New Mexico

Incident ID	nAPP2135745913
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 its	ems 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 must be notified 2 days prior to liner inspection)	of the liner integrity if applicable (Note: appropriate OCD District office	
☐ Laboratory analyses of final sampling (Note: appropriate ODC	District office must be notified 2 days prior to final sampling)	
Description of remediation activities		
and regulations all operators are required to report and/or file certain may endanger public health or the environment. The acceptance of a should their operations have failed to adequately investigate and remulation human health or the environment. In addition, OCD acceptance of a compliance with any other federal, state, or local laws and/or regulatorestore, reclaim, and re-vegetate the impacted surface area to the confaccordance with 19.15.29.13 NMAC including notification to the OC	nediate contamination that pose a threat to groundwater, surface water, a C-141 report does not relieve the operator of responsibility for tions. The responsible party acknowledges they must substantially aditions that existed prior to the release or their final land use in CD when reclamation and re-vegetation are complete.	
Printed Name: Dale Woodall	Title: Env. Professional	
	Date:	
email:dale.woodall@dvn.com	Telephone: _575-748-1838	
OCD Only		
Received by: Robert Hamlet	Date: 4/12/2023	
	of liability should their operations have failed to adequately investigate and vater, human health, or the environment nor does not relieve the responsible or regulations.	
Closure Approved by: Robert Hamlet	Date: <u>4/12/2023</u>	
Printed Name: Robert Hamlet	Title: Environmental Specialist - Advanced	

Received by OCD: 1/10/2023 10:40:37 AM Form C-141 State of New Mexico Page 4 Oil Conservation Division Incident ID nAPP2135745913
District RP
Facility ID
Application ID

I hereby certify that the information given above is true and complete to the regulations all operators are required to report and/or file certain release not public health or the environment. The acceptance of a C-141 report by the failed to adequately investigate and remediate contamination that pose a thr addition, OCD acceptance of a C-141 report does not relieve the operator of and/or regulations.	occ does not relieve the operator of liability should their operations have reat to groundwater, surface water, human health or the environment. In
Printed Name: Dale Woodall	Title: Env. Professional
Signature: Dala Woodall	Date:1/10/2023
email:dale.woodall@dvn.com	Telephone: 575-748-1838
OCD Only	
Received by:	Date:

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

	Page 3 of	61
Incident ID	nAPP2135745913	
District RP		
Facility ID		
Application ID		

Remediation Plan

 Detailed description of proposed remediation technique Scaled sitemap with GPS coordinates showing delineation points Estimated volume of material to be remediated Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required) 		
Deferral Requests Only: Each of the following items must be con	firmed as part of any request for deferral of remediation.	
_	oduction equipment where remediation could cause a major facility	
Extents of contamination must be fully delineated.		
Contamination does not cause an imminent risk to human health	, the environment, or groundwater.	
I hereby certify that the information given above is true and complete rules and regulations all operators are required to report and/or file of which may endanger public health or the environment. The acceptant liability should their operations have failed to adequately investigated surface water, human health or the environment. In addition, OCD a responsibility for compliance with any other federal, state, or local liability state. Printed Name: Dale Woodall Signature: Dale Woodall email:dale.woodall@dvn.com	ertain release notifications and perform corrective actions for releases nce of a C-141 report by the OCD does not relieve the operator of and remediate contamination that pose a threat to groundwater, acceptance of a C-141 report does not relieve the operator of	
OCD Only		
Received by: Jocelyn Harimon	Date: 01/10/2023	
Approved	Approval	
Signature:	Date:	

of New Mexico Page 4 of 61

Incident ID nAPP2135745013

Incident ID	nAPP2135745913
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 its	ems must be included in the closure report.	
A scaled site and sampling diagram as described in 19.15.29.1	1 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		
and regulations all operators are required to report and/or file certain may endanger public health or the environment. The acceptance of a should their operations have failed to adequately investigate and remulation human health or the environment. In addition, OCD acceptance of a compliance with any other federal, state, or local laws and/or regulat restore, reclaim, and re-vegetate the impacted surface area to the confaccordance with 19.15.29.13 NMAC including notification to the OC	nediate contamination that pose a threat to groundwater, surface water, a C-141 report does not relieve the operator of responsibility for tions. The responsible party acknowledges they must substantially additions that existed prior to the release or their final land use in	
	Date: 1/10/2023	
email:	Telephone:	
OCD Only		
Received by:Jocelyn Harimon	Date: 01/10/2023	
	of liability should their operations have failed to adequately investigate and vater, human health, or the environment nor does not relieve the responsible or regulations.	
Closure Approved by:	Date:	
Printed Name:	Title:	



402 E. Wood Avenue Carlsbad, New Mexico 88220 Tel. 432.701.2159 www.ntglobal.com

December 23, 2022

Mike Bratcher District Supervisor New Mexico Oil Conservation Division, District 2 811 S. First Street Artesia, New Mexico 88210

Re: Closure Report

Spud Muffin 31 CTB 1 (12.22.2021) Devon Energy Production Company Site Location: Unit N-31-23S-29E (Lat 32.255624°, Long -104.026426°) Eddy County, New Mexico

Eddy County, New Mexico Incident ID: nAPP2135745913

Mr. Bratcher:

On behalf of Devon Energy Production Company (Devon), New Tech Global Environmental, LLC (NTGE) has prepared this letter to document the liner inspection activities for the Spud Muffin 31 CTB 1 (Site). The Site is located in Eddy County approximately 4.9 miles southeast of Loving, New Mexico (Figures 1 and 2).

Background

Based on the initial C-141 obtained from the New Mexico Oil Conservation Division (NMOCD), the release was discovered on December 22, 2021. The release was caused by a leaking pump within the tank battery and a small amount of overspray out of containment. The leaking pump released approximately 68.45 barrels (bbls) of produced water of which 65 bbls was recovered. The initial C-141 form is attached.

Site Characterization

The Site is located within a medium karst area. Based on a review of the New Mexico Office of State Engineers and USGS databases, there is one water well within a 0.5 mile radius of the Site. The nearest identified well is located approximately 0.45 miles southeast of the Site in S6, T24S, R29E. The well has a reported depth to groundwater of 36 feet below ground surface (ft bgs).

Review of USGS topographic map (Figure 2) and National Flood Hazard Layer (NFHL) data identified a significant watercourse within a 0.5 mile of the Site. The Pecos River is located approximately 0.37 miles north of the Site.

A copy of the site characterization information and the associated *Point of Diversion Summary* report for the nearest water well is attached.

Mr. Mike Bratcher December 23, 2022 Page 2 of 3

Regulatory Criteria

In accordance with the NMOCD regulatory criteria established in 19.15.29.12 NMAC, the following criteria are applicable to the Site.

- Benzene: 10 milligrams per kilogram (mg/kg).
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg.
- TPH: 100 mg/kg (GRO + DRO + MRO).
- Chloride: 600 mg/kg.

Liner Inspection

On March 4, 2022, NTGE conducted liner inspection activities to assess the liners integrity within the facility. NTGE personnel conducted a visual inspection of the liner and found the liner to be intact with no integrity issues. A photographic log documenting the condition of the liner at the time of the inspection is attached. Additionally, a copy of the 48-hour advance notification of the liner inspection activities provided to the NMOCD is also attached.

Site Assessment Activities

On March 4, 2022, NTGE conducted site assessment activities to assess the impact present from the overspray caused by the leaking pump. A total of 2 vertical samples (S-1 and S-2) were collected from depths ranging from surface to 2.5ft below ground surface (bgs) and 4 horizontal samples (H-1 through H-4) collected to assess the horizontal extent of impacts.

Upon receipt of laboratory analysis, it was noted that the area of S-1 was impacted by chlorides to a depth of 1.5' above NMOCD standards. All other vertical and horizontal samples were below regulatory limits set forth by the division in Table 1 Closure Criteria.

Remedial Action Activities

On October 15, 2022, NTGE along with Devon initiated excavation activities at the site to address impacts discovered during the site assessment phase of the project. The entire area of concern was excavated to a depth of 2 ft bgs. NTGE field screened the areas after completion of the excavation, noting that no impacts from chlorides appeared to be present. A 48 hour notification was submitted to NMOCD notifying them of a confirmation sampling event to take place on October 24, 2022, A total of 4 confirmation base samples were collected (CS-1 through CS-4) and 4 confirmation sidewalls collected (SW-1 through SW-4) to ensure all impacted materials have been removed from the area.

The confirmation samples were collected from areas representing no greater than 200 square ft and analyzed for TPH (EPA Method 8015 modified), BTEX (EPA Method 8021B), and Chloride (Method SM4500C1-B or 300.0). Analytical results indicated that all impacted soils were removed successfully.

The final excavation extent and confirmation sample locations are shown in figure 4. Analytical results of the confirmation samples are included in Table 2. Following the receipt of analytical results, the area was backfilled and graded to a near natural state.



Mr. Mike Bratcher December 23, 2022 Page 3 of 3

Conclusions

Based on the finding of the liner inspection and required soil samples, no further actions are required at the Site. The final C-141 is attached and Devon formally requests a no further action designation for the release. If you have any questions regarding this report or need additional information, please contact us at 432-701-2159.

Sincerely,

NTG Environmental

Ethan Sessums Project Manager

Attachments:

Initial C-141

Site Characterization Information

Tables Figures

Photographic Log Lab Reports & COC's

NMOCD 48-Hour Advance Notification

A NTG

INITIAL C-141

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	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party OC		OGRID	JRID			
Contact Name Co			Contact To	tact Telephone		
Contact email			Incident #	Incident # (assigned by OCD)		
Contact mail:	ing address			-		
			Location	of Release S	ource	
Latitude				Longitude		
			(NAD 83 in dec	cimal degrees to 5 decir	nal places)	
Site Name				Site Type		
Date Release	Discovered			API# (if app	olicable)	
Unit Letter	Section	Township	Range	Cour	ntv]
Onit Detter	Section	Township	Runge	Cour	11.9	
Surface Owner	r: State	☐ Federal ☐ Tr	ibal Private (I	Name:)
			Nature and	d Volume of 1	Release	
Crude Oil		Volume Released		calculations or specific	Volume Reco	volumes provided below) vered (bbls)
Produced	Water	Volume Release	` '		Volume Reco	* *
Is the concentration of total dissolved solids (T.		ved solids (TDS)	☐ Yes ☐ No			
		in the produced v	water >10,000 mg			
	Condensate Volume Released (bbls)			Volume Recovered (bbls)		
Natural Gas Volume Released (Mcf)			Volume Recovered (Mcf)			
Other (describe) Volume/Weight Released (provide units)		e units)	Volume/Weight Recovered (provide units)			
Cause of Rele	ease					

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	Page	10	oj	0
ID				
				1

Incident ID	
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Application ID	

Was this a major release as defined by	or what reason(s) does the responsible party consider this a major release?
19.15.29.7(A) NMAC?	
☐ Yes ☐ No	
If VFS was immediate notice given	to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Ti 125, was immediate notice given	to the GCD. By whom: To whom: When and by what metalls (phone, email, etc).
	Initial Response
The responsible party must un	dertake the following actions immediately unless they could create a safety hazard that would result in injury
☐ The source of the release has be	en stopped.
☐ The impacted area has been sec	ured to protect human health and the environment.
Released materials have been co	ontained via the use of berms or dikes, absorbent pads, or other containment devices.
-	materials have been removed and managed appropriately.
If all the actions described above ha	ve <u>not</u> been undertaken, explain why:
has begun, please attach a narrative	sponsible party may commence remediation immediately after discovery of a release. If remediation of actions to date. If remedial efforts have been successfully completed or if the release occurred 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
regulations all operators are required to public health or the environment. The a failed to adequately investigate and rem	en above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and report and/or file certain release notifications and perform corrective actions for releases which may endanger eceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have ediate contamination that pose a threat to groundwater, surface water, human health or the environment. In port does not relieve the operator of responsibility for compliance with any other federal, state, or local laws
Printed Name:	Title:
Signature: Kendra DeHoyos	
email:	Telephone:
OCD Only	
Received by: Ramona Marcus	Date: 1/6/2022

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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?	36' (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ⊠ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ⊠ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ⊠ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ⊠ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ⊠ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ⊠ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ⊠ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ⊠ No
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes ⊠ No
Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vercontamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.	rtical extents of soil
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 well Field data □ Data table of soil contaminant concentration data □ Depth to water determination □ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release □ Boring or excavation logs □ Photographs including date and GIS information □ Topographic/Aerial maps 	ls.
☐ 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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Facility ID		
Application ID		

I hereby certify that the information given above is true and complete to the regulations all operators are required to report and/or file certain release not public health or the environment. The acceptance of a C-141 report by the failed to adequately investigate and remediate contamination that pose a thr addition, OCD acceptance of a C-141 report does not relieve the operator of and/or regulations.	offications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have eat to groundwater, surface water, human health or the environment. In
Printed Name: Dale Woodall	Title: Env. Professional
Signature: Dale Woodall	Date:1/10/2023
email:dale.woodall@dvn.com	Telephone: <u>575-748-1838</u>
OCD Only	
Received by:	Date:

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District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: Each of the following items must be	e included in the plan.
 ☑ Detailed description of proposed remediation technique ☑ Scaled sitemap with GPS coordinates showing delineation point ☑ Estimated volume of material to be remediated ☑ Closure criteria is to Table 1 specifications subject to 19.15.29.1 ☑ Proposed schedule for remediation (note if remediation plan times) 	2(C)(4) NMAC
	11 /
Deferral Requests Only: Each of the following items must be con	afirmed as part of any request for deferral of remediation.
Contamination must be in areas immediately under or around predeconstruction.	roduction equipment where remediation could cause a major facility
Extents of contamination must be fully delineated.	
Contamination does not cause an imminent risk to human health	n, the environment, or groundwater.
	e and remediate contamination that pose a threat to groundwater, acceptance of a C-141 report does not relieve the operator of
Printed Name: Dale Woodall	Title:Env. Professional
Signature: Dals Woodall	Date: _1/10/2023
email:dale.woodall@dvn.com	Telephone: 575-748-1838
OCD Only	
Received by:	Date:
Approved	Approval
Signature:	<u>Date:</u>

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Facility ID	
Application ID	

Closure

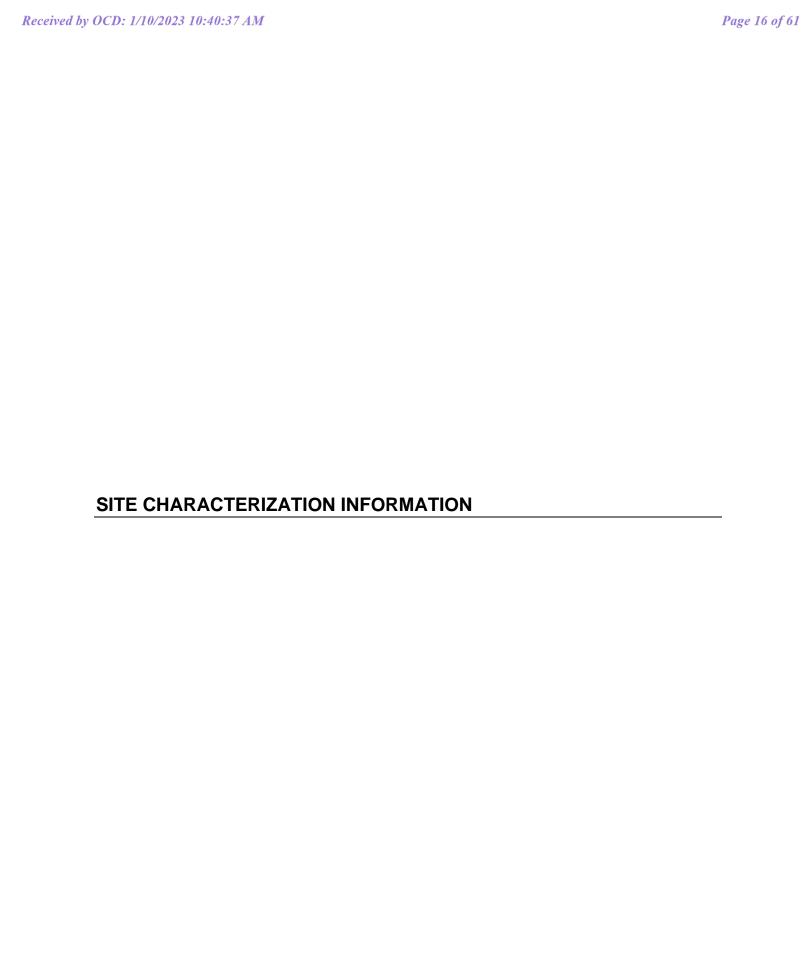
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled 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 it	ems must be included in the closure report.
A scaled site and sampling diagram as described in 19.15.29.1	1 NMAC
Photographs of the remediated site prior to backfill or photos must be notified 2 days prior to liner inspection)	of the liner integrity if applicable (Note: appropriate OCD District office
□ Laboratory analyses of final sampling (Note: appropriate ODC)	District office must be notified 2 days prior to final sampling)
Description of remediation activities	
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Signature: Dals Woodall	Date:
1.1 1.11 1.1	Telephone: 575-748-1838
OCD Only	
Received by:	Date:
	of liability should their operations have failed to adequately investigate and vater, human health, or the environment nor does not relieve the responsible or regulations.
Closure Approved by:	Date:
Printed Name:	Title:

NAPP2135745913

Spills In Line	d Containment							
Measurements Of Standing Fluid								
Length (Ft)	115							
Width(Ft)	65							
Depth(in.)	0.75							
Total Capacity without tank displacements (bbls)	83.21							
No. of 500 bbl Tanks In								
Standing Fluid	7							
No. of Other Tanks In								
Standing Fluid								
OD Of Other Tanks In Standing Fluid(feet)								
Total Volume of standing fluid accounting for tank displacement.	68.51							

<u>Spil</u>	l Volume(E	Bbls) Calculator						
Inj	outs in blue,	Outputs in red						
Contaminated Soil measurement								
Area (squa	re feet)	Depth(inches)						
233		0.063						
Cubic Feet of S	oil Impacted	1.223						
Barrels of Soi	Impacted	0.22						
Soil Ty	/pe	Clay/Sand						
Barrels of Oil 100% Satu		0.03						
Saturation	Fluid pres	sent with shovel/backhoe						
Estimated Bar Releas		0.03						
46	Free Standi	ng Fluid Only						
Area (squa	re feet)	Depth(inches)						
<u>0</u>		0.000						
Standing	gfluid	0.000						
Total fluid	s spilled	0.033						



Devon Energy - Spud Muffin 31 CTB 1 Sec 31 T23S R29E Unit N 32.255755°, -104.026245° Eddy County, New Mexico

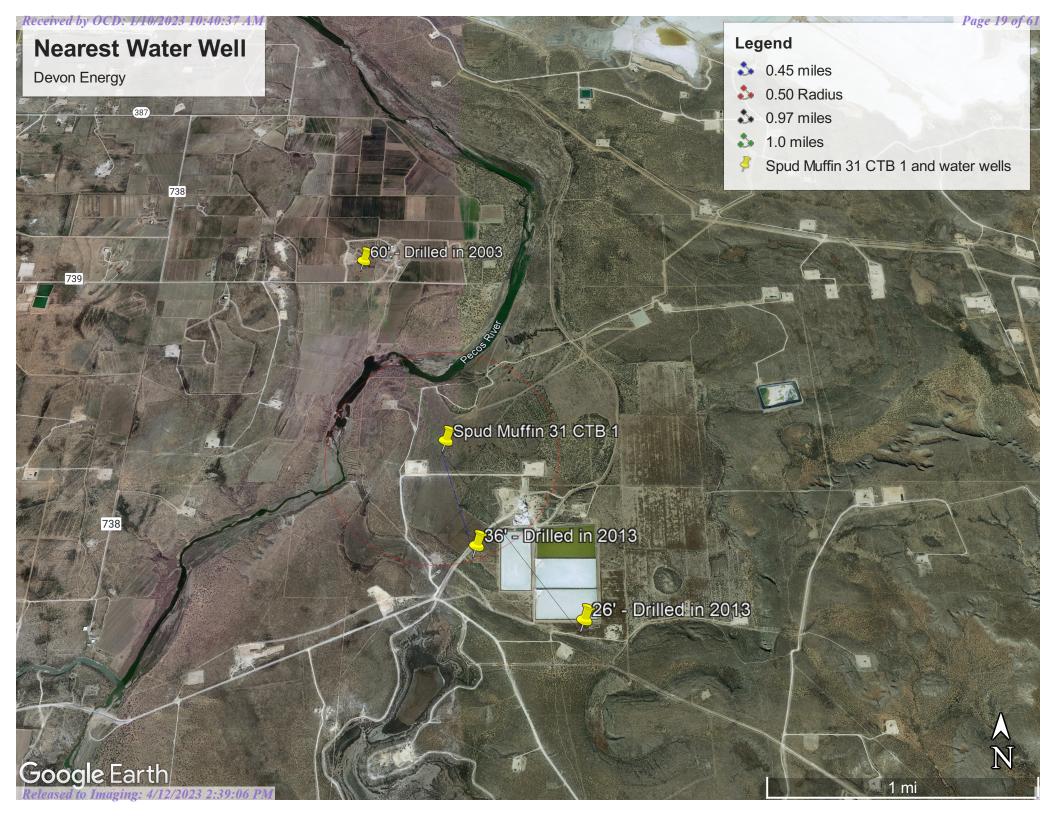
Site Characterization

- -The Pecos River is less than 0.5 miles from the site
- -Medium Karst
- -NMSEO Groundwater is 36' below surface, 0.45 miles Southeast of the site, 2013 drilled, Section 31
- -NMSEO Groundwater is 26' below surface, 0.97 miles Southeast of the site, 2013 drilled, Section 31
- -NMSEO Groundwater is 60' below surface, 1.00 miles Northwest of the site, 2003 drilled, Section 31

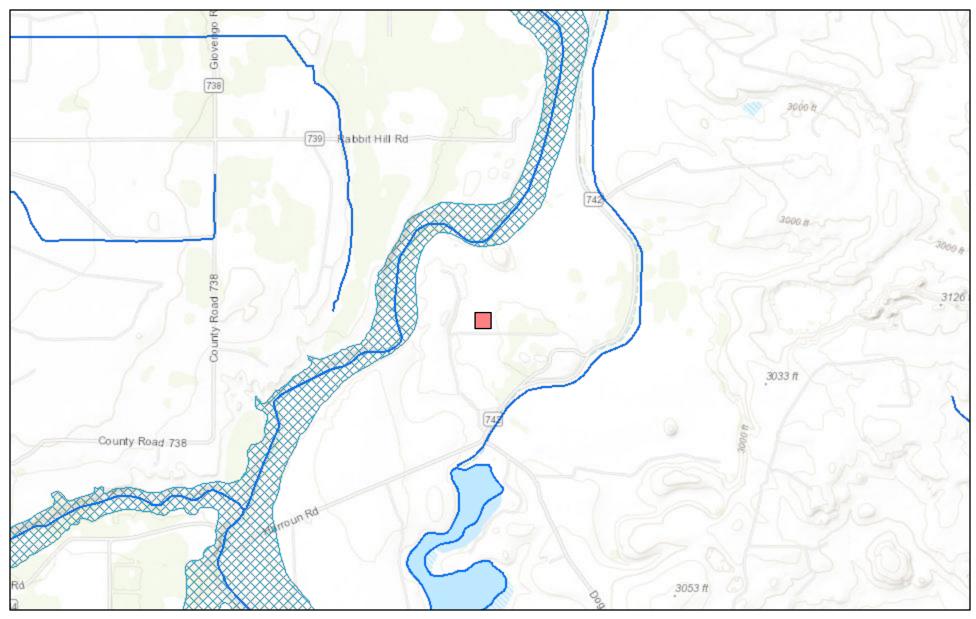
RRALs due to insufficient groundwater data

- -Chlorides 600 mg/kg
- -TPH GRO+DRO+MRO 100 mg/kg
- -BTEX 50 mg/kg
- -Benzene 10 mg/kg

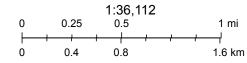




New Mexico NFHL Data



February 22, 2022

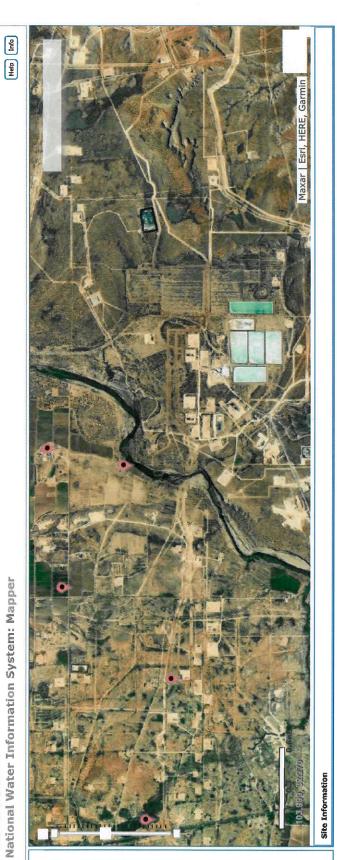


FEMA, Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey,



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Hetp Info





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TABLES

Received by OCD: 1/10/2023 10:40:37 AM

Table 1 **Devon Energy** Spud Muffin 31 CTB 1 (12.22.21) **Eddy County, New Mexico**

Ossessia ID	Dete	Sample	TPH (mg/kg)				Benzene	Toluene	Ethlybenzene	ene Xylene	Total	Chloride
Sample ID	Date	Depth (ft)	DRO	GRO	MRO	Total	(mg/kg)	g) (mg/kg) (mg/kg) (mg/kg) (mg/kg)	BTEX (mg/kg)	(mg/kg)		
	3/4/2022	0-1'	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<.300	2,200
S-1	3/4/2022	1-1.5'	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<.300	1,650
	3/4/2022	2-2.5'	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<.300	160
S-2	3/4/2022	0-1'	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<.300	80
H-1	3/4/2022	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<.300	16
H-2	3/4/2022	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<.300	<16.0
H-3	3/4/2022	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<.300	<16.0
H-4	3/4/2022	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<.300	32
Regulato	ory Limit ^A					100 mg/kg	10 mg/kg				50 mg/kg	600 mg/kg

- exceeds regulatory limits mg/kg - milligram per kilogram TPH- total petroleum hydrocarbons

^A – Table 1 - 19.15.29 NMAC

Received by OCD:

Table 2 Devon Energy Spud Muffin 31 CTB 1 (12.22.21) Eddy County, New Mexico

Occupie ID		Sample		ТРН	(mg/kg)		Benzene	Toluene	Ethlybenzene	Xylene	Total BTEX	Chloride
Sample ID	Date	Depth (ft)	DRO	GRO	MRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
SW-1	10/26/2022	N/A	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	<16.0
SW-2	10/26/2022	N/A	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	<16.0
SW-3	10/26/2022	N/A	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	64
SW-4	10/26/2022	N/A	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	48
CS-1	10/26/2022	2'	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	<16.0
CS-2	10/26/2022	2'	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	80
CS-3	10/26/2022	2'	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	<16.0
CS-4	10/26/2022	2'	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	16
Regula	tory Limits ^A					100 mg/kg	10 mg/kg				50 mg/kg	600 mg/kg

(-) Not Analyzed

^A – Table 1 - 19.15.29 NMAC

mg/kg - milligram per kilogram

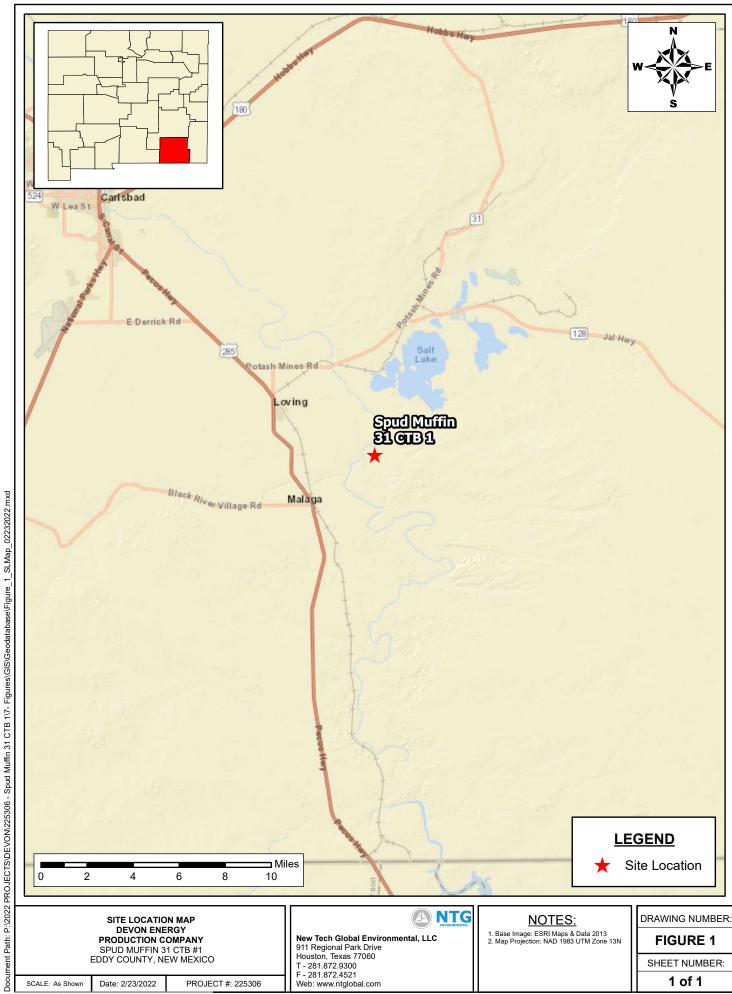
TPH- total petroleum hydrocarbons

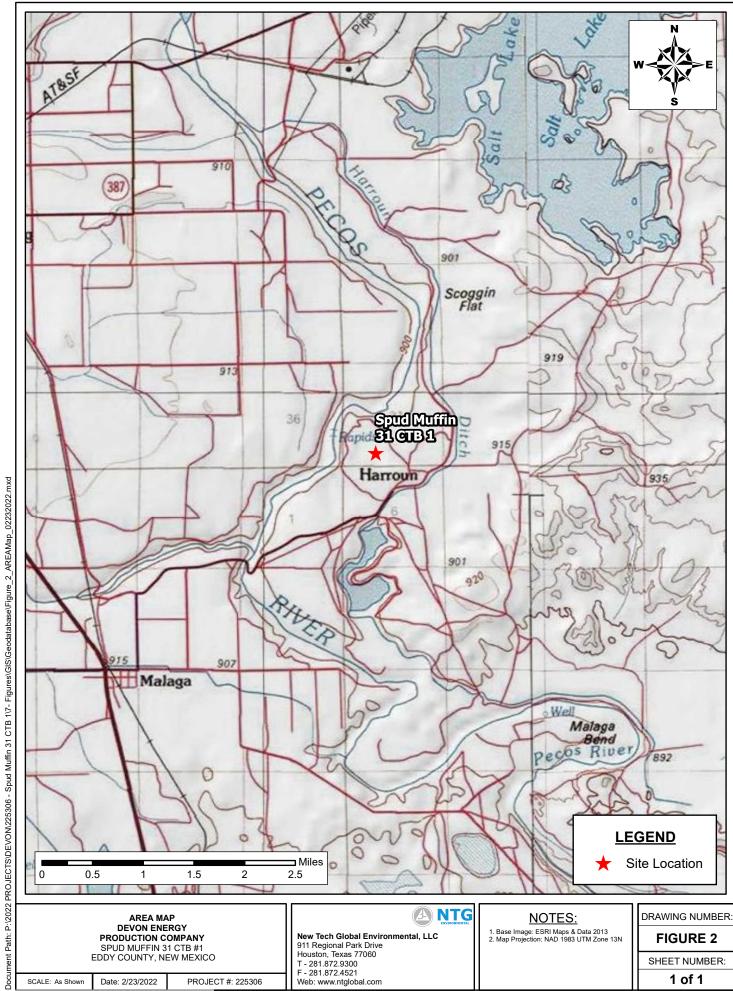
ft-feet

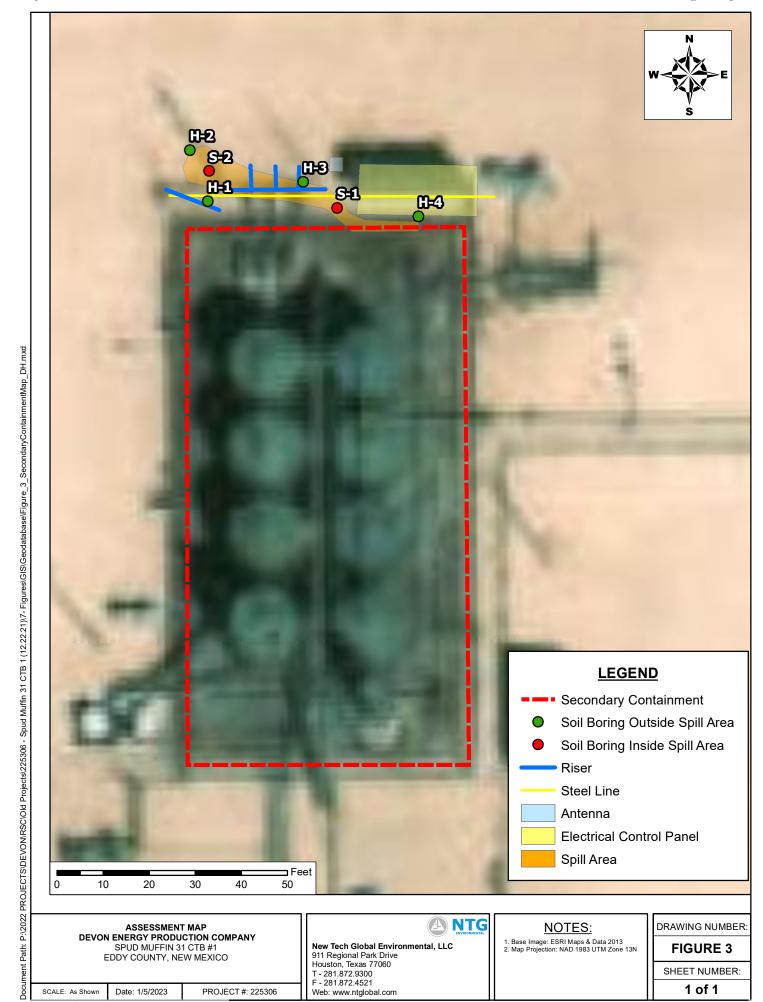
exceeds regulatory limits



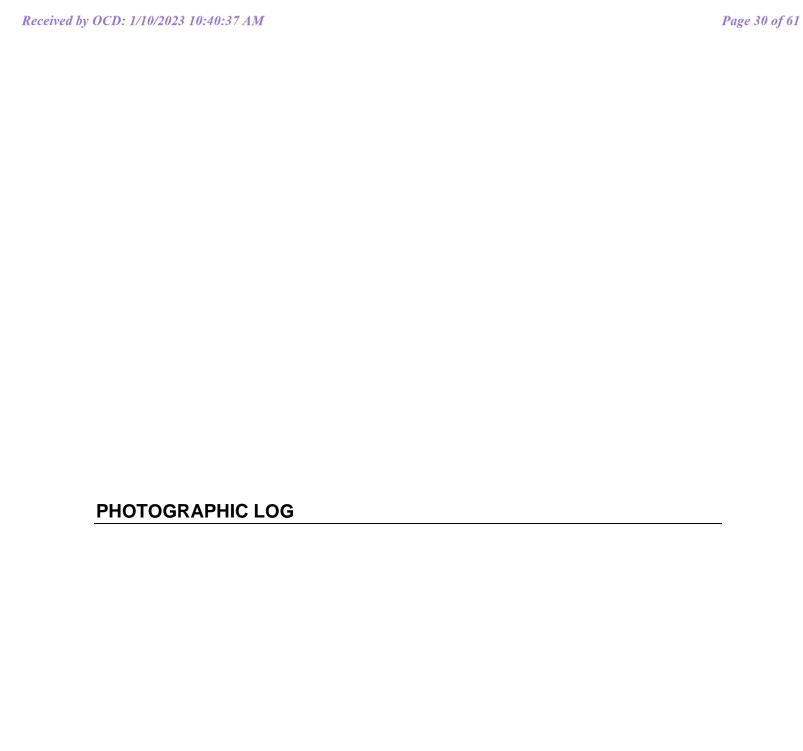
FIGURES











Devon Energy Production Company

Photograph No. 1

Facility: Spud Muffin 31 CTB 1

County: Eddy County, New Mexico

Description: View of Liner



Photograph No. 2

Facility: Spud Muffin 31 CTB 1

County: Eddy County, New Mexico

Description: View of Liner



Photograph No. 3

Facility: Spud Muffin 31 CTB 1

County: Eddy County, New Mexico

Description: View of Liner



Devon Energy Production Company

Photograph No. 4

Facility:

Spud Muffin 31 CTB 1

County:

Eddy County, New Mexico

Description: View of Liner



Photograph No. 5

Facility:

Spud Muffin 31 CTB 1

County:

Eddy County, New Mexico

Description: View of Liner



Photograph No. 6

Facility:

Spud Muffin 31 CTB 1

County:

Eddy County, New Mexico

Description: View of Liner



Devon Energy Production Company

Photograph No. 7

Facility: Spud Muffin 31 CTB 1

County: Eddy County, New Mexico

Description: View of Liner



Photograph No. 8

Facility: Spud Muffin 31 CTB 1

County: Eddy County, New Mexico

Description: View of Liner



Photograph No. 9

Facility: Spud Muffin 31 CTB 1

County: Eddy County, New Mexico

Description: View of Liner



Devon Energy Production Company

Photograph No. 10

Facility: Spud Muffin 31 CTB 1

County: Eddy County, New Mexico

Description:

View of excavation.



Photograph No. 11

Facility: Spud Muffin 31 CTB 1

County: Eddy County, New Mexico

Description:

View of excavation.



Photograph No. 12

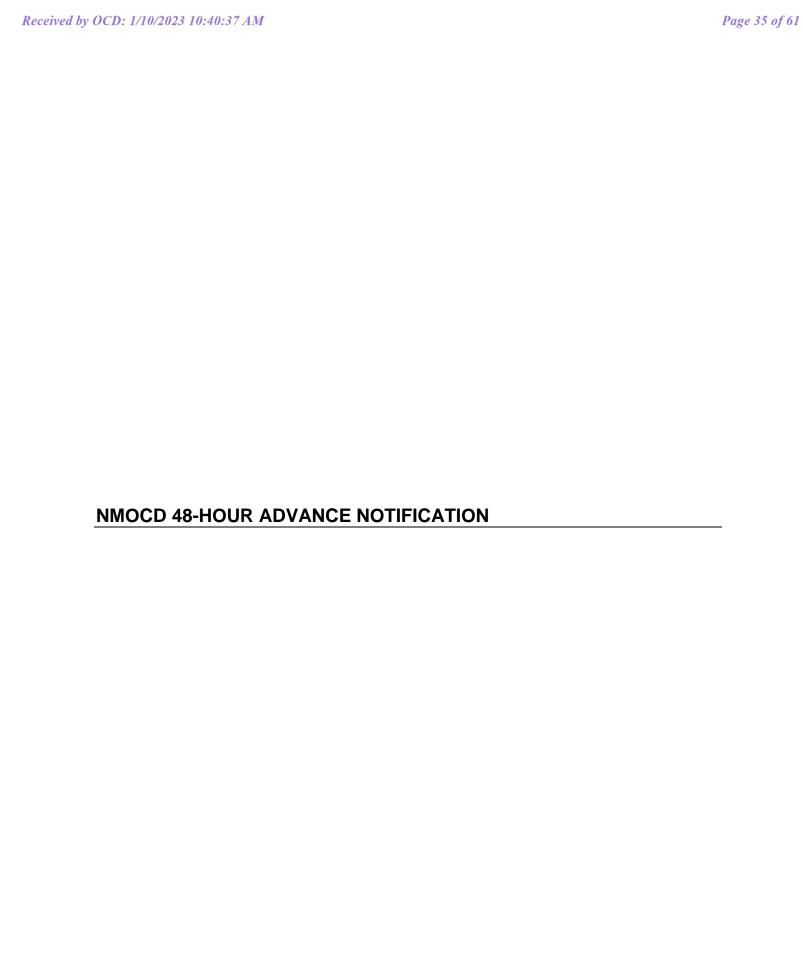
Facility: Spud Muffin 31 CTB 1

County: Eddy County, New Mexico

Description:

View of excavated area adjacent to release area, this area is clean via initial assessment data.





Ethan Sessums

From: Tyler Kimball

Sent: Wednesday, December 14, 2022 9:36 AM

To: Ethan Sessums

Subject: Fwd: Liner Inspection Notification

Sent from my Verizon, Samsung Galaxy smartphone Get <u>Outlook for Android</u>

From: Tyler Kimball

Sent: Tuesday, November 1, 2022 8:58:12 AM
To: Kellan Smith < KSmith@ntglobal.com>
Subject: FW: Liner Inspection Notification

From: Tyler Kimball

Sent: Friday, October 28, 2022 1:04 PM

To: ocd.enviro@state.nm.us

Cc: Ethan Sessums < ESessums@ntglobal.com>

Subject: Liner Inspection Notification

We will be conducting liner inspection activities on behalf of DEVON at the below referenced times.

Wednesday, November 2nd

10:00A.M.

nAPP2222151153	ARCTURUS 18 FED 3H BATTERY	8/9/2022	21060237
11:30A.M.			
nAPP2221328160	Grumpy Cat 15 CTB 2	7/30/2022	21057543
1:30P.M.			
NAPP2220942751	BLONDIE 15 CTB 3	7/27/2022	21057025
2:30P.M.			
nAPP2225529718	Cotton Draw Unit 7 DL CTB	9/11/2022	21076317
4:00P.M.			
nAPP2225931874	Spud Muffin 31 CTB 1	9/15/2022	21074745

Ethan Sessums

From: Jordan Tyner

Sent: Wednesday, October 19, 2022 2:52 PM

To: New Mexico OCD
Cc: Ethan Sessums
Subject: Sampling Event

We will be conducting a sampling event on behalf of Devon on October 24, 2022 around 10am

nAPP2135745913 SPUD MUFFIN 31 CTB 1 12/22/2021

Jordan Tyner
Project Scientist
NTG Environmental New Mexico
402 E Wood Ave, Carlsbad, NM 88220
M: (903) 309-8358 W: (432) 813-0263

Email: jtyner@ntglobal.com

http://www.ntgenvironmental.com/



Received by OCD: 1/10/2023 10:40:37 AM	Page 38 of 61
LABORATORY REPORTS AND CHAIN-OF-CUSTODY DOCUMENTS	_
LABORATORY REPORTS AND CHAIN-OF-CUSTODY DOCUMENTS	_
LABORATORY REPORTS AND CHAIN-OF-CUSTODY DOCUMENTS	
LABORATORY REPORTS AND CHAIN-OF-CUSTODY DOCUMENTS	_
LABORATORY REPORTS AND CHAIN-OF-CUSTODY DOCUMENTS	



March 09, 2022

ETHAN SESSUMS

NTG ENVIRONMENTAL

701 TRADEWINDS BLVD. SUITE C

MIDLAND, TX 79706

RE: SPUD MUFFIN 31 CTB

Enclosed are the results of analyses for samples received by the laboratory on 03/04/22 12:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

Celey D. Keene

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706 Fax To:

Received: 03/04/2022 Sampling Date: 03/04/2022

Reported: 03/09/2022 Sampling Type: Soil

DEVON - EDDY CO NM

Project Name: SPUD MUFFIN 31 CTB Sampling Condition: Cool & Intact
Project Number: 225306 (12.22.21) Sample Received By: Jodi Henson

Sample ID: S - 1 (0-1') (H220866-01)

Project Location:

BTEX 8021B	mg	/kg	Analyze	d By: MS\					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/08/2022	ND	2.02	101	2.00	0.716	
Toluene*	<0.050	0.050	03/08/2022	ND	2.05	102	2.00	0.264	
Ethylbenzene*	<0.050	0.050	03/08/2022	ND	2.06	103	2.00	0.329	
Total Xylenes*	<0.150	0.150	03/08/2022	ND	6.37	106	6.00	0.336	
Total BTEX	<0.300	0.300	03/08/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	104	% 69.9-14	0						
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2200	16.0	03/08/2022	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/09/2022	ND	229	114	200	4.14	
DRO >C10-C28*	<10.0	10.0	03/09/2022	ND	221	110	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	03/09/2022	ND					
Surrogate: 1-Chlorooctane	85.4	% 66.9-13	6						
Surrogate: 1-Chlorooctadecane	89.7	% 59.5-14	2						

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Celey D. Keene



Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706 Fax To:

03/04/2022 03/09/2022

Sampling Date: Sampling Type: SPUD MUFFIN 31 CTB

Project Number: 225306 (12.22.21) DEVON - EDDY CO NM Project Location:

Soil Sampling Condition: Cool & Intact Sample Received By: Jodi Henson

03/04/2022

Sample ID: S - 1 (1-1.5') (H220866-02)

Received:

Reported:

Project Name:

BTEX 8021B	mg	/kg	Analyze	d By: MS\					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/08/2022	ND	2.02	101	2.00	0.716	
Toluene*	<0.050	0.050	03/08/2022	ND	2.05	102	2.00	0.264	
Ethylbenzene*	<0.050	0.050	03/08/2022	ND	2.06	103	2.00	0.329	
Total Xylenes*	<0.150	0.150	03/08/2022	ND	6.37	106	6.00	0.336	
Total BTEX	<0.300	0.300	03/08/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	106	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1650	16.0	03/08/2022	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/09/2022	ND	229	114	200	4.14	
DRO >C10-C28*	<10.0	10.0	03/09/2022	ND	221	110	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	03/09/2022	ND					
Surrogate: 1-Chlorooctane	78.4	% 66.9-13	6						
Surrogate: 1-Chlorooctadecane	83.4	% 59.5-14	22						

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Celey D. Keine



Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706 Fax To:

Received: 03/04/2022 Sampling Date: 03/04/2022

Reported: 03/09/2022 Sampling Type: Soil

Project Name: SPUD MUFFIN 31 CTB Sampling Condition: Cool & Intact
Project Number: 225306 (12.22.21) Sample Received By: Jodi Henson

Applyzod By: MC\

Project Location: DEVON - EDDY CO NM

Sample ID: S - 1 (2-2.5') (H220866-03)

RTFY 8021R

BIEX 8021B	mg	/ kg	Anaiyze	a By: MS\					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/08/2022	ND	2.02	101	2.00	0.716	
Toluene*	<0.050	0.050	03/08/2022	ND	2.05	102	2.00	0.264	
Ethylbenzene*	<0.050	0.050	03/08/2022	ND	2.06	103	2.00	0.329	
Total Xylenes*	<0.150	0.150	03/08/2022	ND	6.37	106	6.00	0.336	
Total BTEX	<0.300	0.300	03/08/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	106	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/kg		Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	03/08/2022	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/09/2022	ND	229	114	200	4.14	
DRO >C10-C28*	<10.0	10.0	03/09/2022	ND	221	110	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	03/09/2022	ND					
Surrogate: 1-Chlorooctane	93.8	% 66.9-13	6						
Surrogate: 1-Chlorooctadecane	100	% 59.5-14	2						

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Celeg & Frence



Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706 Fax To:

Received: 03/04/2022 Sampling Date: 03/04/2022

Reported: 03/09/2022 Sampling Type: Soil

Project Name: SPUD MUFFIN 31 CTB Sampling Condition: Cool & Intact
Project Number: 225306 (12.22.21) Sample Received By: Jodi Henson

Project Location: DEVON - EDDY CO NM

Sample ID: S - 2 (0-1') (H220866-04)

BTEX 8021B	mg	/kg	Analyze	d By: MS\					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/08/2022	ND	2.02	101	2.00	0.716	
Toluene*	<0.050	0.050	03/08/2022	ND	2.05	102	2.00	0.264	
Ethylbenzene*	<0.050	0.050	03/08/2022	ND	2.06	103	2.00	0.329	
Total Xylenes*	<0.150	0.150	03/08/2022	ND	6.37	106	6.00	0.336	
Total BTEX	<0.300	0.300	03/08/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	106	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	03/08/2022	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/09/2022	ND	229	114	200	4.14	
DRO >C10-C28*	<10.0	10.0	03/09/2022	ND	221	110	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	03/09/2022	ND					
Surrogate: 1-Chlorooctane	75.8	% 66.9-13	6						
Surrogate: 1-Chlorooctadecane	79.7	% 59.5-14	2						

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Celey D. Keene



Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706 Fax To:

Received: 03/04/2022

Reported: 03/09/2022

Project Name: SPUD MUFFIN 31 CTB Project Number: 225306 (12.22.21) DEVON - EDDY CO NM Project Location:

Sampling Date: 03/04/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact Sample Received By: Jodi Henson

Sample ID: H - 1 (H220866-05)

BTEX 8021B	mg/	kg	Analyze	d By: MS\					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/08/2022	ND	2.02	101	2.00	0.716	
Toluene*	<0.050	0.050	03/08/2022	ND	2.05	102	2.00	0.264	
Ethylbenzene*	<0.050	0.050	03/08/2022	ND	2.06	103	2.00	0.329	
Total Xylenes*	<0.150	0.150	03/08/2022	ND	6.37	106	6.00	0.336	
Total BTEX	<0.300	0.300	03/08/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	106 %	69.9-14	0						
Chloride, SM4500CI-B	mg/kg		Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	03/08/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/09/2022	ND	229	114	200	4.14	
DRO >C10-C28*	<10.0	10.0	03/09/2022	ND	221	110	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	03/09/2022	ND					
Surrogate: 1-Chlorooctane	78.5	% 66.9-13	6						
Surrogate: 1-Chlorooctadecane	82.4	% 59.5-14	2						

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Celey D. Keine



Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706 Fax To:

Received: 03/04/2022 Sampling Date: 03/04/2022

Reported: 03/09/2022 Sampling Type: Soil

Project Name: SPUD MUFFIN 31 CTB Sampling Condition: Cool & Intact
Project Number: 225306 (12.22.21) Sample Received By: Jodi Henson
Project Location: DEVON - EDDY CO NM

Sample ID: H - 2 (H220866-06)

BTEX 8021B	mg,	'kg	Analyze	d By: MS\					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/08/2022	ND	2.02	101	2.00	0.716	
Toluene*	<0.050	0.050	03/08/2022	ND	2.05	102	2.00	0.264	
Ethylbenzene*	<0.050	0.050	03/08/2022	ND	2.06	103	2.00	0.329	
Total Xylenes*	<0.150	0.150	03/08/2022	ND	6.37	106	6.00	0.336	
Total BTEX	<0.300	0.300	03/08/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	104	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/08/2022	ND	416	104	400	0.00	
TPH 8015M	mg,	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/09/2022	ND	229	114	200	4.14	
DRO >C10-C28*	<10.0	10.0	03/09/2022	ND	221	110	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	03/09/2022	ND					
Surrogate: 1-Chlorooctane	78.3	% 66.9-13	6						
Surrogate: 1-Chlorooctadecane	81.8	% 59.5-14	2						

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Celey D. Keene



Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706 Fax To:

Received: 03/04/2022

Reported: 03/09/2022

Project Name: SPUD MUFFIN 31 CTB Project Number: 225306 (12.22.21) DEVON - EDDY CO NM Project Location:

Sampling Date: 03/04/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact Sample Received By: Jodi Henson

Sample ID: H - 3 (H220866-07)

BTEX 8021B	mg,	'kg	Analyze	d By: MS\					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/08/2022	ND	2.02	101	2.00	0.716	
Toluene*	<0.050	0.050	03/08/2022	ND	2.05	102	2.00	0.264	
Ethylbenzene*	<0.050	0.050	03/08/2022	ND	2.06	103	2.00	0.329	
Total Xylenes*	<0.150	0.150	03/08/2022	ND	6.37	106	6.00	0.336	
Total BTEX	<0.300	0.300	03/08/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	106	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/08/2022	ND	416	104	400	0.00	
TPH 8015M	mg,	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/09/2022	ND	229	114	200	4.14	
DRO >C10-C28*	<10.0	10.0	03/09/2022	ND	221	110	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	03/09/2022	ND					
Surrogate: 1-Chlorooctane	84.8	% 66.9-13	6						
Surrogate: 1-Chlorooctadecane	89.5	% 59.5-14	2						

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03/04/2022

Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706 Fax To:

Sampling Date:

Received: 03/04/2022

ma/ka

Reported: 03/09/2022 Sampling Type: Soil

Project Name: SPUD MUFFIN 31 CTB Sampling Condition: Cool & Intact
Project Number: 225306 (12.22.21) Sample Received By: Jodi Henson

Analyzed By: MC\

Project Location: DEVON - EDDY CO NM

Sample ID: H - 4 (H220866-08)

RTFY 8021R

B1EX 8021B	mg	/ kg	Anaiyze	a By: MS\					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/08/2022	ND	2.02	101	2.00	0.716	
Toluene*	<0.050	0.050	03/08/2022	ND	2.05	102	2.00	0.264	
Ethylbenzene*	<0.050	0.050	03/08/2022	ND	2.06	103	2.00	0.329	
Total Xylenes*	<0.150	0.150	03/08/2022	ND	6.37	106	6.00	0.336	
Total BTEX	<0.300	0.300	03/08/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	106	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/08/2022	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/09/2022	ND	229	114	200	4.14	
DRO >C10-C28*	<10.0	10.0	03/09/2022	ND	221	110	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	03/09/2022	ND					
Surrogate: 1-Chlorooctane	85.8	% 66.9-13	6						
Surrogate: 1-Chlorooctadecane	90.5	% 59.5-14	2						

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Notes and Definitions

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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Celeg D. Freene





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Page 11 of 11



October 26, 2022

ETHAN SESSUMS

NTG ENVIRONMENTAL

701 TRADEWINDS BLVD. SUITE C

MIDLAND, TX 79706

RE: SPUD MUFFIN

Enclosed are the results of analyses for samples received by the laboratory on 10/24/22 12:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab accred certif.html.

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

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

Celey D. Keene

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706 Fax To:

Received: 10/24/2022
Reported: 10/26/2022
Project Name: SPUD MUFFIN

Project Name: SPUD MUFFIN
Project Number: NONE GIVEN
Project Location: EDDY CO NM

Sampling Date: 10/24/2022

Sampling Type: Soil

Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: SW - 1 (H224983-01)

BTEX 8021B	mg	/kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2022	ND	1.98	99.1	2.00	3.22	
Toluene*	<0.050	0.050	10/25/2022	ND	2.15	108	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/25/2022	ND	2.03	101	2.00	1.29	
Total Xylenes*	<0.150	0.150	10/25/2022	ND	6.18	103	6.00	2.14	
Total BTEX	<0.300	0.300	10/25/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.5	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/25/2022	ND	416	104	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/25/2022	ND	204	102	200	0.189	
DRO >C10-C28*	<10.0	10.0	10/25/2022	ND	190	94.8	200	0.585	
EXT DRO >C28-C36	<10.0	10.0	10/25/2022	ND					
Surrogate: 1-Chlorooctane	126	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	139	% 46.3-17	8						

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10/24/2022

Soil

Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706

Fax To:

Received: 10/24/2022 Sampling Date:

Reported: 10/26/2022 Sampling Type:

Project Name: SPUD MUFFIN Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: EDDY CO NM

Sample ID: SW - 2 (H224983-02)

BTEX 8021B	mg	/kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2022	ND	1.98	99.1	2.00	3.22	
Toluene*	<0.050	0.050	10/25/2022	ND	2.15	108	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/25/2022	ND	2.03	101	2.00	1.29	
Total Xylenes*	<0.150	0.150	10/25/2022	ND	6.18	103	6.00	2.14	
Total BTEX	<0.300	0.300	10/25/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.5	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/25/2022	ND	416	104	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/25/2022	ND	204	102	200	0.189	
DRO >C10-C28*	<10.0	10.0	10/25/2022	ND	190	94.8	200	0.585	
EXT DRO >C28-C36	<10.0	10.0	10/25/2022	ND					
Surrogate: 1-Chlorooctane	117	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	126	% 46.3-17	8						

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Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706

Fax To:

 Received:
 10/24/2022
 Sampling Date:
 10/24/2022

 Reported:
 10/26/2022
 Sampling Type:
 Soil

Project Name: SPUD MUFFIN Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Applyzod By: 14

Project Location: EDDY CO NM

ma/ka

Sample ID: SW - 3 (H224983-03)

RTFY 8021R

BIEX 8021B	mg	/кд	Anaiyze	a By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2022	ND	1.98	99.1	2.00	3.22	
Toluene*	<0.050	0.050	10/25/2022	ND	2.15	108	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/25/2022	ND	2.03	101	2.00	1.29	
Total Xylenes*	<0.150	0.150	10/25/2022	ND	6.18	103	6.00	2.14	
Total BTEX	<0.300	0.300	10/25/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.6	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	10/25/2022	ND	416	104	400	3.92	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2022	ND	204	102	200	1.22	
DRO >C10-C28*	<10.0	10.0	10/24/2022	ND	207	104	200	0.483	
EXT DRO >C28-C36	<10.0	10.0	10/24/2022	ND					
Surrogate: 1-Chlorooctane	108	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	116	% 46.3-17	8						

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Celeg D. Freene



Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706

Analyzed By: JH

Fax To:

Received: 10/24/2022 Reported: 10/26/2022

Reported: 10/26/2022
Project Name: SPUD MUFFIN
Project Number: NONE GIVEN
Project Location: EDDY CO NM

mg/kg

Sampling Date: 10/24/2022

Sampling Type: Soil
Sampling Condition: ** (See Notes)

Sample Received By: Tamara Oldaker

Sample ID: SW - 4 (H224983-04)

BTEX 8021B

	9,	9	7	7: 5::					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2022	ND	1.98	99.1	2.00	3.22	
Toluene*	<0.050	0.050	10/25/2022	ND	2.15	108	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/25/2022	ND	2.03	101	2.00	1.29	
Total Xylenes*	<0.150	0.150	10/25/2022	ND	6.18	103	6.00	2.14	
Total BTEX	<0.300	0.300	10/25/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.1	% 69.9-14	0						
Chloride, SM4500CI-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	10/25/2022	ND	416	104	400	3.92	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2022	ND	204	102	200	1.22	
DRO >C10-C28*	<10.0	10.0	10/24/2022	ND	207	104	200	0.483	
EXT DRO >C28-C36	<10.0	10.0	10/24/2022	ND					
Surrogate: 1-Chlorooctane	109	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	116	% 46.3-17	8						

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Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706

Fax To:

Received: 10/24/2022 Sampling Date: 10/24/2022 Reported: 10/26/2022 Sampling Type: Soil

Project Name: SPUD MUFFIN Sampling Condition: ** (See Notes) Sample Received By: Tamara Oldaker Project Number: NONE GIVEN

Project Location: EDDY CO NM

Sample ID: CS - 1 (H224983-05)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2022	ND	1.98	99.1	2.00	3.22	
Toluene*	<0.050	0.050	10/25/2022	ND	2.15	108	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/25/2022	ND	2.03	101	2.00	1.29	
Total Xylenes*	<0.150	0.150	10/25/2022	ND	6.18	103	6.00	2.14	
Total BTEX	<0.300	0.300	10/25/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.1	% 69.9-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/25/2022	ND	416	104	400	3.92	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2022	ND	204	102	200	1.22	
DRO >C10-C28*	<10.0	10.0	10/24/2022	ND	207	104	200	0.483	
EXT DRO >C28-C36	<10.0	10.0	10/24/2022	ND					
Surrogate: 1-Chlorooctane	110 9	6 45.3-16	1						
Surrogate: 1-Chlorooctadecane	118 9	6 46.3-17	8						

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Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706 Fax To:

Received: 10/24/2022 Reported: 10/26/2022

Project Name: SPUD MUFFIN
Project Number: NONE GIVEN
Project Location: EDDY CO NM

Sampling Date: 10/24/2022

Sampling Type: Soil

Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: CS - 2 (H224983-06)

BTEX 8021B	mg,	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2022	ND	1.98	99.1	2.00	3.22	
Toluene*	<0.050	0.050	10/25/2022	ND	2.15	108	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/25/2022	ND	2.03	101	2.00	1.29	
Total Xylenes*	<0.150	0.150	10/25/2022	ND	6.18	103	6.00	2.14	
Total BTEX	<0.300	0.300	10/25/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.8	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	10/25/2022	ND	416	104	400	3.92	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2022	ND	204	102	200	1.22	
DRO >C10-C28*	<10.0	10.0	10/24/2022	ND	207	104	200	0.483	
EXT DRO >C28-C36	<10.0	10.0	10/24/2022	ND					
Surrogate: 1-Chlorooctane	112 9	26 45.3-16	1						
Surrogate: 1-Chlorooctadecane	120	% 46.3-17	8						

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Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706

Fax To:

Received: 10/24/2022 Sampling Date: 10/24/2022 Reported: 10/26/2022 Sampling Type: Soil

Project Name: SPUD MUFFIN Sampling Condition: ** (See Notes) Tamara Oldaker Project Number: NONE GIVEN Sample Received By:

Project Location: EDDY CO NM

Sample ID: CS - 3 (H224983-07)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2022	ND	1.98	99.1	2.00	3.22	
Toluene*	<0.050	0.050	10/25/2022	ND	2.15	108	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/25/2022	ND	2.03	101	2.00	1.29	
Total Xylenes*	<0.150	0.150	10/25/2022	ND	6.18	103	6.00	2.14	
Total BTEX	<0.300	0.300	10/25/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.6	% 69.9-14	0						
Chloride, SM4500Cl-B mg/kg		kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/25/2022	ND	416	104	400	3.92	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2022	ND	204	102	200	1.22	
DRO >C10-C28*	<10.0	10.0	10/24/2022	ND	207	104	200	0.483	
EXT DRO >C28-C36	<10.0	10.0	10/24/2022	ND					
Surrogate: 1-Chlorooctane	109 9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	117 %	6 46.3-17	8						

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Analytical Results For:

NTG ENVIRONMENTAL ETHAN SESSUMS 701 TRADEWINDS BLVD. SUITE C MIDLAND TX, 79706 Fax To:

Received: 10/24/2022 Reported: 10/26/2022

Project Name: SPUD MUFFIN
Project Number: NONE GIVEN
Project Location: EDDY CO NM

Sampling Date: 10/24/2022

Sampling Type: Soil

Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: CS - 4 (H224983-08)

BTEX 8021B	mg	/kg	Analyze	ed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2022	ND	1.98	99.1	2.00	3.22	
Toluene*	<0.050	0.050	10/25/2022	ND	2.15	108	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/25/2022	ND	2.03	101	2.00	1.29	
Total Xylenes*	<0.150	0.150	10/25/2022	ND	6.18	103	6.00	2.14	
Total BTEX	<0.300	0.300	10/25/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.8	% 69.9-14	0						
Chloride, SM4500CI-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	10/25/2022	ND	416	104	400	3.92	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/25/2022	ND	204	102	200	1.22	
DRO >C10-C28*	<10.0	10.0	10/25/2022	ND	207	104	200	0.483	
EXT DRO >C28-C36	<10.0	10.0	10/25/2022	ND					
Surrogate: 1-Chlorooctane	110	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	120	% 46.3-17	8						

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Notes and Definitions

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS

recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

cei	ved by OCD:	1/10/2023 10			Page 60 of
FORM-000 K 3.3 07/10/2	Delivered By: (Circle One) Sampler - UPS - Bus - Other:	service. In no event shall Cardinal be liable for incurental affiliates or successors arising out of or related to the per Relinquished By: Relinquished By:	Project Manager: Ethan by Address: 402 E wood I City: Caybood Phone #: 354266-5456 Project Name: 54466-5456 Project Location: Edity Sampler Name: Lab I.D. Sampler Name: 1400 Sampler Name:	101 East Marland (575) 393-2326 Company Name: N T 6 E	Labor
† Cardinal cannot acce	Observe	Time: 2.30 Date: Received By:	State: N State: N Fax #: Project 0 Project 0 Sw-1 Sw-1 Sw-2 Sw-3	т.	atories
Cardinal cannot accept verbal changes. Please email changes	Sample Condition CHECKED BY: Turnaround Time: Cool Intact (Initials) Thermometer ID #113 Thermometer ID #103 Correction Factor -0.8°C	A MARA MANA MANA AMARAMAN SA MANA MANA MANA MANA MANA MANA MA	Address: Address: City: State: Zip: Phone #: Fax #: ACID/BASS. IC O I I I I I I I I I I I I I I I I I I	P.O.#:	CHAIN-OF-CUSTO
	und Time: Standard Rush Cool Intact Observed Temp. °C n Factor -0.5°C Celev,keene@cardinallabsnm.com	Please provide Ema	Chloridos	ANALYSIS REQUEST	F-CUSTODY AND ANALYSIS REQUEST

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

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 174563

CONDITIONS

Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP	6137
333 West Sheridan Ave.	Action Number:
Oklahoma City, OK 73102	174563
	Action Type:
	[C-141] Release Corrective Action (C-141)

CONDITIONS

(Created By		Condition Date
	rhamlet	We have received your closure report and final C-141 for Incident #NAPP2135745913 SPUD MUFFIN 31 CTB 1, thank you. This closure is approved.	4/12/2023