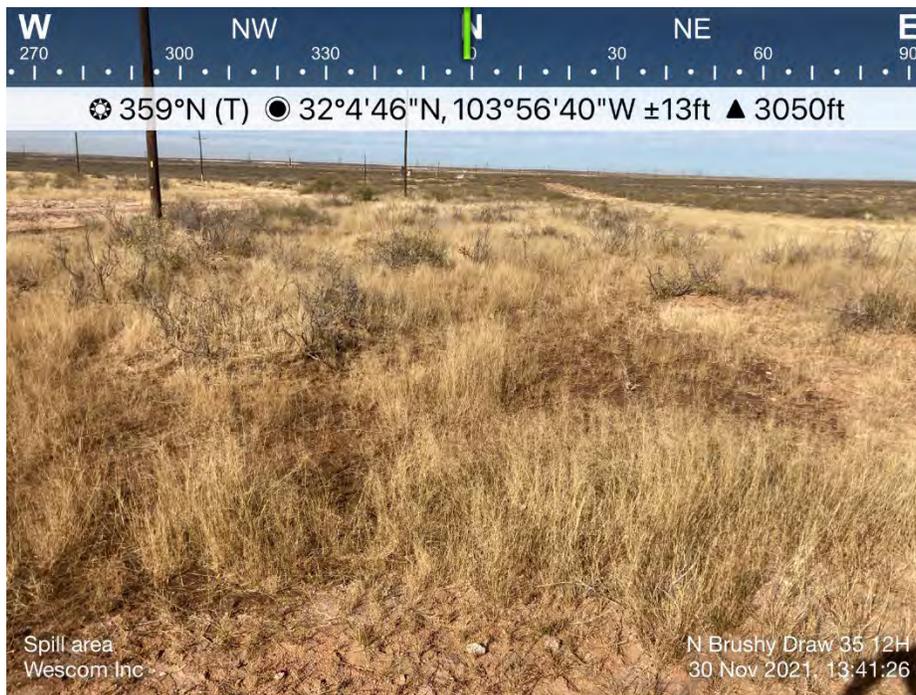


Spill Area





Spill Area



Spill Area



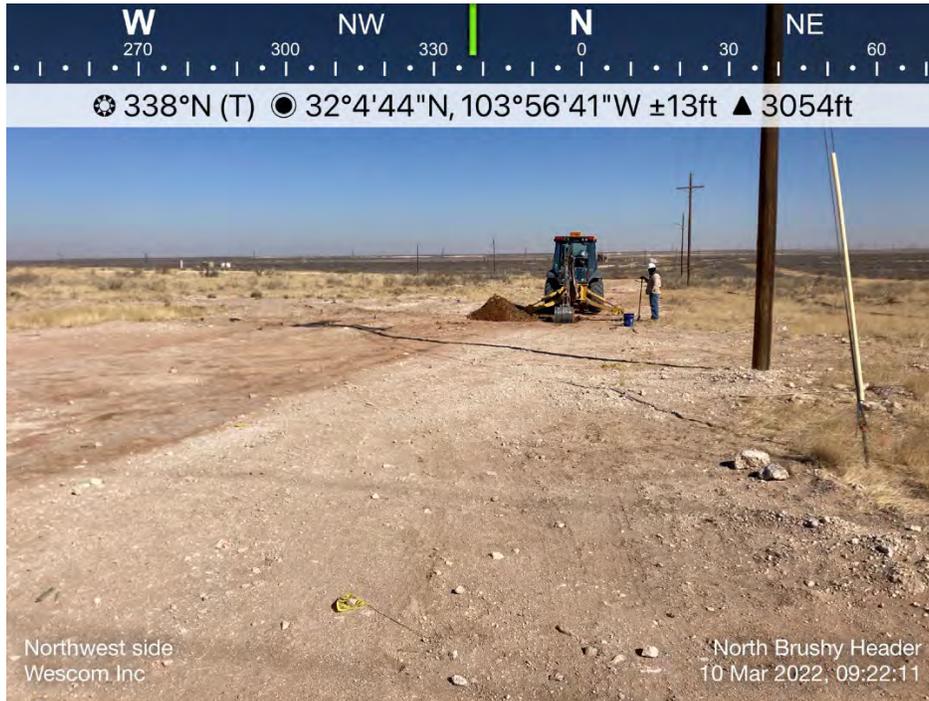


Spill Area



Spill Delineation



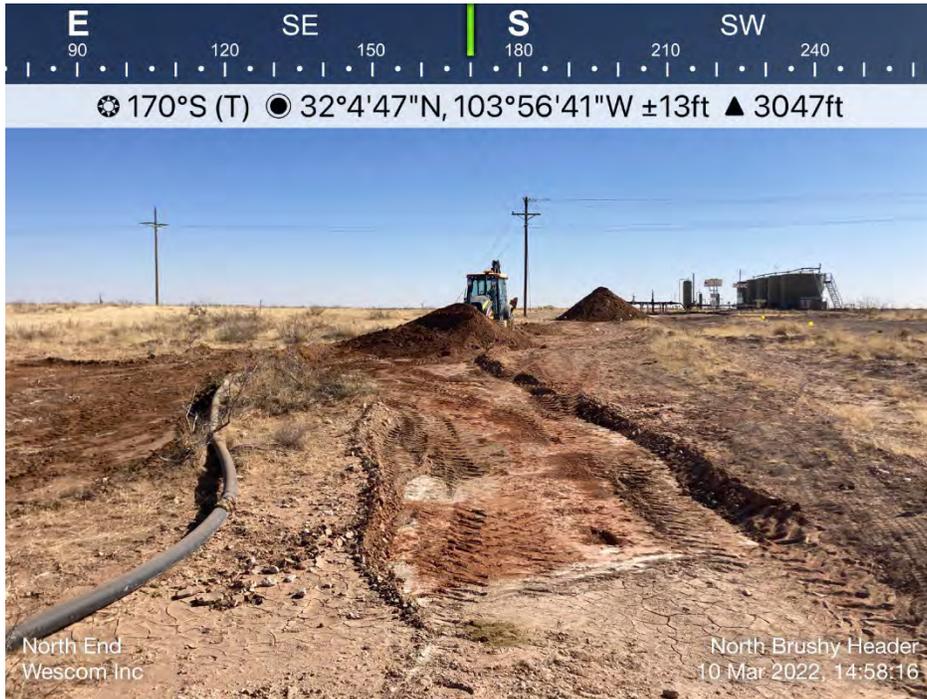


*Spill Delineation*



*Initial Scrape*





Initial Scrape and Contaminated Soil Pile



Hydrovac Water and Gas Lines



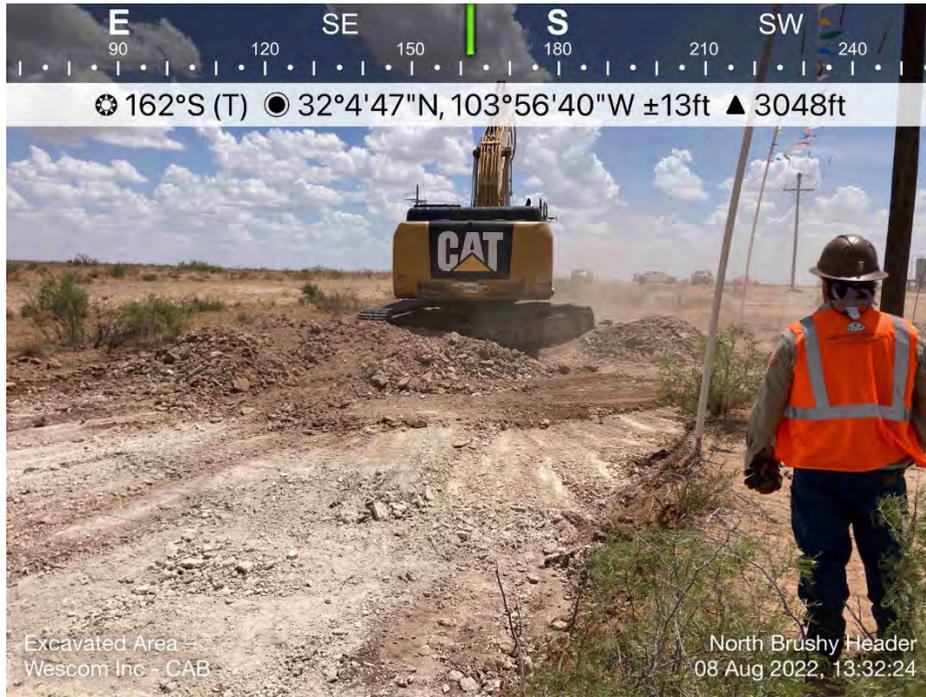


Hydrovac Water and Gas Lines



Excavation of Spill Area - North End



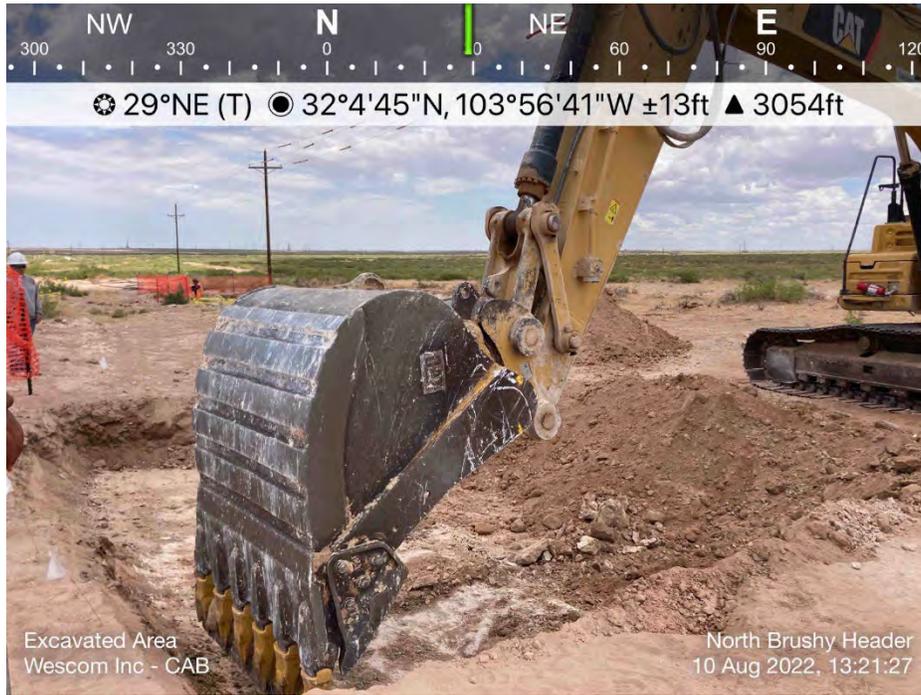


Excavation of Spill Area – Northeast Side



Excavation of Spill Area – Center of Spill





Excavation of Spill Area - Between Pipelines

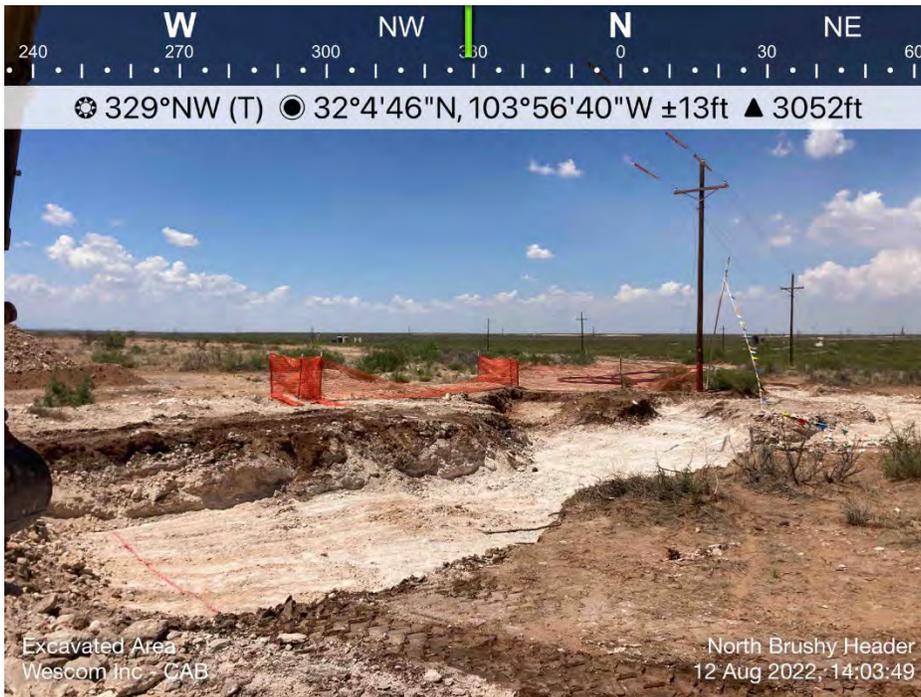


Excavation of Spill Area - South End



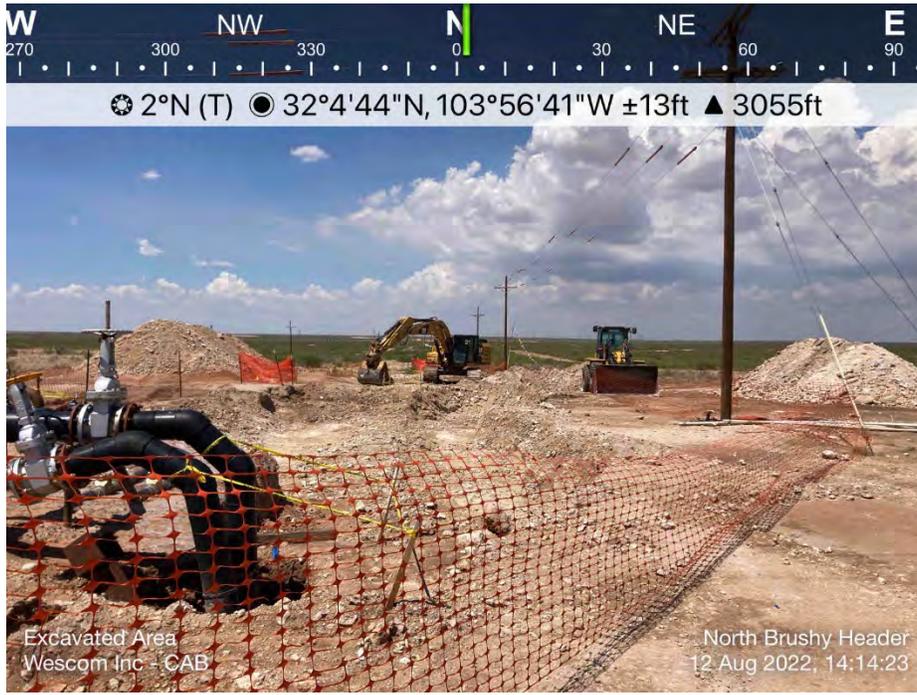


Excavation of Spill Area - South End



Excavation of Spill Area - Center of Spill





Excavation of Spill Area - South Side



Excavated Area Completed



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**North Brushy Header** | Incident ID: nAPP2134442133

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*Backfill and Reseed Completed*



*Backfill and Reseed Completed*





*Backfill and Reseed Completed*



*Backfill and Reseed Completed*



# ATTACHMENT C

## Closure Criteria Supporting Documents



**Energizing America**

**wescominc.com** | info@wescominc.com | 218-724-1322

**North Brushy Header** | Incident ID: nAPP2134442133



### Site Investigation Report

Date of report: 1/5/2021  
 Site Names: RDX 16-25 Ross Draw Unit #38  
                   RDX 17 #3 Ross Draw Unit #55  
                   RDX Fed Com 17-44H Ross Draw Unit #57  
                   RDX Fed Com 21-43 N Brushy Fed 35 #010H  
 County: Eddy County, New Mexico  
 Project No: 0397

### Site Activities

Earth Systems Response and Restoration (ESRR) field activities were conducted December 8<sup>th</sup> through the 10<sup>th</sup> in Eddy county, New Mexico. ESRR oversaw the advancement of one soil boring at the eight above-mentioned locations to an approximate depth of 105 feet (ft.) below grade surface utilizing an air-rotary drilling rig operated by a State of New Mexico licensed driller. Additionally, HRL Compliance Solutions (HRL) conducted on-site soil logging activities during the advancement of the soil borings. Please see the detailed lithologic descriptions attached.

Upon completion of the soil borings, a PVC casing fitted with 5 ft. of machine-slotted well screen at the bottom was inserted into each soil boring. The PVC casing was left in place for a minimum of 72 hours prior to being gauged by HRL Consulting on December 12<sup>th</sup> with a water level meter to determine the presence or absence of groundwater. Subsequent to gauging activities, each soil boring had the PVC casing removed and was then backfilled with its associated native soil cuttings to grade surface.

### Conclusions

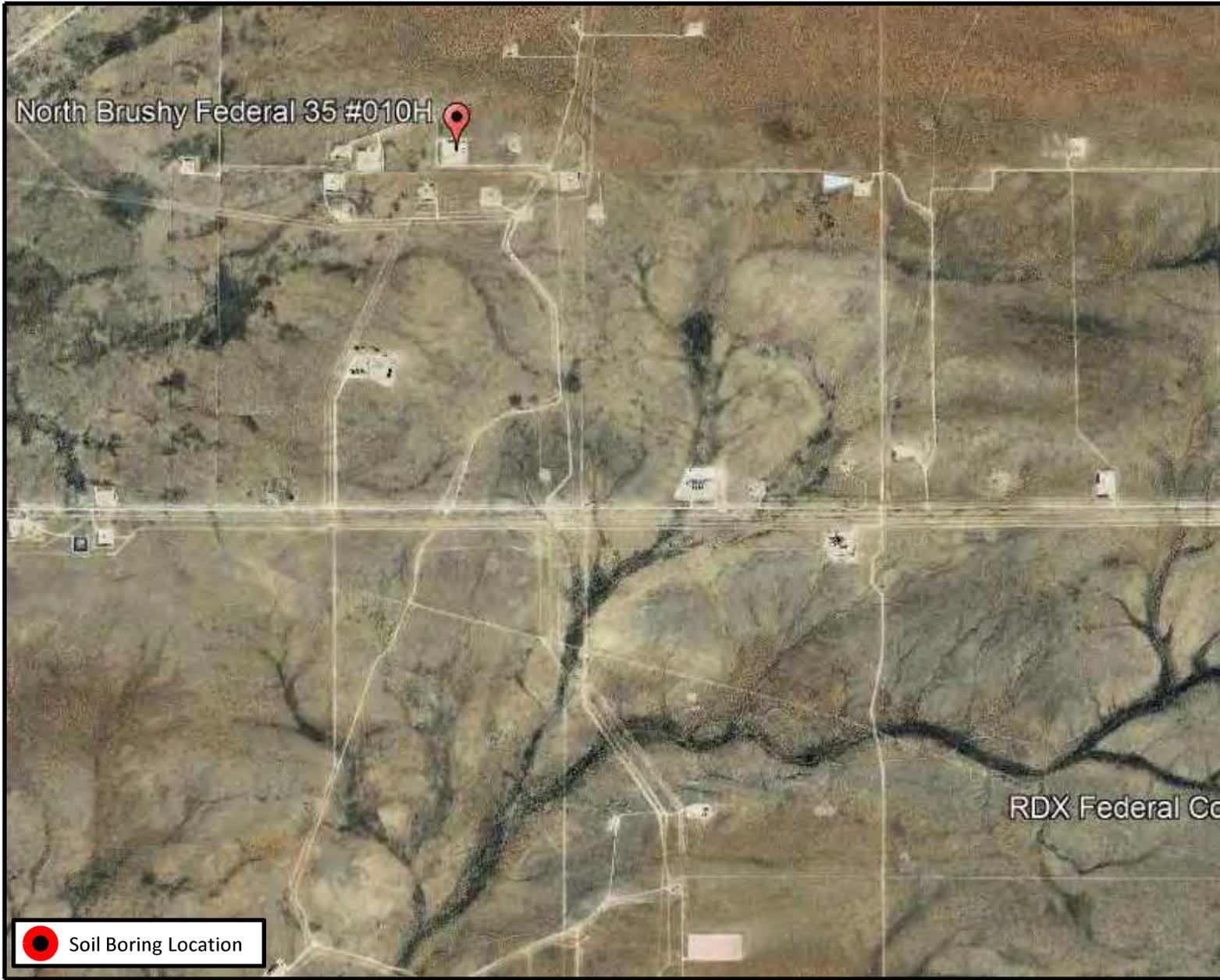
Groundwater was not detected in any of the eight soil borings as determined by utilizing a water level meter after 72 hours of development. It can be reasonably determined groundwater is deeper than 105 ft. bgs in the vicinity of the advanced soil borings.

Respectfully,

*K. Williams*

Kris Williams, CHMM, REM  
Operations Manager

Attached: Drilling Locations Maps  
Soil Boring Logs



Drilling Location Site Map	
North Brushy Federal 35 #010H	(32.079909, -103.951386)
RDX Federal Com 17-44H	(32.049656, -103.904054)

							<b>BORING LOG/MONITORING WELL COMPLETION DIAGRAM</b>						
Boring/Well Number: MW-1							Location: North Brushy Federal 35 # 010H						
Date: 12/8/2020							Client: WPX Energy						
Drilling Method: Air Rotary			Sampling Method: None				Logged By: J. Linn, PG			Drilled By: Talon LPE			
Gravel Pack Type: 10/20 Sand			Gravel Pack Depth Interval: 3 Bags				Seal Type: None		Seal Depth Interval: None		Latitude: 32.079909		
Casing Type: PVC		Diameter: 2-inch		Depth Interval: 0-100 feet bgs			Boring Total Depth (ft. BGS): 105			Longitude: -103.951386			
Screen Type: PVC		Slot: 0.010-inch		Diameter: 2-inch		Depth Interval: 100 - 105 ft		Well Total Depth (ft. BGS): 105			Depth to Water (ft. BTOC): > 105	DTW Date: 12/16/2020	
Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks			Well Completion	
0	NM	L	D	N	N	NM	CE	NS	Buff to pale pink caliche				
5													
10													
15													
20	NM	L	D	N	N	NM	SM	NS	Tan to pale red silty sand				
25													
30													
35													
40													
45													
50													
55	NM	M	M	N	N	NM	ML	NS	Tan to pale red sandy silt with minor medium sand				
60													
65	NM	H	M	N	N	NM	CL	NS	Tan clay with minor gravel				
70													
75	NM	L	D	N	N	NM	SP	NS	Pale red poorly graded fine sand with minor silt				
80													
85	NM	H	D/SLM	N	N	NM	CL	NS	Grey sandy lean clay with minor medium sand and minor angular gravel				
90													
95	NM	M/H	M	N	N	NM	CL	NS	Brown with orange sandy lean clay with minor medium sand and angular gravel - TD Boring: 105'				
100													

# North Brushy Header

Distance to nearest Depth to Water = 0.39 Miles

## Legend

-  Distance = 0.39 Miles
-  DTW > 105ft. North Brushy Draw Federal 35-10H
-  North Brushy Header



# North Brushy Header - Riverine 694 Ft



December 3, 2021

**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.



# North Brushy Header - FW Pond 5,178 Ft



December 3, 2021

### Wetlands

- Estuarine and Marine Deepwater
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Estuarine and Marine 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.



# North Brushy Header - Wetland 11,122 Ft



December 3, 2021

### Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

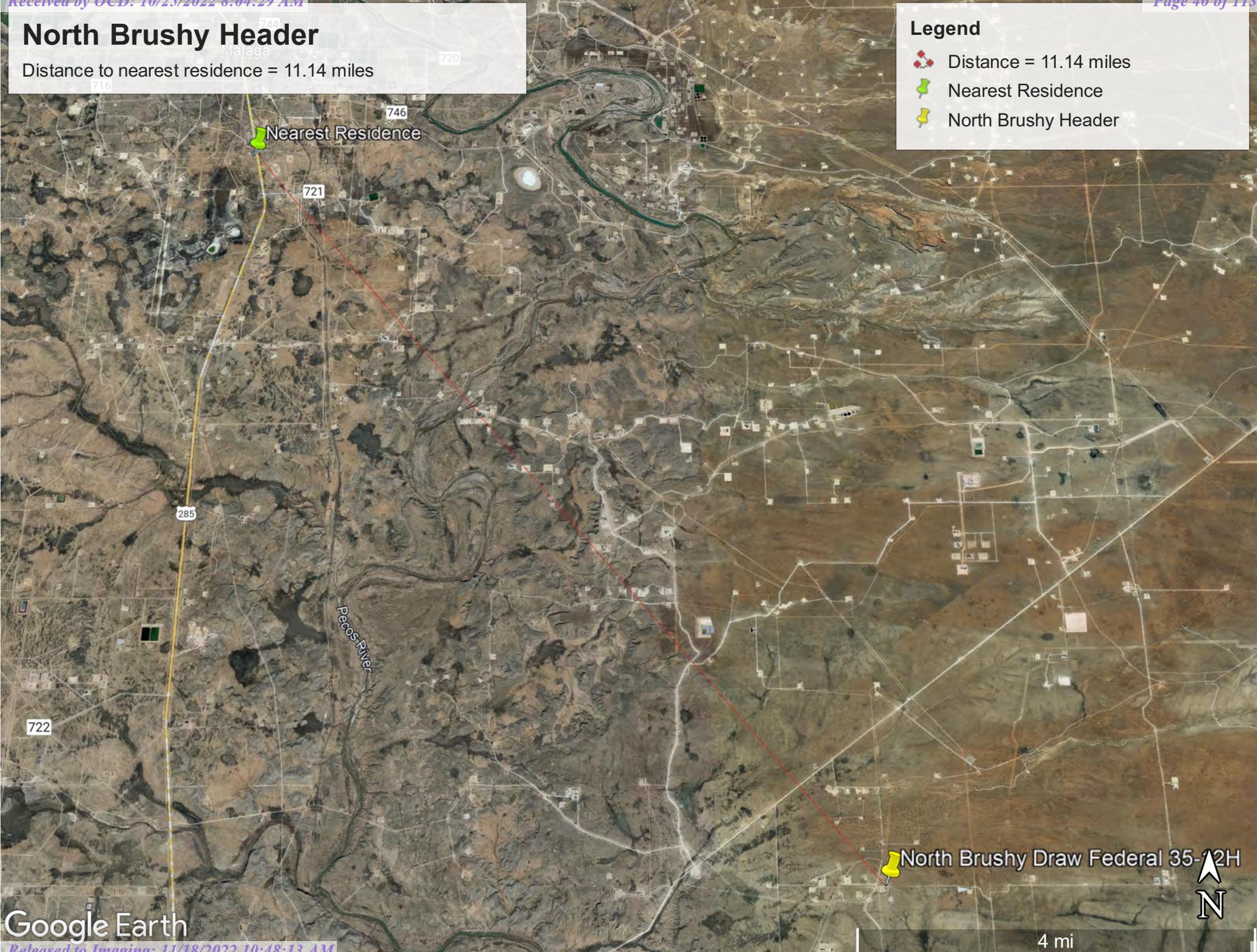
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

# North Brushy Header

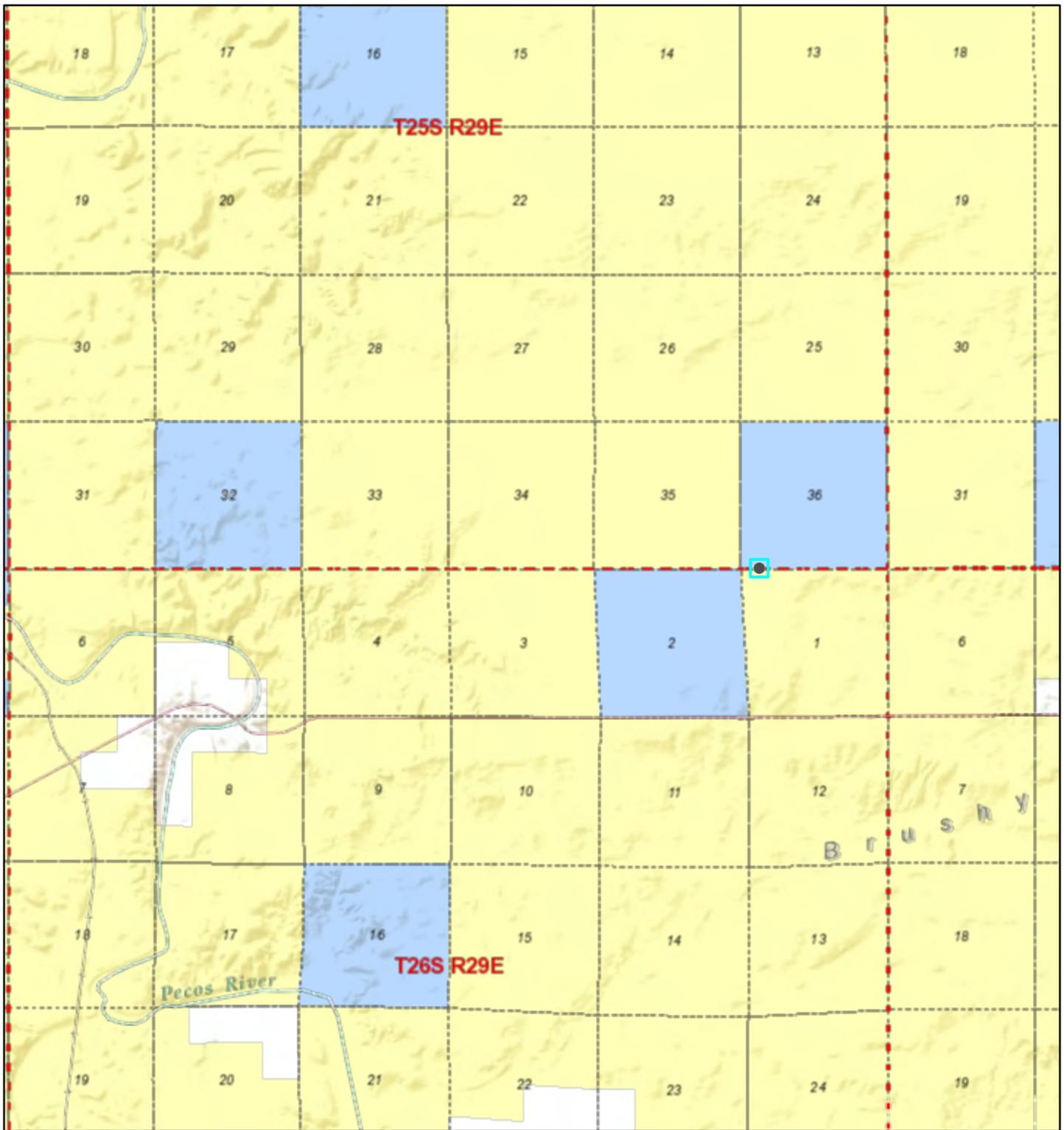
Distance to nearest residence = 11.14 miles

## Legend

-  Distance = 11.14 miles
-  Nearest Residence
-  North Brushy Header



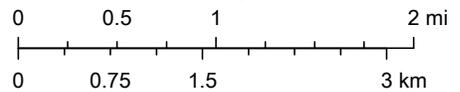
# Active Mines Near North Brushy Header



12/1/2021, 8:38:31 AM

1:72,224

- Township / Range
- Sections
- Land Ownership**
- Bureau of Land Management
- Bureau of Reclamation
- Department of Agriculture
- Department of Defense
- Department of Energy
- National Park Service
- Private Land
- State Game and Fish
- State Land
- State Parks
- Tribal

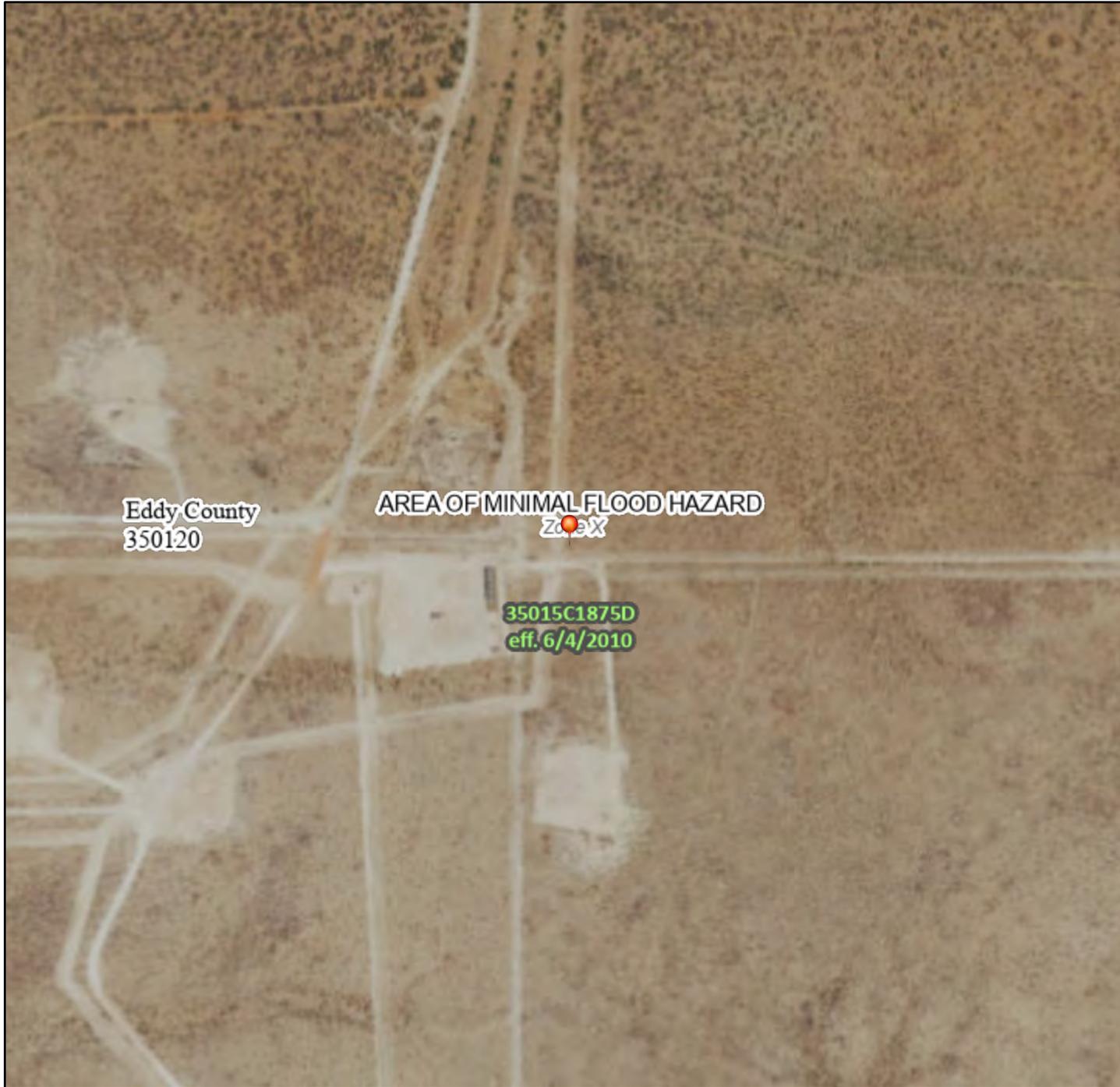


U.S. Bureau of Land Management - New Mexico State Office, Sources: Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS

# National Flood Hazard Layer FIRMMette



103°56'58"W 32°5'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**
    - Cross Sections with 1% Annual Chance Water Surface Elevation
    - Coastal Transect
    - Base Flood Elevation Line (BFE)
    - Limit of Study
    - Jurisdiction Boundary
    - Coastal Transect Baseline
    - Profile Baseline
    - Hydrographic Feature
  - 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.

# ATTACHMENT D

## Karst Map



**Energizing America**

**wescominc.com** | [info@wescominc.com](mailto:info@wescominc.com) | 218-724-1322

**North Brushy Header** | Incident ID: nAPP2134442133

# North Brushy Header

Karst Potential = Medium

## Legend

- 01 Low
- 02 Medium
- 03 High
- North Brushy Header



# ATTACHMENT E

## Envirotech Inc. Laboratory Analysis Reports



**Energizing America**

**wescominc.com** | info@wescominc.com | 218-724-1322

**North Brushy Header** | Incident ID: nAPP2134442133

Report to:  
Ashley Giovengo



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

### Devon Energy - Carlsbad

Project Name: North Brushy Header

Work Order: E203008

Job Number: 01058-0007

Received: 3/2/2022

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
3/8/22

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc, holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc, holds the Texas TNI certification T104704557 for data reported.  
Envirotech Inc, holds the NM SDWA certification for data reported. (Lab #NM00979)

Date Reported: 3/8/22



Ashley Giovengo  
6488 7 Rivers Hwy  
Artesia, NM 88210

Project Name: North Brushy Header  
Workorder: E203008  
Date Received: 3/2/2022 10:20:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 3/2/2022 10:20:00AM, under the Project Name: North Brushy Header.

The analytical test results summarized in this report with the Project Name: North Brushy Header apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
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Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
Laboratory Administrator  
Office: 505-632-1881  
[rainaschwanz@envirotech-inc.com](mailto:rainaschwanz@envirotech-inc.com)

**Alexa Michaels**  
Sample Custody Officer  
Office: 505-632-1881  
[labadmin@envirotech-inc.com](mailto:labadmin@envirotech-inc.com)

Field Offices:

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**Lynn Jarboe**  
Technical Representative/Client Services  
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Cell: 505-320-4759  
[ljjarboe@envirotech-inc.com](mailto:ljjarboe@envirotech-inc.com)

**West Texas Midland/Odessa Area**  
**Rayny Hagan**  
Technical Representative  
Office: 505-421-LABS(5227)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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**Sample Summary**

Devon Energy - Carlsbad  
6488 7 Rivers Hwy  
Artesia NM, 88210

Project Name: North Brushy Header  
Project Number: 01058-0007  
Project Manager: Ashley Giovengo

**Reported:**  
03/08/22 16:04

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BG01 - 0'	E203008-01A	Soil	02/25/22	03/02/22	Glass Jar, 4 oz.
BG01 - 1'	E203008-02A	Soil	02/25/22	03/02/22	Glass Jar, 4 oz.
CONF02C - 0'	E203008-03A	Soil	02/25/22	03/02/22	Glass Jar, 4 oz.
CONF03 - 0'	E203008-04A	Soil	02/25/22	03/02/22	Glass Jar, 4 oz.
CONF04 - 0'	E203008-05A	Soil	02/25/22	03/02/22	Glass Jar, 4 oz.
CONF05 - 0'	E203008-06A	Soil	02/25/22	03/02/22	Glass Jar, 4 oz.
CONF06 - 0'	E203008-07A	Soil	02/25/22	03/02/22	Glass Jar, 4 oz.
CONF07 - 0'	E203008-08A	Soil	02/25/22	03/02/22	Glass Jar, 4 oz.
CONF08 - 0'	E203008-09A	Soil	02/25/22	03/02/22	Glass Jar, 4 oz.



## Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/8/2022 4:04:24PM
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## BG01 - 0'

## E203008-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Benzene	ND	0.0250	1	03/02/22	03/07/22	
Ethylbenzene	ND	0.0250	1	03/02/22	03/07/22	
Toluene	ND	0.0250	1	03/02/22	03/07/22	
o-Xylene	<b>0.0259</b>	0.0250	1	03/02/22	03/07/22	
p,m-Xylene	ND	0.0500	1	03/02/22	03/07/22	
Total Xylenes	<b>0.0259</b>	0.0250	1	03/02/22	03/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		92.7 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/02/22	03/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		111 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg		Analyst: JL		Batch: 2210032
Diesel Range Organics (C10-C28)	ND	25.0	1	03/02/22	03/04/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/02/22	03/04/22	
<i>Surrogate: n-Nonane</i>		126 %	50-200	03/02/22	03/04/22	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg		Analyst: RAS		Batch: 2210043
Chloride	ND	20.0	1	03/03/22	03/03/22	



### Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/8/2022 4:04:24PM
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**BG01 - 1'**

**E203008-02**

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Benzene	ND	0.0250	1	03/02/22	03/07/22	
Ethylbenzene	ND	0.0250	1	03/02/22	03/07/22	
Toluene	ND	0.0250	1	03/02/22	03/07/22	
o-Xylene	ND	0.0250	1	03/02/22	03/07/22	
p,m-Xylene	ND	0.0500	1	03/02/22	03/07/22	
Total Xylenes	ND	0.0250	1	03/02/22	03/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		93.5 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/02/22	03/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		110 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg		Analyst: JL		Batch: 2211011
Diesel Range Organics (C10-C28)	ND	25.0	1	03/02/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/02/22	03/08/22	
<i>Surrogate: n-Nonane</i>		108 %	50-200	03/02/22	03/08/22	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg		Analyst: RAS		Batch: 2210043
Chloride	ND	20.0	1	03/03/22	03/03/22	



### Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/8/2022 4:04:24PM
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**CONF02C - 0'**

**E203008-03**

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Benzene	ND	0.0250	1	03/02/22	03/07/22	
Ethylbenzene	ND	0.0250	1	03/02/22	03/07/22	
Toluene	ND	0.0250	1	03/02/22	03/07/22	
o-Xylene	ND	0.0250	1	03/02/22	03/07/22	
p,m-Xylene	ND	0.0500	1	03/02/22	03/07/22	
Total Xylenes	ND	0.0250	1	03/02/22	03/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		92.4 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/02/22	03/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		99.9 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg		Analyst: JL		Batch: 2210032
Diesel Range Organics (C10-C28)	ND	25.0	1	03/02/22	03/04/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/02/22	03/04/22	
<i>Surrogate: n-Nonane</i>		113 %	50-200	03/02/22	03/04/22	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg		Analyst: RAS		Batch: 2210043
Chloride	387	20.0	1	03/03/22	03/03/22	



### Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/8/2022 4:04:24PM
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**CONF03 - 0'**

**E203008-04**

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Benzene	ND	0.0250	1	03/02/22	03/07/22	
Ethylbenzene	ND	0.0250	1	03/02/22	03/07/22	
Toluene	ND	0.0250	1	03/02/22	03/07/22	
o-Xylene	<b>0.0396</b>	0.0250	1	03/02/22	03/07/22	
p,m-Xylene	ND	0.0500	1	03/02/22	03/07/22	
Total Xylenes	<b>0.0396</b>	0.0250	1	03/02/22	03/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		91.4 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/02/22	03/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		112 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg		Analyst: JL		Batch: 2210032
Diesel Range Organics (C10-C28)	ND	25.0	1	03/02/22	03/04/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/02/22	03/04/22	
<i>Surrogate: n-Nonane</i>		125 %	50-200	03/02/22	03/04/22	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg		Analyst: RAS		Batch: 2210043
Chloride	<b>301</b>	20.0	1	03/03/22	03/04/22	



### Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/8/2022 4:04:24PM
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**CONF04 - 0'**

**E203008-05**

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Benzene	ND	0.0250	1	03/02/22	03/07/22	
Ethylbenzene	ND	0.0250	1	03/02/22	03/07/22	
Toluene	ND	0.0250	1	03/02/22	03/07/22	
o-Xylene	ND	0.0250	1	03/02/22	03/07/22	
p,m-Xylene	ND	0.0500	1	03/02/22	03/07/22	
Total Xylenes	ND	0.0250	1	03/02/22	03/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		93.4 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/02/22	03/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		99.6 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg		Analyst: JL		Batch: 2210032
Diesel Range Organics (C10-C28)	ND	25.0	1	03/02/22	03/04/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/02/22	03/04/22	
<i>Surrogate: n-Nonane</i>		107 %	50-200	03/02/22	03/04/22	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg		Analyst: RAS		Batch: 2210043
Chloride	73.1	20.0	1	03/03/22	03/04/22	



### Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/8/2022 4:04:24PM
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**CONF05 - 0'**

**E203008-06**

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Benzene	ND	0.0250	1	03/02/22	03/07/22	
Ethylbenzene	ND	0.0250	1	03/02/22	03/07/22	
Toluene	ND	0.0250	1	03/02/22	03/07/22	
o-Xylene	<b>0.0276</b>	0.0250	1	03/02/22	03/07/22	
p,m-Xylene	ND	0.0500	1	03/02/22	03/07/22	
Total Xylenes	<b>0.0276</b>	0.0250	1	03/02/22	03/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		93.1 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/02/22	03/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		102 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg		Analyst: JL		Batch: 2210032
Diesel Range Organics (C10-C28)	ND	25.0	1	03/02/22	03/04/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/02/22	03/04/22	
<i>Surrogate: n-Nonane</i>		120 %	50-200	03/02/22	03/04/22	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg		Analyst: RAS		Batch: 2210043
Chloride	<b>290</b>	20.0	1	03/03/22	03/04/22	



### Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/8/2022 4:04:24PM
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**CONF06 - 0'**

**E203008-07**

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Benzene	ND	0.0250	1	03/02/22	03/07/22	
Ethylbenzene	ND	0.0250	1	03/02/22	03/07/22	
Toluene	ND	0.0250	1	03/02/22	03/07/22	
o-Xylene	ND	0.0250	1	03/02/22	03/07/22	
p,m-Xylene	ND	0.0500	1	03/02/22	03/07/22	
Total Xylenes	ND	0.0250	1	03/02/22	03/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		93.0 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/02/22	03/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		101 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg		Analyst: JL		Batch: 2210032
Diesel Range Organics (C10-C28)	ND	25.0	1	03/02/22	03/04/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/02/22	03/04/22	
<i>Surrogate: n-Nonane</i>		120 %	50-200	03/02/22	03/04/22	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg		Analyst: RAS		Batch: 2210043
Chloride	ND	20.0	1	03/03/22	03/04/22	



## Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/8/2022 4:04:24PM
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CONF07 - 0'

E203008-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Benzene	ND	0.0250	1	03/02/22	03/07/22	
Ethylbenzene	ND	0.0250	1	03/02/22	03/07/22	
Toluene	ND	0.0250	1	03/02/22	03/07/22	
o-Xylene	ND	0.0250	1	03/02/22	03/07/22	
p,m-Xylene	ND	0.0500	1	03/02/22	03/07/22	
Total Xylenes	ND	0.0250	1	03/02/22	03/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		94.0 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/02/22	03/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		98.6 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg		Analyst: JL		Batch: 2210032
Diesel Range Organics (C10-C28)	ND	25.0	1	03/02/22	03/04/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/02/22	03/04/22	
<i>Surrogate: n-Nonane</i>		125 %	50-200	03/02/22	03/04/22	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg		Analyst: RAS		Batch: 2210043
Chloride	ND	20.0	1	03/03/22	03/04/22	



### Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/8/2022 4:04:24PM
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**CONF08 - 0'**

**E203008-09**

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Benzene	ND	0.0250	1	03/02/22	03/07/22	
Ethylbenzene	ND	0.0250	1	03/02/22	03/07/22	
Toluene	ND	0.0250	1	03/02/22	03/07/22	
o-Xylene	<b>0.0311</b>	0.0250	1	03/02/22	03/07/22	
p,m-Xylene	ND	0.0500	1	03/02/22	03/07/22	
Total Xylenes	<b>0.0311</b>	0.0250	1	03/02/22	03/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		94.2 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2210039
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/02/22	03/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		102 %	70-130	03/02/22	03/07/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2210032
Diesel Range Organics (C10-C28)	ND	25.0	1	03/02/22	03/04/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/02/22	03/04/22	
<i>Surrogate: n-Nonane</i>						
		127 %	50-200	03/02/22	03/04/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2210043
Chloride	ND	20.0	1	03/03/22	03/04/22	



### QC Summary Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/8/2022 4:04:24PM
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#### Volatile Organics by EPA 8021B

Analyst: RKS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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#### Blank (2210039-BLK1)

Prepared: 03/02/22 Analyzed: 03/07/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.15		8.00		89.4		70-130		

#### LCS (2210039-BS1)

Prepared: 03/02/22 Analyzed: 03/07/22

Benzene	4.69	0.0250	5.00		93.7		70-130		
Ethylbenzene	4.96	0.0250	5.00		99.2		70-130		
Toluene	5.18	0.0250	5.00		104		70-130		
o-Xylene	4.89	0.0250	5.00		97.8		70-130		
p,m-Xylene	10.1	0.0500	10.0		101		70-130		
Total Xylenes	15.0	0.0250	15.0		99.7		70-130		
Surrogate: 4-Bromochlorobenzene-PID	7.17		8.00		89.6		70-130		

#### Matrix Spike (2210039-MS1)

Source: E203008-04

Prepared: 03/02/22 Analyzed: 03/07/22

Benzene	4.62	0.0250	5.00	ND	92.4		54-133		
Ethylbenzene	4.91	0.0250	5.00	ND	98.2		61-133		
Toluene	5.12	0.0250	5.00	ND	102		61-130		
o-Xylene	4.87	0.0250	5.00	0.0396	96.7		63-131		
p,m-Xylene	9.99	0.0500	10.0	ND	99.9		63-131		
Total Xylenes	14.9	0.0250	15.0	0.0396	98.8		63-131		
Surrogate: 4-Bromochlorobenzene-PID	7.34		8.00		91.8		70-130		

#### Matrix Spike Dup (2210039-MSD1)

Source: E203008-04

Prepared: 03/02/22 Analyzed: 03/07/22

Benzene	4.72	0.0250	5.00	ND	94.4		54-133	2.16	20
Ethylbenzene	5.01	0.0250	5.00	ND	100		61-133	2.12	20
Toluene	5.21	0.0250	5.00	ND	104		61-130	1.75	20
o-Xylene	4.98	0.0250	5.00	0.0396	98.8		63-131	2.15	20
p,m-Xylene	10.2	0.0500	10.0	ND	102		63-131	1.99	20
Total Xylenes	15.2	0.0250	15.0	0.0396	101		63-131	2.04	20
Surrogate: 4-Bromochlorobenzene-PID	7.47		8.00		93.4		70-130		



### QC Summary Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/8/2022 4:04:24PM
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#### Nonhalogenated Organics by EPA 8015D - GRO

Analyst: RKS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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**Blank (2210039-BLK1)**

Prepared: 03/02/22 Analyzed: 03/07/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.00		8.00		112	70-130			

**LCS (2210039-BS2)**

Prepared: 03/02/22 Analyzed: 03/07/22

Gasoline Range Organics (C6-C10)	53.3	20.0	50.0		107	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.17		8.00		115	70-130			

**Matrix Spike (2210039-MS2)**

Source: E203008-04

Prepared: 03/02/22 Analyzed: 03/07/22

Gasoline Range Organics (C6-C10)	54.4	20.0	50.0	ND	109	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.92		8.00		112	70-130			

**Matrix Spike Dup (2210039-MSD2)**

Source: E203008-04

Prepared: 03/02/22 Analyzed: 03/07/22

Gasoline Range Organics (C6-C10)	54.3	20.0	50.0	ND	109	70-130	0.0989	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.99		8.00		112	70-130			



### QC Summary Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/8/2022 4:04:24PM
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#### Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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**Blank (2210032-BLK1)**

Prepared: 03/02/22 Analyzed: 03/04/22

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	52.6		50.0		105	50-200			

**LCS (2210032-BS1)**

Prepared: 03/02/22 Analyzed: 03/04/22

Diesel Range Organics (C10-C28)	611	25.0	500		122	38-132			
Surrogate: n-Nonane	48.2		50.0		96.3	50-200			

**Matrix Spike (2210032-MS1)**

Source: E203012-04

Prepared: 03/02/22 Analyzed: 03/04/22

Diesel Range Organics (C10-C28)	500	25.0	500	ND	99.9	38-132			
Surrogate: n-Nonane	49.6		50.0		99.2	50-200			

**Matrix Spike Dup (2210032-MSD1)**

Source: E203012-04

Prepared: 03/02/22 Analyzed: 03/04/22

Diesel Range Organics (C10-C28)	570	25.0	500	ND	114	38-132	13.2	20	
Surrogate: n-Nonane	56.2		50.0		112	50-200			



### QC Summary Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/8/2022 4:04:24PM
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#### Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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**Blank (2211011-BLK1)**

Prepared: 03/07/22 Analyzed: 03/07/22

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: <i>n</i> -Nonane	50.7		50.0		101	50-200			

**LCS (2211011-BS1)**

Prepared: 03/07/22 Analyzed: 03/07/22

Diesel Range Organics (C10-C28)	470	25.0	500		94.0	38-132			
Surrogate: <i>n</i> -Nonane	51.0		50.0		102	50-200			

**Matrix Spike (2211011-MS1)**

Source: E203021-05

Prepared: 03/07/22 Analyzed: 03/07/22

Diesel Range Organics (C10-C28)	487	25.0	500	ND	97.5	38-132			
Surrogate: <i>n</i> -Nonane	50.7		50.0		101	50-200			

**Matrix Spike Dup (2211011-MSD1)**

Source: E203021-05

Prepared: 03/07/22 Analyzed: 03/07/22

Diesel Range Organics (C10-C28)	499	25.0	500	ND	99.8	38-132	2.30	20	
Surrogate: <i>n</i> -Nonane	50.9		50.0		102	50-200			



### QC Summary Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/8/2022 4:04:24PM
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#### Anions by EPA 300.0/9056A

Analyst: RAS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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**Blank (2210043-BLK1)**

Prepared: 03/03/22 Analyzed: 03/03/22

Chloride	ND	20.0							
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**LCS (2210043-BS1)**

Prepared: 03/03/22 Analyzed: 03/05/22

Chloride	244	20.0	250		97.8	90-110			
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**Matrix Spike (2210043-MS1)**

Source: E203003-01

Prepared: 03/03/22 Analyzed: 03/03/22

Chloride	4060	40.0	250	4020	15.0	80-120			M5
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**Matrix Spike Dup (2210043-MSD1)**

Source: E203003-01

Prepared: 03/03/22 Analyzed: 03/03/22

Chloride	4570	40.0	250	4020	220	80-120	11.9	20	M5
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QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



### Definitions and Notes

Devon Energy - Carlsbad	Project Name:	North Brushy Header	
6488 7 Rivers Hwy	Project Number:	01058-0007	<b>Reported:</b>
Artesia NM, 88210	Project Manager:	Ashley Giovengo	03/08/22 16:04

M5      The analysis of the MS sample required a dilution such that the spike recovery calculation does not provide useful information. The associated LCS spike recovery was acceptable.

ND      Analyte NOT DETECTED at or above the reporting limit

NR      Not Reported

RPD     Relative Percent Difference

DNI     Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Released to Imaging: 11/8/2022 10:48:13 AM

Received by OCD: 10/25/2022 8:04:29 AM

Client: <u>Devon</u> Project: <u>North Brushy Header</u> Project Manager: <u>Ashley Giovengo</u> Address: <u>1224 Standpipe Rd</u> City, State, Zip: <u>Carlsbad, NM 88220</u> Phone: <u>505-382-1211</u> Email: <u>ashley.giovengo@wescominc.com</u> Report due by:	Bill To Attention: <u>Jim Raley</u> Address: <u>5315 Buena Vista Dr</u> City, State, Zip: <u>Calsbad, NM 88220</u> Phone: <u>575-689-7597</u> Email: <u>jim.raley@dvn.com</u>	Lab Use Only Lab WO# <u>E203008</u> Job Number <u>01058-007</u>	TAT 1D 2D 3D	EPA Program CWA SDWA RCRA
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Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	Analysis and Method										Remarks		
						DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	TCQ TPH	TCQ Chloride	BGDOC NM	BGDOC TX			
15:05	2/25/21	Soil	1 Jar	BG01 - 0'	1											X		
15:12	2/25/21	Soil	1 Jar	BG01 - 1'	2											X		
14:24	2/25/21	Soil	1 Jar	CONF02C - 0'	3											X		
12:22	2/25/21	Soil	1 Jar	CONF03 - 0'	4											X		
12:27	2/25/21	Soil	1 Jar	CONF04 - 0	5											X		
12:31	2/25/21	Soil	1 Jar	CONF05 - 0'	6											X		
12:39	2/25/21	Soil	1 Jar	CONF06 - 0'	7											X		
12:43	2/25/21	Soil	1 Jar	CONF07 - 0'	8											X		
12:49	2/25/21	Soil	1 Jar	CONF08 - 0'	9											X		

**Additional Instructions:** Kept on ice, Please CC: cole.burton@wescominc.com, shar.harvester@wescominc.com, jim.raley@dvn.com, ashley.giovengo@wescominc.com

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only Received on ice: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>
Relinquished by: (Signature)	3/1/22	09:55am	Caritta Chuter	3-1-22	955	
Relinquished by: (Signature)	3-1-22	1645		3/2/22	10:20	

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other \_\_\_\_\_ Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.



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Envirotech Analytical Laboratory

Printed: 3/2/2022 12:37:07PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Devon Energy - Carlsbad	Date Received:	03/02/22 10:20	Work Order ID:	E203008
Phone:	(505) 382-1211	Date Logged In:	03/01/22 11:43	Logged In By:	Caitlin Christian
Email:	ashley.giovengo@wescominc.com	Due Date:	03/08/22 17:00 (4 day TAT)		

**Chain of Custody (COC)**

- 1. Does the sample ID match the COC? Yes
- 2. Does the number of samples per sampling site location match the COC? Yes
- 3. Were samples dropped off by client or carrier? Yes
- 4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
- 5. Were all samples received within holding time? Yes

Carrier: UPS

Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this discussion.

**Comments/Resolution**

**Sample Turn Around Time (TAT)**

- 6. Did the COC indicate standard TAT, or Expedited TAT? Yes

**Sample Cooler**

- 7. Was a sample cooler received? Yes
- 8. If yes, was cooler received in good condition? Yes
- 9. Was the sample(s) received intact, i.e., not broken? Yes
- 10. Were custody/security seals present? No
- 11. If yes, were custody/security seals intact? NA
- 12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

- 13. If no visible ice, record the temperature. Actual sample temperature: 4°C

**Sample Container**

- 14. Are aqueous VOC samples present? No
- 15. Are VOC samples collected in VOA Vials? NA
- 16. Is the head space less than 6-8 mm (pea sized or less)? NA
- 17. Was a trip blank (TB) included for VOC analyses? NA
- 18. Are non-VOC samples collected in the correct containers? Yes
- 19. Is the appropriate volume/weight or number of sample containers collected? Yes

**Field Label**

- 20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? No

**Sample Preservation**

- 21. Does the COC or field labels indicate the samples were preserved? No
- 22. Are sample(s) correctly preserved? NA
- 24. Is lab filtration required and/or requested for dissolved metals? No

**Multiphase Sample Matrix**

- 26. Does the sample have more than one phase, i.e., multiphase? No
- 27. If yes, does the COC specify which phase(s) is to be analyzed? NA

**Subcontract Laboratory**

- 28. Are samples required to get sent to a subcontract laboratory? No
- 29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: na

**Client Instruction**

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:  
Ashley Giovengo



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

### Devon Energy - Carlsbad

Project Name: North Brushy Header

Work Order: E203082

Job Number: 01058-0007

Received: 3/14/2022

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
3/18/22

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc, holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc, holds the Texas TNI certification T104704557 for data reported.  
Envirotech Inc, holds the NM SDWA certification for data reported. (Lab #NM00979)

Date Reported: 3/18/22



Ashley Giovengo  
6488 7 Rivers Hwy  
Artesia, NM 88210

Project Name: North Brushy Header  
Workorder: E203082  
Date Received: 3/14/2022 8:40:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 3/14/2022 8:40:00AM, under the Project Name: North Brushy Header.

The analytical test results summarized in this report with the Project Name: North Brushy Header apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
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Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

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**Rayny Hagan**  
Technical Representative  
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### Sample Summary

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 03/18/22 16:38
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Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
CONF01 - 7'	E203082-01A	Soil	03/10/22	03/14/22	Glass Jar, 4 oz.
CONF09 - 4'	E203082-02A	Soil	03/10/22	03/14/22	Glass Jar, 4 oz.
CONF10 - 2'	E203082-03A	Soil	03/10/22	03/14/22	Glass Jar, 4 oz.



### Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/18/2022 4:38:35PM
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**CONF01 - 7'**

**E203082-01**

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>		mg/kg	mg/kg	Analyst: RKS		Batch: 2212046
Benzene	ND	0.0250	1	03/16/22	03/17/22	
Ethylbenzene	ND	0.0250	1	03/16/22	03/17/22	
Toluene	ND	0.0250	1	03/16/22	03/17/22	
o-Xylene	ND	0.0250	1	03/16/22	03/17/22	
p,m-Xylene	ND	0.0500	1	03/16/22	03/17/22	
Total Xylenes	ND	0.0250	1	03/16/22	03/17/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		91.7 %	70-130	03/16/22	03/17/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>		mg/kg	mg/kg	Analyst: RKS		Batch: 2212046
Gasoline Range Organics (C6-C10)		ND	20.0	1	03/16/22	03/17/22
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		99.4 %	70-130	03/16/22	03/17/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>		mg/kg	mg/kg	Analyst: JL		Batch: 2212053
Diesel Range Organics (C10-C28)		ND	25.0	1	03/16/22	03/17/22
Oil Range Organics (C28-C36)		ND	50.0	1	03/16/22	03/17/22
<i>Surrogate: n-Nonane</i>		103 %	50-200	03/16/22	03/17/22	
<b>Anions by EPA 300.0/9056A</b>		mg/kg	mg/kg	Analyst: RAS		Batch: 2212060
Chloride	266	20.0	1	03/16/22	03/17/22	



### Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/18/2022 4:38:35PM
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**CONF09 - 4'**

**E203082-02**

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2212046
Benzene	ND	0.0250	1	03/16/22	03/17/22	
Ethylbenzene	ND	0.0250	1	03/16/22	03/17/22	
Toluene	ND	0.0250	1	03/16/22	03/17/22	
o-Xylene	ND	0.0250	1	03/16/22	03/17/22	
p,m-Xylene	ND	0.0500	1	03/16/22	03/17/22	
Total Xylenes	ND	0.0250	1	03/16/22	03/17/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		91.7 %	70-130	03/16/22	03/17/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2212046
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/16/22	03/17/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		100 %	70-130	03/16/22	03/17/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg		Analyst: JL		Batch: 2212053
Diesel Range Organics (C10-C28)	ND	25.0	1	03/16/22	03/17/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/16/22	03/17/22	
<i>Surrogate: n-Nonane</i>		97.6 %	50-200	03/16/22	03/17/22	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg		Analyst: RAS		Batch: 2212060
Chloride	229	20.0	1	03/16/22	03/17/22	



### Sample Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/18/2022 4:38:35PM
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**CONF10 - 2'**

**E203082-03**

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2212046
Benzene	ND	0.0250	1	03/16/22	03/17/22	
Ethylbenzene	ND	0.0250	1	03/16/22	03/17/22	
Toluene	ND	0.0250	1	03/16/22	03/17/22	
o-Xylene	ND	0.0250	1	03/16/22	03/17/22	
p,m-Xylene	ND	0.0500	1	03/16/22	03/17/22	
Total Xylenes	ND	0.0250	1	03/16/22	03/17/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		92.3 %	70-130	03/16/22	03/17/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg		Analyst: RKS		Batch: 2212046
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/16/22	03/17/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		99.9 %	70-130	03/16/22	03/17/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg		Analyst: JL		Batch: 2212053
Diesel Range Organics (C10-C28)	ND	25.0	1	03/16/22	03/17/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/16/22	03/17/22	
<i>Surrogate: n-Nonane</i>		103 %	50-200	03/16/22	03/17/22	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg		Analyst: RAS		Batch: 2212060
Chloride	206	20.0	1	03/16/22	03/17/22	



### QC Summary Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/18/2022 4:38:35PM
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#### Volatile Organics by EPA 8021B

Analyst: RKS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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**Blank (2212046-BLK1)**

Prepared: 03/16/22 Analyzed: 03/17/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.39		8.00		92.4	70-130			

**LCS (2212046-BS1)**

Prepared: 03/16/22 Analyzed: 03/18/22

Benzene	4.33	0.0250	5.00		86.7	70-130			
Ethylbenzene	4.51	0.0250	5.00		90.1	70-130			
Toluene	4.61	0.0250	5.00		92.2	70-130			
o-Xylene	4.63	0.0250	5.00		92.6	70-130			
p,m-Xylene	9.15	0.0500	10.0		91.5	70-130			
Total Xylenes	13.8	0.0250	15.0		91.9	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.58		8.00		94.7	70-130			

**Matrix Spike (2212046-MS1)**

Source: E203085-01

Prepared: 03/16/22 Analyzed: 03/18/22

Benzene	4.17	0.0250	5.00	ND	83.5	54-133			
Ethylbenzene	4.35	0.0250	5.00	ND	87.0	61-133			
Toluene	4.45	0.0250	5.00	ND	88.9	61-130			
o-Xylene	4.46	0.0250	5.00	ND	89.3	63-131			
p,m-Xylene	8.84	0.0500	10.0	ND	88.4	63-131			
Total Xylenes	13.3	0.0250	15.0	ND	88.7	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.61		8.00		95.1	70-130			

**Matrix Spike Dup (2212046-MSD1)**

Source: E203085-01

Prepared: 03/16/22 Analyzed: 03/18/22

Benzene	4.30	0.0250	5.00	ND	86.1	54-133	3.05	20	
Ethylbenzene	4.50	0.0250	5.00	ND	89.9	61-133	3.29	20	
Toluene	4.58	0.0250	5.00	ND	91.7	61-130	3.06	20	
o-Xylene	4.63	0.0250	5.00	ND	92.5	63-131	3.60	20	
p,m-Xylene	9.13	0.0500	10.0	ND	91.3	63-131	3.20	20	
Total Xylenes	13.8	0.0250	15.0	ND	91.7	63-131	3.33	20	
Surrogate: 4-Bromochlorobenzene-PID	7.50		8.00		93.8	70-130			



### QC Summary Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/18/2022 4:38:35PM
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#### Nonhalogenated Organics by EPA 8015D - GRO

Analyst: RKS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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**Blank (2212046-BLK1)**

Prepared: 03/16/22 Analyzed: 03/17/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.96		8.00		99.5	70-130			

**LCS (2212046-BS2)**

Prepared: 03/16/22 Analyzed: 03/18/22

Gasoline Range Organics (C6-C10)	46.7	20.0	50.0		93.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.13		8.00		102	70-130			

**Matrix Spike (2212046-MS2)**

Source: E203085-01

Prepared: 03/16/22 Analyzed: 03/18/22

Gasoline Range Organics (C6-C10)	47.3	20.0	50.0	ND	94.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.11		8.00		101	70-130			

**Matrix Spike Dup (2212046-MSD2)**

Source: E203085-01

Prepared: 03/16/22 Analyzed: 03/18/22

Gasoline Range Organics (C6-C10)	47.8	20.0	50.0	ND	95.7	70-130	1.20	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.08		8.00		101	70-130			



### QC Summary Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/18/2022 4:38:35PM
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#### Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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**Blank (2212053-BLK1)**

Prepared: 03/16/22 Analyzed: 03/17/22

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: <i>n-Nonane</i>	46.5		50.0		92.9	50-200			

**LCS (2212053-BS1)**

Prepared: 03/16/22 Analyzed: 03/17/22

Diesel Range Organics (C10-C28)	487	25.0	500		97.4	38-132			
Surrogate: <i>n-Nonane</i>	41.1		50.0		82.2	50-200			

**Matrix Spike (2212053-MS1)**

Source: E203085-02

Prepared: 03/16/22 Analyzed: 03/17/22

Diesel Range Organics (C10-C28)	487	25.0	500	ND	97.3	38-132			
Surrogate: <i>n-Nonane</i>	40.2		50.0		80.5	50-200			

**Matrix Spike Dup (2212053-MSD1)**

Source: E203085-02

Prepared: 03/16/22 Analyzed: 03/17/22

Diesel Range Organics (C10-C28)	498	25.0	500	ND	99.7	38-132	2.40	20	
Surrogate: <i>n-Nonane</i>	37.8		50.0		75.6	50-200			



### QC Summary Data

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: North Brushy Header Project Number: 01058-0007 Project Manager: Ashley Giovengo	<b>Reported:</b> 3/18/2022 4:38:35PM
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#### Anions by EPA 300.0/9056A

Analyst: RAS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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**Blank (2212060-BLK1)**

Prepared: 03/16/22 Analyzed: 03/17/22

Chloride ND 20.0

**LCS (2212060-BS1)**

Prepared: 03/16/22 Analyzed: 03/17/22

Chloride 258 20.0 250 103 90-110

**Matrix Spike (2212060-MS1)**

Source: E203077-01

Prepared: 03/16/22 Analyzed: 03/17/22

Chloride 404 20.0 250 130 109 80-120

**Matrix Spike Dup (2212060-MSD1)**

Source: E203077-01

Prepared: 03/16/22 Analyzed: 03/17/22

Chloride 395 20.0 250 130 106 80-120 2.06 20

QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



### Definitions and Notes

Devon Energy - Carlsbad	Project Name:	North Brushy Header	
6488 7 Rivers Hwy	Project Number:	01058-0007	<b>Reported:</b>
Artesia NM, 88210	Project Manager:	Ashley Giovengo	03/18/22 16:38

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.





Envirotech Analytical Laboratory

Printed: 3/14/2022 9:44:17AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Devon Energy - Carlsbad	Date Received:	03/14/22 08:40	Work Order ID:	E203082
Phone:	(505) 382-1211	Date Logged In:	03/14/22 09:40	Logged In By:	Caitlin Christian
Email:	ashley.giovengo@wescominc.com	Due Date:	03/18/22 17:00 (4 day TAT)		

**Chain of Custody (COC)**

- 1. Does the sample ID match the COC? Yes
- 2. Does the number of samples per sampling site location match the COC? Yes
- 3. Were samples dropped off by client or carrier? Yes
- 4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
- 5. Were all samples received within holding time? Yes

Carrier: Courier

Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this discussion.

**Comments/Resolution**

**Sample Turn Around Time (TAT)**

- 6. Did the COC indicate standard TAT, or Expedited TAT? Yes

**Sample Cooler**

- 7. Was a sample cooler received? Yes
- 8. If yes, was cooler received in good condition? Yes
- 9. Was the sample(s) received intact, i.e., not broken? Yes
- 10. Were custody/security seals present? No
- 11. If yes, were custody/security seals intact? NA
- 12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

- 13. If no visible ice, record the temperature. Actual sample temperature: 4°C

**Sample Container**

- 14. Are aqueous VOC samples present? No
- 15. Are VOC samples collected in VOA Vials? NA
- 16. Is the head space less than 6-8 mm (pea sized or less)? NA
- 17. Was a trip blank (TB) included for VOC analyses? NA
- 18. Are non-VOC samples collected in the correct containers? Yes
- 19. Is the appropriate volume/weight or number of sample containers collected? Yes

**Field Label**

- 20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? No

**Sample Preservation**

- 21. Does the COC or field labels indicate the samples were preserved? No
- 22. Are sample(s) correctly preserved? NA
- 24. Is lab filtration required and/or requested for dissolved metals? No

**Multiphase Sample Matrix**

- 26. Does the sample have more than one phase, i.e., multiphase? No
- 27. If yes, does the COC specify which phase(s) is to be analyzed? NA

**Subcontract Laboratory**

- 28. Are samples required to get sent to a subcontract laboratory? No
- 29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: na

**Client Instruction**

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

# ATTACHMENT F

## NSDA Soil Resource Report



**Energizing America**

**wescominc.com** | info@wescominc.com | 218-724-1322

**North Brushy Header** | Incident ID: nAPP2134442133



A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# Custom Soil Resource Report for Eddy Area, New Mexico

North Brushy Header - Incident ID: nAPP2134442133



April 21, 2022

# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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## How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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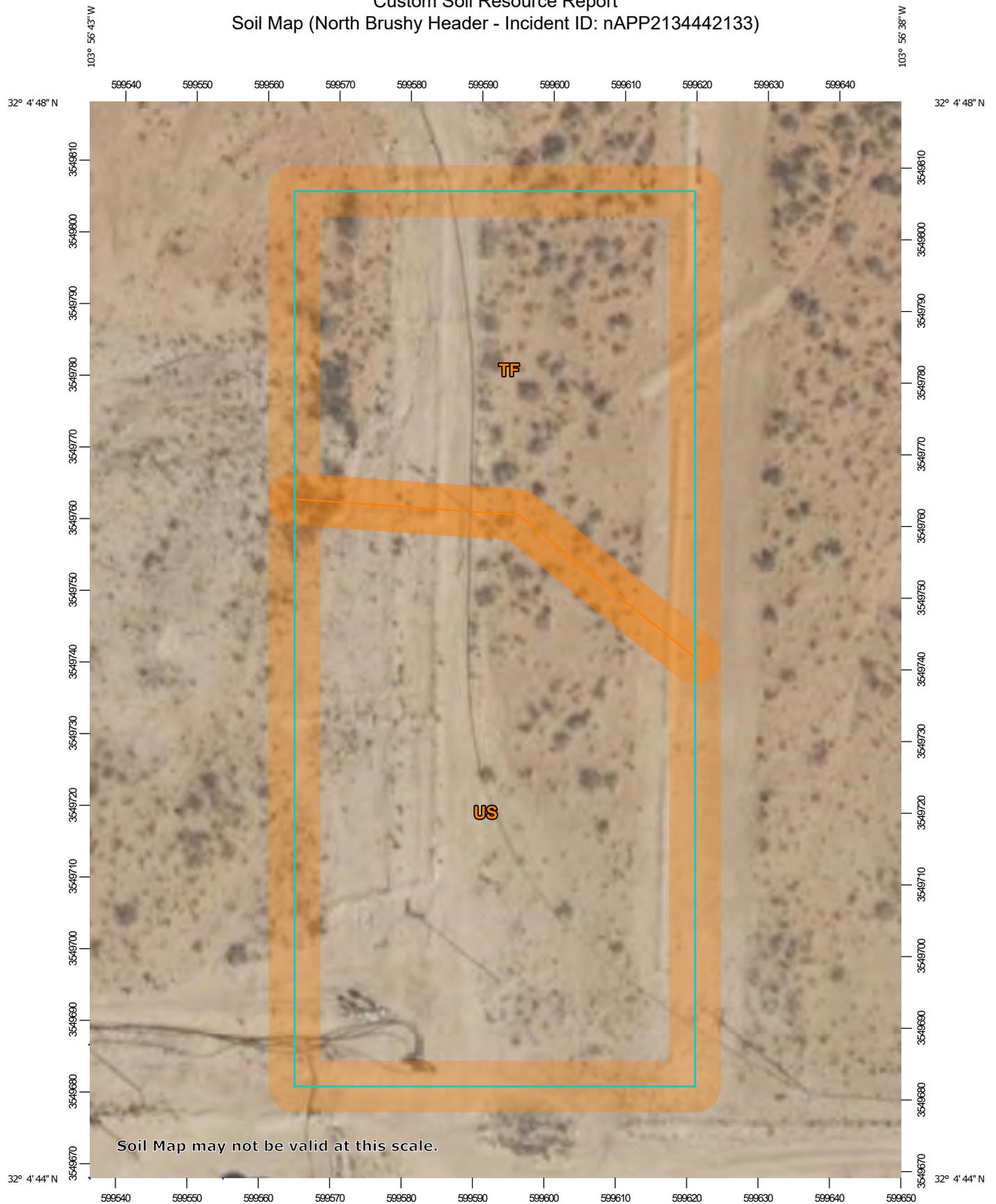
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

## Soil Map

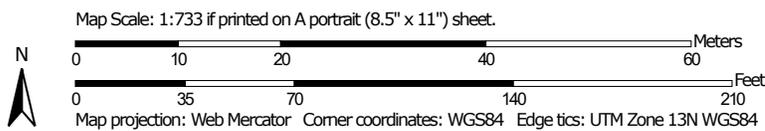
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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

### Custom Soil Resource Report Soil Map (North Brushy Header - Incident ID: nAPP2134442133)



Soil Map may not be valid at this scale.



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**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 17, Sep 12, 2021

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

Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

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.

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## Map Unit Legend (North Brushy Header - Incident ID: nAPP2134442133)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
TF	Tonuco loamy fine sand, 0 to 3 percent slopes	0.7	39.2%
US	Upton-Simona complex, 1 to 15 percent slopes, eroded	1.1	60.8%
<b>Totals for Area of Interest</b>		<b>1.7</b>	<b>100.0%</b>

## Map Unit Descriptions (North Brushy Header - Incident ID: nAPP2134442133)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

## Custom Soil Resource Report

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

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**Eddy Area, New Mexico****TF—Tonuco loamy fine sand, 0 to 3 percent slopes****Map Unit Setting**

*National map unit symbol:* 1w61  
*Elevation:* 3,000 to 4,100 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Mean annual air temperature:* 60 to 64 degrees F  
*Frost-free period:* 200 to 217 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Tonuco and similar soils:* 98 percent  
*Minor components:* 2 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Tonuco****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 5 inches:* loamy fine sand  
*H2 - 5 to 15 inches:* loamy fine sand  
*H3 - 15 to 19 inches:* indurated

**Properties and qualities**

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* 6 to 20 inches to petrocalcic  
*Drainage class:* Excessively 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  
*Maximum salinity:* Nonsaline (0.0 to 1.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 1.0  
*Available water supply, 0 to 60 inches:* Very low (about 1.3 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* D  
*Ecological site:* R042XC004NM - Sandy  
*Hydric soil rating:* No

**Minor Components****Tonuco**

*Percent of map unit:* 1 percent

## Custom Soil Resource Report

*Ecological site:* R042XC004NM - Sandy

*Hydric soil rating:* No

**Dune land**

*Percent of map unit:* 1 percent

*Hydric soil rating:* No

**US—Upton-Simona complex, 1 to 15 percent slopes, eroded****Map Unit Setting**

*National map unit symbol:* 1w66

*Elevation:* 2,000 to 5,700 feet

*Mean annual precipitation:* 6 to 14 inches

*Mean annual air temperature:* 57 to 70 degrees F

*Frost-free period:* 180 to 260 days

*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Upton and similar soils:* 40 percent

*Simona and similar soils:* 35 percent

*Minor components:* 25 percent

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

**Description of Upton****Setting**

*Landform:* Ridges, fans

*Landform position (three-dimensional):* Side slope, rise

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from limestone

**Typical profile**

*H1 - 0 to 9 inches:* gravelly loam

*H2 - 9 to 13 inches:* gravelly loam

*H3 - 13 to 21 inches:* cemented

*H4 - 21 to 60 inches:* very gravelly loam

**Properties and qualities**

*Slope:* 1 to 15 percent

*Depth to restrictive feature:* 7 to 20 inches to petrocalcic

*Drainage class:* Well drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Low to moderately high  
(0.01 to 0.60 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 75 percent

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

*Sodium adsorption ratio, maximum:* 1.0

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*Available water supply, 0 to 60 inches:* Very low (about 1.4 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7s

*Hydrologic Soil Group:* D

*Ecological site:* R042XC025NM - 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 6 inches:* gravelly fine sandy loam

*H2 - 6 to 20 inches:* gravelly fine sandy loam

*H3 - 20 to 24 inches:* indurated

**Properties and qualities**

*Slope:* 1 to 5 percent

*Depth to restrictive feature:* 7 to 20 inches to petrocalcic

*Drainage class:* Well drained

*Runoff class:* 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 2.4 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* D

*Ecological site:* R042XC002NM - Shallow Sandy

*Hydric soil rating:* No

**Minor Components****Rock outcrop**

*Percent of map unit:* 9 percent

*Hydric soil rating:* No

**Dune land**

*Percent of map unit:* 8 percent

*Hydric soil rating:* No

**Pajarito**

*Percent of map unit:* 8 percent

*Ecological site:* R042XC003NM - Loamy Sand

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*Hydric soil rating: No*

## References

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- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_054262](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262)
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053577](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577)
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053580](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580)
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\\_053374](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374)
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)

# ATTACHMENT G

## Notification Emails



**Energizing America**

**wescominc.com** | [info@wescominc.com](mailto:info@wescominc.com) | 218-724-1322

**North Brushy Header** | Incident ID: nAPP2134442133



**WESCOM**

Shar Harvester <shar.harvester@wescominc.com>

**Extension Request - North Brushy Header - nAPP2134442133**

**Hensley, Chad, EMNRD** <Chad.Hensley@state.nm.us>

Mon, Feb 21, 2022 at 2:33 PM

To: "Raley, Jim" <Jim.Raley@dmv.com>, "Hamlet, Robert, EMNRD" <Robert.Hamlet@state.nm.us>

Cc: "Bratcher, Mike, EMNRD" <mike.bratcher@state.nm.us>, "Eads, Cristina, EMNRD" <Cristina.Eads@state.nm.us>,

"ashley.giovento@wescominc.com" <ashley.giovento@wescominc.com>, "shar.harvester@wescominc.com"

<shar.harvester@wescominc.com>

Jim,

Extension is granted to 5/08/2022. Please include this correspondence in your closure report.

**Chad Hensley** • Environmental Science & Specialist

Environmental Bureau

EMNRD - Oil Conservation Division

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<http://www.emnrd.state.nm.us/OCD/>



**From:** Raley, Jim <Jim.Raley@dmv.com>

**Sent:** Monday, February 21, 2022 1:30 PM

**To:** Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>

**Cc:** Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Eads, Cristina, EMNRD <Cristina.Eads@state.nm.us>; Hensley, Chad,

EMNRD <Chad.Hensley@state.nm.us>; ashley.giovento@wescominc.com; shar.harvester@wescominc.com

**Subject:** [EXTERNAL] RE: Extension Request - North Brushy Header - nAPP2134442133

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

[Quoted text hidden]



Ashley Giovengo <ashley.giovengo@wescominc.com>

**RE: [EXTERNAL] 48-Hour Confirmation Sample Notice - nAPP2134442133 (North Brushy Header)**

1 message

**Billings, Bradford, EMNRD** <Bradford.Billings@state.nm.us> Wed, Feb 23, 2022 at 3:53 PM  
 To: "cole.burton@wescominc.com" <cole.burton@wescominc.com>, "Bratcher, Mike, EMNRD" <mike.bratcher@state.nm.us>, "Hensley, Chad, EMNRD" <Chad.Hensley@state.nm.us>, "Hamlet, Robert, EMNRD" <Robert.Hamlet@state.nm.us>, "Nobui, Jennifer, EMNRD" <Jennifer.Nobui@state.nm.us>, "Velez, Nelson, EMNRD" <Nelson.Velez@state.nm.us>  
 Cc: Shar Harvester <shar.harvester@wescominc.com>, "ashley.giovengo@wescominc.com" <ashley.giovengo@wescominc.com>, Joey Croce <joey.croce@wescominc.com>, "Raley, Jim" <Jim.Raley@dnv.com>, Cody York <cody.york@wescominc.com>

Hello,

Thank you for the notice. Please keep a copy of this communication. The copy should be submitted with associated report. OCD it not sure at this time of our attendance or not.

Sincerely,

Bradford Billings  
EMNRD/OCD

**From:** cole.burton@wescominc.com <cole.burton@wescominc.com>  
**Sent:** Wednesday, February 23, 2022 3:06 PM  
**To:** Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Velez, Nelson, EMNRD <Nelson.Velez@state.nm.us>  
**Cc:** Shar Harvester <shar.harvester@wescominc.com>; ashley.giovengo@wescominc.com; Joey Croce <joey.croce@wescominc.com>; Raley, Jim <Jim.Raley@dnv.com>; Cody York <cody.york@wescominc.com>  
**Subject:** [EXTERNAL] 48-Hour Confirmation Sample Notice - nAPP2134442133 (North Brushy Header)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Hello All,

We intend to take confirmation samples at North Brushy Header - nAPP2134442133 starting on (2/25/22).

Please let us know if you plan to be onsite to oversee this sampling event.

4/28/22, 8:27 AM

Wescom Inc Mail - RE: [EXTERNAL] 48-Hour Confirmation Sample Notice - nAPP2134442133 (North Brushy Header)

Thanks,

**Cole Burton**, Environmental Field Technician

**O** (218) 724-1322 | **C** (505) 205-0455

**WescomInc.com** | [cole.burton@WescomInc.com](mailto:cole.burton@WescomInc.com)

*"I am in charge of my own safety."*



Ashley Giovengo <ashley.giovengo@wescominc.com>

**RE: [EXTERNAL] 48-Hour Confirmation Sample Notice - North Brushy Header (nAPP2134442133)**

1 message

**Bratcher, Mike, EMNRD** <mike.bratcher@state.nm.us> Tue, Mar 8, 2022 at 6:55 AM  
To: Ashley Giovengo <ashley.giovengo@wescominc.com>, "Hamlet, Robert, EMNRD" <Robert.Hamlet@state.nm.us>, "Billings, Bradford, EMNRD" <Bradford.Billings@state.nm.us>, "Hensley, Chad, EMNRD" <Chad.Hensley@state.nm.us>, "Nobui, Jennifer, EMNRD" <Jennifer.Nobui@state.nm.us>, "Velez, Nelson, EMNRD" <Nelson.Velez@state.nm.us>  
Cc: Shar Harvester <shar.harvester@wescominc.com>, Cole Burton <cole.burton@wescominc.com>, "Raley, Jim" <Jim.Raley@dmv.com>

Ashley,

Thank you for the notification. Please include a copy of this and all email notifications and correspondence in the remedial and/or closure report to insure documentation in the project files.

Thank you,

**Mike Bratcher** • Incident Supervisor

Environmental Bureau

EMNRD - Oil Conservation Division

811S. First St. | Artesia, NM 88210

(575) 626-0857 | [mike.bratcher@state.nm.us](mailto:mike.bratcher@state.nm.us)

<http://www.emnrd.state.nm.us/OCD/>



**From:** Ashley Giovengo <ashley.giovengo@wescominc.com>  
**Sent:** Monday, March 7, 2022 10:16 PM  
**To:** Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Velez, Nelson, EMNRD <Nelson.Velez@state.nm.us>  
**Cc:** Shar Harvester <shar.harvester@wescominc.com>; Cole Burton <cole.burton@wescominc.com>; Raley, Jim <Jim.Raley@dmv.com>  
**Subject:** [EXTERNAL] 48-Hour Confirmation Sample Notice - North Brushy Header (nAPP2134442133)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Hello All,

We intend to take confirmation samples at North Brushy Header - nAPP2134442133 starting on (03/10/22) through (03/11/2022).

Please let us know if you plan to be onsite to oversee this sampling event.

Thanks,

**Ashley Giovengo**, Environmental Manager - Permian  
O (218) 724-1322 | C (505) 382-1211  
WescomInc.com | ashley.giovengo@WescomInc.com  
*"I am in charge of my own safety."*



Minnesota | North Dakota | New Mexico | Wisconsin

**From:** [Nobui, Jennifer, EMNRD](#)  
**To:** [Cole Burton](#)  
**Cc:** [Bratcher, Mike, EMNRD](#); [Hamlet, Robert, EMNRD](#); [Harimon, Jocelyn, EMNRD](#)  
**Subject:** FW: [EXTERNAL] RE: 48-Hour Confirmation Sampling Notification - North Brushy Header - nAPP2134442133  
**Date:** Monday, August 15, 2022 10:09:21 AM

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Cole

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thanks,  
Jennifer Nobui

---

**From:** Enviro, OCD, EMNRD <[OCD.Enviro@state.nm.us](mailto:OCD.Enviro@state.nm.us)>  
**Sent:** Friday, August 12, 2022 4:19 PM  
**To:** Bratcher, Mike, EMNRD <[mike.bratcher@state.nm.us](mailto:mike.bratcher@state.nm.us)>; Nobui, Jennifer, EMNRD <[Jennifer.Nobui@state.nm.us](mailto:Jennifer.Nobui@state.nm.us)>; Harimon, Jocelyn, EMNRD <[Jocelyn.Harimon@state.nm.us](mailto:Jocelyn.Harimon@state.nm.us)>; Hamlet, Robert, EMNRD <[Robert.Hamlet@state.nm.us](mailto:Robert.Hamlet@state.nm.us)>; Velez, Nelson, EMNRD <[Nelson.Velez@state.nm.us](mailto:Nelson.Velez@state.nm.us)>  
**Subject:** Fw: [EXTERNAL] RE: 48-Hour Confirmation Sampling Notification - North Brushy Header - nAPP2134442133

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**From:** Cole Burton <[cole.burton@wescominc.com](mailto:cole.burton@wescominc.com)>  
**Sent:** Friday, August 12, 2022 4:18 PM  
**To:** Enviro, OCD, EMNRD <[OCD.Enviro@state.nm.us](mailto:OCD.Enviro@state.nm.us)>  
**Cc:** Ashley Giovengo <[ashley.giovengo@wescominc.com](mailto:ashley.giovengo@wescominc.com)>; Shar Harvester <[Shar.Harvester@WescomInc.com](mailto:Shar.Harvester@WescomInc.com)>; Israel Estrella <[Israel.Estrella@wescominc.com](mailto:Israel.Estrella@wescominc.com)>; Raley, Jim <[Jim.Raley@dvn.com](mailto:Jim.Raley@dvn.com)>; Joey Croce <[Joey.Croce@WescomInc.com](mailto:Joey.Croce@WescomInc.com)>  
**Subject:** [EXTERNAL] RE: 48-Hour Confirmation Sampling Notification - North Brushy Header - nAPP2134442133

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Hello,

Please extend this sampling event (North Brushy Header – nAPP2134442133) to Monday, August 15, 2022 (08/15/22)

Thanks,

**Cole Burton**, Environmental Field Technician  
O (218) 724-1322 | C (505) 205-0455  
[WescomInc.com](http://WescomInc.com) | [cole.burton@WescomInc.com](mailto:cole.burton@WescomInc.com)

*"I am in charge of my own safety."*

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**From:** Cole Burton  
**Sent:** Tuesday, August 2, 2022 3:51 PM  
**To:** OCD Enviro <[ocd.enviro@state.nm.us](mailto:ocd.enviro@state.nm.us)>  
**Cc:** Ashley Giovengo <[ashley.giovengo@wescominc.com](mailto:ashley.giovengo@wescominc.com)>; Shar Harvester <[Shar.Harvester@WescomInc.com](mailto:Shar.Harvester@WescomInc.com)>; Israel Estrella <[Israel.Estrella@wescominc.com](mailto:Israel.Estrella@wescominc.com)>; Raley, Jim <[Jim.Raley@dvn.com](mailto:Jim.Raley@dvn.com)>; Joey Croce <[Joey.Croce@WescomInc.com](mailto:Joey.Croce@WescomInc.com)>  
**Subject:** 48-Hour Confirmation Sampling Notification - North Brushy Header - nAPP2134442133

Hello All,

We intend to take confirmation samples at the North Brushy Header – nAPP2134442133 starting on Friday, August 08, 2022 (08/05/22) thru Friday, August 12, 2022(08/12/22).

Please let us know if you plan to be onsite to oversee this sampling event.

Thanks,

**Cole Burton**, Environmental Field Technician  
O (218) 724-1322 | C (505) 205-0455  
[WescomInc.com](http://WescomInc.com) | [cole.burton@WescomInc.com](mailto:cole.burton@WescomInc.com)  
*"I am in charge of my own safety."*

# ATTACHMENT H

## Right-of-Entry Permit



**Energizing America**

**wescominc.com** | info@wescominc.com | 218-724-1322

**North Brushy Header** | Incident ID: nAPP2134442133



**NEW MEXICO STATE LAND OFFICE  
Commissioner of Public Lands  
Stephanie Garcia Richard  
New Mexico State Land Office Building  
P.O. Box 1148, Santa Fe, NM 87504-1148**

**RIGHT OF ENTRY PERMIT  
CONTRACT NO. RE – 6003**

This Agreement is made and entered into between the COMMISSIONER OF PUBLIC LANDS (the “Commissioner”) and

**Devon Energy  
5315 Buena Vista Drive  
Carlsbad, NM 88220**

(“Permittee”). The parties agree as follows:

**1. RIGHT OF ENTRY (“ROE”)**

The Commissioner grants to Permittee, and its authorized representatives, employees, and contractors, permission to use the state trust lands identified below (the “Premises”), and ingress and egress to the Premises, for the sole purposes of (1) surveying/conducting an environmental investigation on the site of a produced water spill (the “Premises”), Incident No. nAPP2134442133, and (2) conducting surface reclamation activities, including removal of equipment and debris, and any required remediation per 19.2.100.67 NMAC.

The Premises is situated in the following location in Eddy County, New Mexico:

Section	Township	Range	Subdivision	County	Longitude/Latitude
36	25S	29E	SW4SE4	Eddy	32.0790557/-103.9448414

**2. TERM AND TERMINATION**

Right of entry is granted for a term of **180 days**, commencing on the execution date of this document by the Commissioner of Public Lands.

**3. FEES**

- \$ 50.00 Application Fee
- \$ 500.00 Permit Fee
- \$ 550.00 Total Fee

**RE-6003**

#### **4. CONDITIONS OF USE**

- A. The issuance of this ROE does not guarantee that any subsequent lease, permit or any other instrument will be issued to Permittee for the Premises.
- B. No blading or widening of any roads that provide access to the Premises is permitted under this ROE.
- C. No sale of any material extracted from the Premises is allowed under this ROE.
- D. Permittee shall observe all applicable federal, state and local laws and regulations.
- E. Permittee shall take all reasonable precautions to prevent and suppress forest, brush and grass fires and prevent pollution of waters on or in the vicinity of the Premises.
- F. Permittee shall not block or disrupt roads or trails commonly in use.
- G. This ROE is subject to any and all easements and rights-of-way previously granted and now in force and affect.
- H. Permittee shall be responsible for repair and restitution for damage to any Premises or improvements as a result of activities related to this ROE.
- I. Prior to entering the Premises, Permittee must identify and contact any existing surface lessees. The grant of this ROE does not allow access across private lands.
- J. Permittee may utilize this ROE upon its execution for inspection of the Premises and to conduct any necessary tests or inspections. Permittee may not conduct remediation or reclamation work until it has submitted a written plan for such work, and received State Land Office approval.
- K. Personnel present on State Land: **Devon Energy personnel and contractors.**
- L. Equipment and materials present on State Land: **Heavy equipment, trucks, and associated equipment.**

#### **5. SITE CONDITIONS**

- A. No surface disturbance, other than soil sampling, except as described in a reclamation plan submitted to and approved by the State Land Office.
- B. Access to the Premises shall be over existing roads.
- C. The natural environmental conditions that exist contemporaneously with this grant of ROE shall be preserved and protected. Permittee must follow all applicable environmental and cultural resource protection laws and regulations.

#### **6. INDEMNITY**

Permittee shall save, hold harmless, indemnify and defend the State of New Mexico, the Commissioner and Commissioner's employees, agents and contractors, in both their official and individual capacities, from any and all liability, claims, losses, damages, or expenses of any character or nature whatsoever, including but not limited to attorney's fees, court costs, loss of land value or use, third party claims, penalties, or removal, remedial or restoration costs arising out of, or alleged to arise out of Permittee's operations or presence on the Premises (or operations or presence of his representatives, employees, or contractors).

**7. SURVIVAL OF TERMS**

Permittee's obligations regarding indemnity, site conditions, and compliance with applicable standards and laws, shall survive the termination, cancellation or relinquishment of this Agreement, and any cause of action of the Commissioner to enforce any right, liability, claim, loss, damage or expense under those paragraphs shall not be deemed to accrue until the Commissioner's actual discovery of said right, liability, claim, loss, damage or expense.

**8. NOTIFICATION**

Permittee must notify the State Land Office immediately in the event Permittee or his representatives, employees, or contractors observe any spill, fire, or other emergency on the Premises, or if Permittee or his representatives, employees, or contractors experience any serious injury while on the Premises.

WITNESS the hands of PERMITTEE and COMMISSIONER on the day(s) and year entered below.

**Jim Raley** Digitally signed by Jim Raley  
Date: 2022.02.07 11:02:01  
-07'00'

DATE: 2/7/22

PERMITTEE SIGNATURE

Jim Raley

Env. Specialist - Devon Energy

PERMITTEE NAME AND TITLE (PRINT)

SEAL:

BY: \_\_\_\_\_

Stephanie Garcia Richard  
Commissioner of Public Lands

DATE: \_\_\_\_\_

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

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

CONDITIONS

Action 153257

**CONDITIONS**

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 153257
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
jnobui	Closure Report Approved.	11/18/2022