



May 30, 2023

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**RE: Closure Report
Coterra Energy, Inc.
Tar Heel 19-18-7 Fed Com 18H
Eddy County, New Mexico
nAPP2206272830**

Oil Conservation Division:

Tetra Tech, Inc. (Tetra Tech) was contracted by Coterra Energy, Inc. (Coterra) to assess a release that occurred at the Tar Heel 19-18-7 Fed Com 18H (Site), Section 19, Township 26 South, Range 30 East, Eddy County, New Mexico. The spill site coordinates are 32.02264°, -103.92471°. The site location is shown on **Figures 1 and 2**.

Background

According to the State of New Mexico C-141 Initial Report, the release at the Site occurred subsequent to a camlock separation while pressure testing a booster pump. Approximately 9 barrels (bbls) of produced water was released onto the location pad and 4 bbls of produced water from the release was recovered by vacuum truck. The release was discovered and reported to the New Mexico Oil Conservation Division (NMOCD) on March 3, 2022. The C-141 is included in **Appendix A**.

Site Characterization

Significant Water Features

According to the NFHL (National Flood Hazard Layer) Flood Data Application and the USGS (United States Geological Survey) National Water Information System Mapper, there is one intermittent stream located approximately 0.2 miles southwest of the horizontal extent of the release. No significant watercourses were identified within 300 feet of the Site. There were no playas, lakebeds, sinkholes, springs, wetlands, subsurface mines, private domestic water wells, or floodplains located within the specified distances. The site is located in a medium karst area. The NFHL Map, USGS Mapper, and NMOSE data are shown in **Appendix B**.



Significant Boundaries

According to Google Earth US Government City Boundaries and US School Districts, the lateral extents of the release were not within incorporated municipal boundaries, defined municipal fresh water well field, or a school district. Additionally, there were no occupied permanent residences, schools, hospitals, institution, or churches located within the specified distances of the lateral extents of the release.

Groundwater Review

Groundwater research was completed for the site through the USGS (United States Geological Survey) National Water Information System and New Mexico Office of the State Engineer (NMOSE) Water Rights Reporting System. No Points of Diversion (POD) were identified within a 0.5-mile radius of the Site. Two Points of Diversion (POD) were identified within a 2-mile radius of the Site. C 04561 POD1, was drilled to 105 feet below ground surface (ft bgs) on July 28, 2021, with no measured depth to water recorded, and is located approximately 1.01 miles southwest of the horizontal extent of the release. POD C 02038 was drilled to a total depth of 200 ft bgs on September 5, 1982, with no measured depth to water and is located approximately 1.71 miles southwest of the Site. POD records are presented in **Appendix B**.

POD ID	Distance from Site (Miles)	Date of Data	Resource of Information	Depth of Well	Depth to Water
C 4561 POD 1	1.01	07/28/2021	NMOSE	105'	No Data
C 02038	1.71	09/05/1982	NMOSE	200'	No Data

Regulatory

A risk-based evaluation was performed for the site following the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills, and Releases, updated August 14, 2018. The guidelines require a risk-based evaluation of the site to determine the Recommended Remedial Action Levels (RRALs) for Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) and total petroleum hydrocarbons (TPH) in soil. Based on the site characterization, the proposed RRAL for benzene was determined to be 10 milligrams per kilogram (mg/kg), 50 mg/kg for total BTEX, 100 mg/kg for TPH, and 600 mg/kg for chloride.

Site Assessment Activities

Tetra Tech conducted site assessment activities on April 24, 2023. A total of four (4) trenches (Trench-1 through Trench-4) were installed to total depths of 4.0 ft bgs in an attempt to assess and vertically delineate the impacted area. Additionally, a total of four (4) horizontal trenches (H-1 through H-4) were installed to total depths of 1.0 ft bgs, to horizontally delineate the impact. The impact and sample locations are shown on **Figure 3**. The samples were field screened using an Extech EC 400 salinity meter to determine the conductivity of the soil in the release impacted area. Additionally, a silver nitrate titration method was utilized to determine the



extent of chloride impacts to the soil at the Site. The delineation field screening results are summarized in **Table 1**.

Referring to Table 1, trenches (T-1 and T-2) indicated chloride concentrations at or above RRALs, with concentrations ranging from 600 mg/kg to 1,200 mg/kg, at depths ranging from 1 ft bgs to 3 ft bgs. The remaining trenches and horizontal test holes exhibited chloride concentrations below 600 mg/kg.

Trenches (Trench-1 through Trench-1) were vertically delineated during delineation assessment activities for Chlorides at depths ranging from ground surface to 4 ft bgs.

Remediation Activities

Based on the results of the soil assessment, Tetra Tech and Coterra's contractor, 4 Elements Oilfield Services, LLC, conducted remediation activities from May 5, 2023, through May 19, 2023. The areas of impact were excavated to a depth ranging from 1 ft bgs to 5.5 ft bgs. The remediation areas and depths are shown on **Figure 4**.

Confirmation bottom hole and sidewall samples were collected every two hundred square feet in a composite 5-point die pattern to ensure a representative sample of the full depth of the sidewalls and the entire floor of the excavation. A total of thirty-four (34) bottom hole samples (BTM-1 through BTM-34) were collected and a total of nine (9) sidewall samples (SW-1 through SW-9) were collected to confirm complete removal of impacted soil. The confirmation soil samples were submitted to the Cardinal Laboratory in Hobbs, New Mexico and Permian Basin Environmental Laboratory in Midland, Texas, to be analyzed for TPH by method 8015 modified, BTEX by method 8021B, and Chloride by EPA Method 4500. The analytical results are summarized in **Table 2** and the analytical laboratory reports are included in **Appendix D**.

Referring to Table 2, confirmation samples (BTM-6, BTM-12, SW-1, and SW-3), collected on May 5, 2023, and May 11, 2023, reported chloride concentrations of 733 mg/kg, 816 mg/kg, 1000mg/kg, and 640 mg/kg, respectively. The aforementioned samples were recollected on May 11, 2023, and May 19, 2023, after the excavation was extended in the areas of exceedance. All final confirmation samples indicated benzene, BTEX, TPH, and chloride concentrations were below the NMOCD RRALs for the Site

Conclusions

Based on the C-141 (nAPP2229759498) and information provided by Coterra, Tetra Tech performed site characterization, groundwater research, and groundwater gauging to determine groundwater depth, proximity from significant water features, and proximity from specified populated entities to determine RRALs and assess the impacted area. Based on the *OCD Guidelines for Remediation of Leaks, Spills, and Releases*, updated August 14, 2018, based on the site characterization, the proposed RRAL for benzene was determined to be 10 milligrams per kilogram (mg/kg), 50 mg/kg for total BTEX, 100 mg/kg for TPH, and 600 mg/kg for chloride.

Following excavation of the impacted soils, Tetra Tech conducted confirmation soil sampling of the area by collecting 5-point composite confirmation bottom hole and sidewall



samples to ensure the impacted soil was removed according to the specified RRALs. An estimated 1,300 cubic yards of impacted soil was removed and properly disposed of at Milestone Environmental Services in Orla, Texas, and the area was backfilled with clean material to surface grade. The analytical results indicated all final confirmation samples reported below the RRALs for all constituents.

Based on the Site assessment data and remediation activities performed, Coterra requests closure of the release area. The final C-141 is included in **Appendix A**.

If you require any additional information or have any questions or comments, please contact us at (432) 682-4559.

Respectfully submitted,
TETRA TECH

A handwritten signature in blue ink that reads 'John Faught'.

John Faught, G.I.T.
Project Manager

A handwritten signature in blue ink that reads 'Clair Gonzales'.

Clair Gonzales, P.G.
Senior Project Manager

Figures

Figure 1 - Site Overview Map
Figure 2 - Topographic Map
Figure 3 – Spill Assessment Map
Figure 4 – Excavation Area and Depth Map

Tables

Table 1 – Delineation Analytical Results
Table 2 – Confirmation Analytical Results

Appendices

Appendix A – C-141
Appendix B – Site Characterization
Appendix C – Photographic Documentation
Appendix D – Analytical Laboratory Reports



Figures

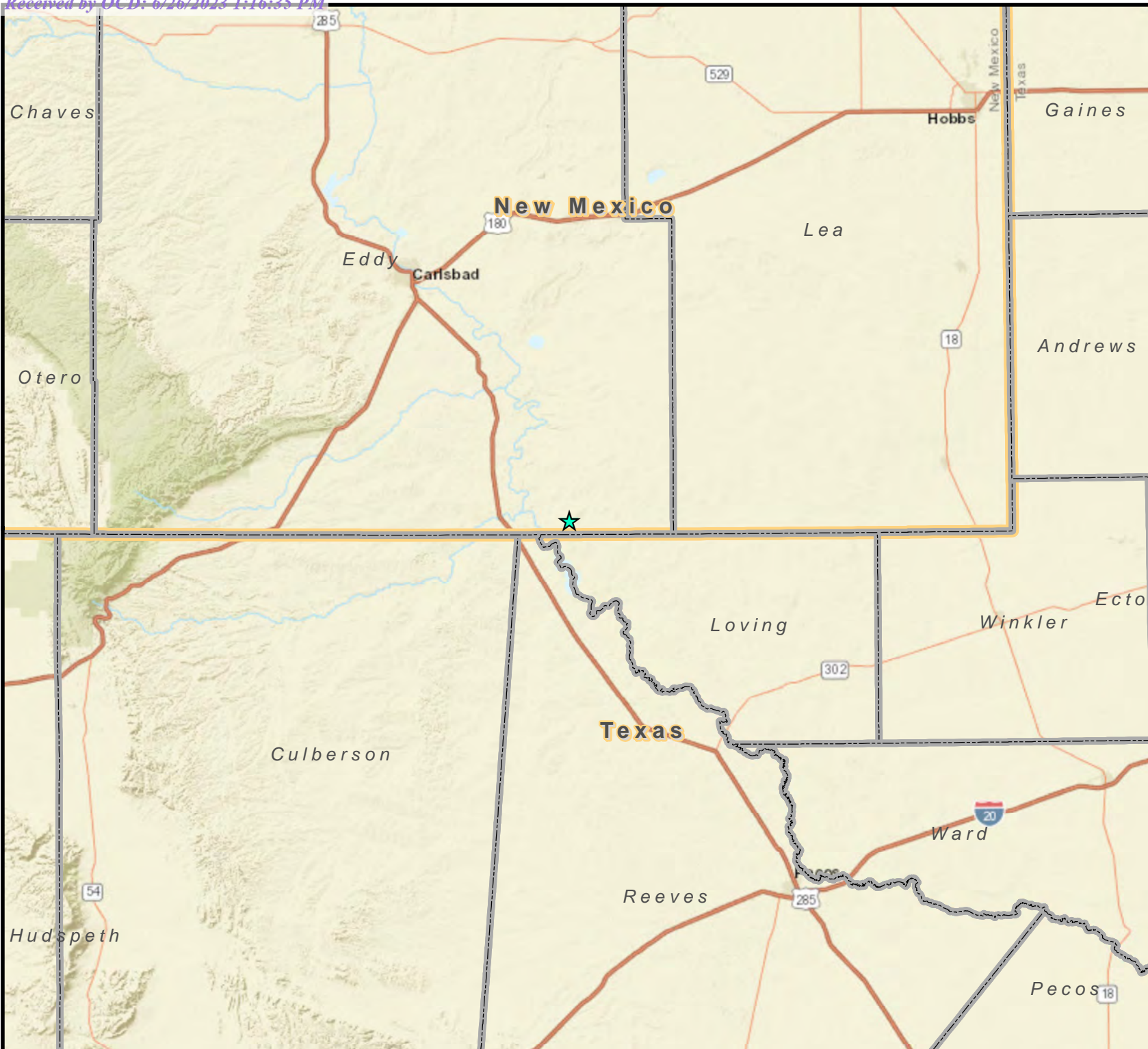


FIGURE 1
SITE OVERVIEW MAP
COTERRA TAR HEEL
19-18-7
FEDERAL COM 18H
EDDY COUNTY,
NEW MEXICO

LEGEND

★ Site Location



Date: 5/16/2023
Project: 212C-MD-03090

Prepared By: TETRA TECH

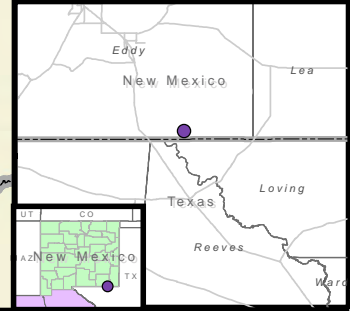




FIGURE 2

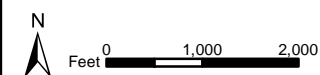
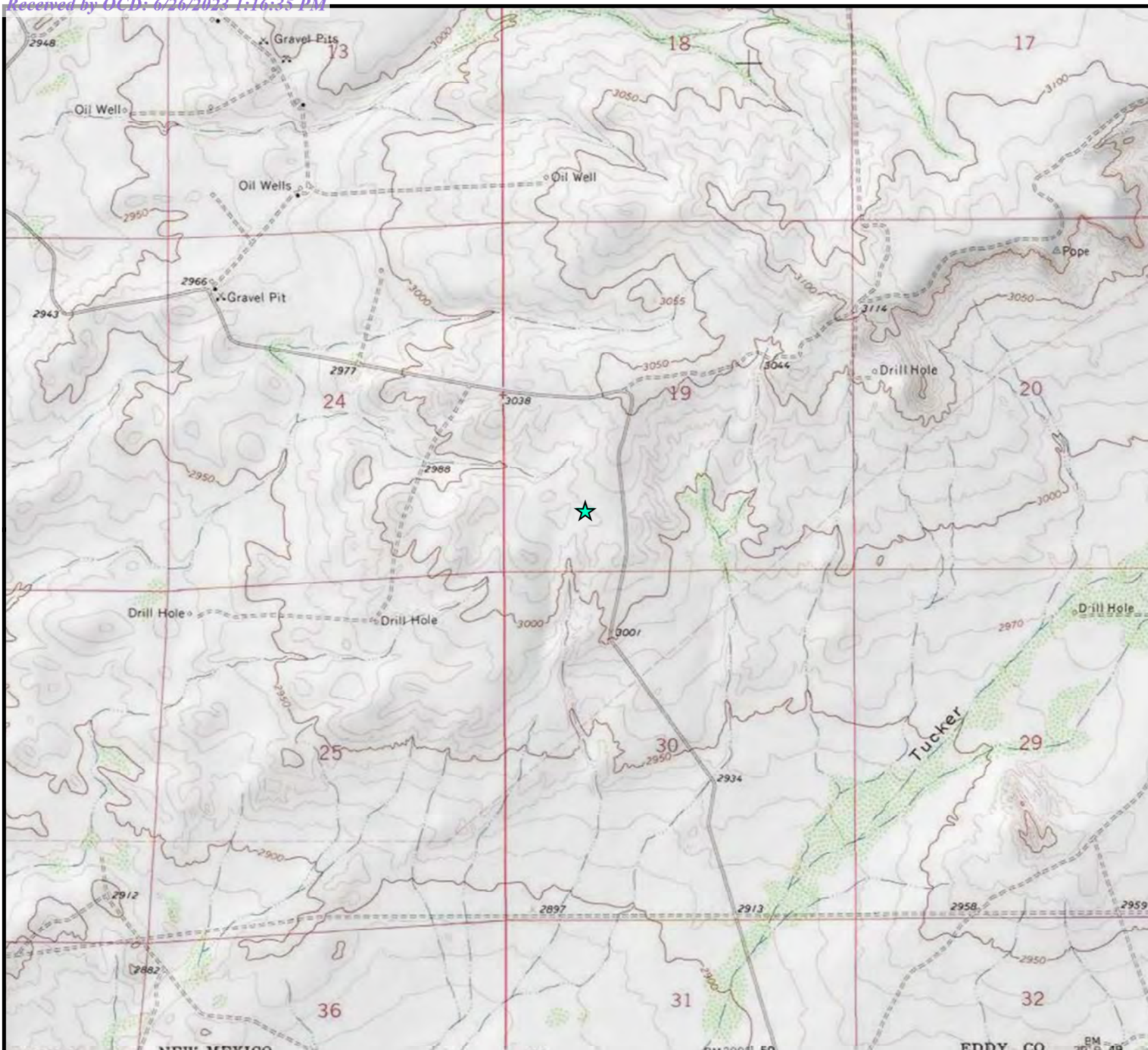
TOPOGRAPHIC MAP

COTERRA TAR HEEL
19-18-7
FEDERAL COM 18H

EDDY COUNTY,
NEW MEXICO

LEGEND

★ Site Location



Date: 5/16/2023
Project: 212C-MD-03090

Prepared By: TETRA TECH

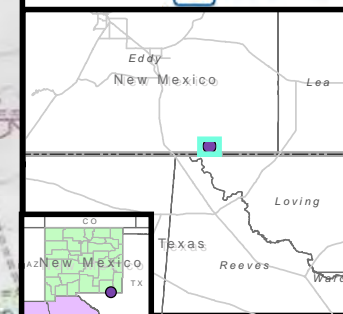




FIGURE 3

DELINERATION ASSESSMENT MAP

COTERRA TAR HEEL
19-18-7
FEDERAL COM 18H

EDDY COUNTY,
NEW MEXICO

LEGEND

- Delineation Sample Location
- Release Footprint



Date: 5/24/2023
Project: 212C-MD-03090

Prepared By: TETRA TECH

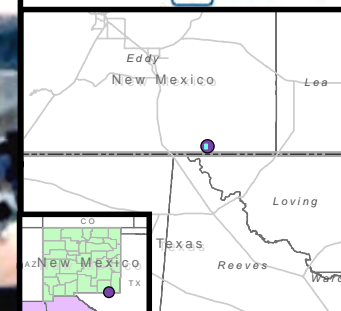




FIGURE 4

EXCAVATION AREA AND
DEPTH MAP

COTERRA TAR HEEL
19-18-7
FEDERAL COM 18H

EDDY COUNTY,
NEW MEXICO

LEGEND

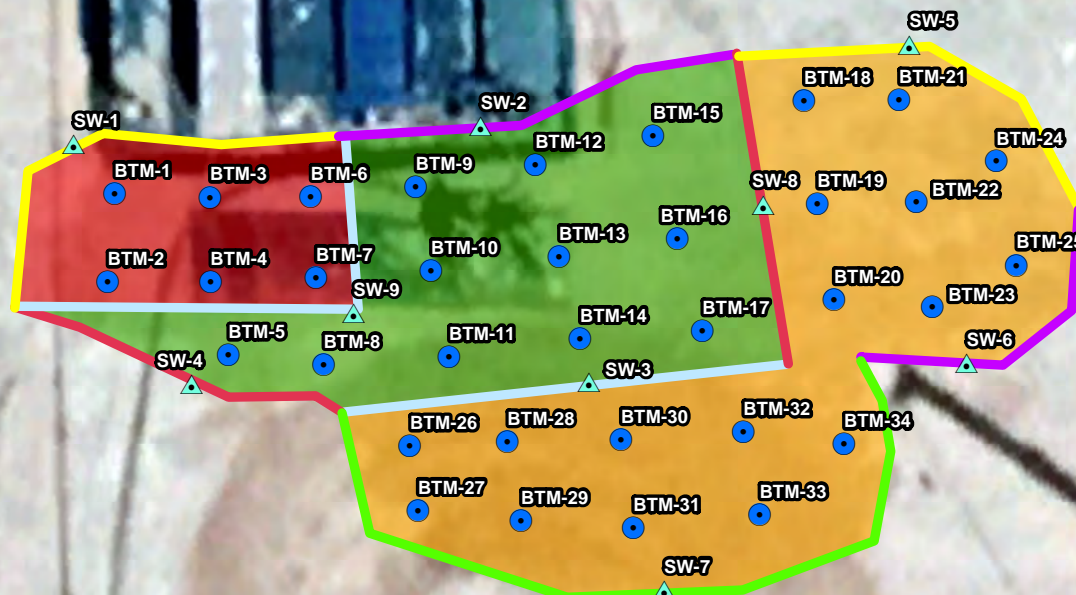
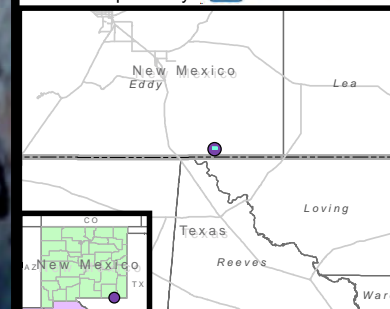
- Sidewall Sample Location
- Bottom Sample Location
- Excavation Area- 1-2' bgs
- Excavation Area- 4-4.5' bgs
- Excavation Area- 5-5.5' bgs
- Sidewall Designations

*bgs: below ground surface



Date: 5/24/2023
Project: 212C-MD-03090

Prepared By: TETRA TECH





Tables

Table 1
Delineation Field Screening Results
Coterra Energy, Inc.
Tar Heel 19-18-7 Fed Com 18H
Eddy County, New Mexico

Sample ID	Sample Date	Excavtion Depth (ft)	Soil Status		Exstick EC 400 Result (ppm)	ChlorideTitration Result (mg/kg)
			In-Situ	Removed		
RRALs			600 mg/kg			
T-1	4/24/2023	0-1'	-	x	1730	980
	4/24/2023	2.0'	-	x	2120	890
	4/24/2023	3.0'	-	x	2660	1,200
	4/24/2023	4.0'	-	x	1290	380
T-2	4/24/2023	0-1'	-	x	450	120
	4/24/2023	2.0'	-	x	200	580
	4/24/2023	3.0'	-	x	541	600
	4/24/2023	4.0'	-	x	1210	440
T-3	4/24/2023	0-1'	-	x	325	180
	4/24/2023	2.0'	-	x	540	320
	4/24/2023	3.0'	x	-	515	280
	4/24/2023	4.0'	x	-	936	440
T-4	4/24/2023	0-1'	-	x	150	120
	4/24/2023	2.0'	x	-	348	100
	4/24/2023	3.0'	x	-	826	220
	4/24/2023	4.0'	x	-	780	180
H-1	4/24/2023	0-1.0	x	-	1180	500
H-2	4/24/2023	0-1.0	x	-	245	240
H-3	4/24/2023	0-1.0	x	-	570	220
H-4	4/24/2023	0-1.0	x	-	331	180

NOTES
RRALs (Recommended Remediation Action Levels) are based on NMOCD
All screening values and results are presented in milligrams per kilogram (mg/kg)
Bolded cells represent a detected concentration above the respective screening value.
< = analyte was not detected above the respective sample detection limit
ft = feet below ground surface
(-) = not analyzed for respective constituent
TPH = total petroleum hydrocarbons
BTEX = benzene, toluene, ethylbenzene, xylene

Exceedance

Table 2
Confirmation Analytical Results
Coterra Energy
Tar Heel 19-18-7 Federal Com 18H
Eddy County, New Mexico

Sample ID	Sample Date	Excavtion Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	Total						
RRALs			100 mg/kg						10 mg/kg	50 mg/kg				600 mg/kg
BTM-1	5/11/2023	5'	x	-	<27.2	<27.2	<27.2	<27.2	<0.00109	<0.00109	<0.00109	<0.00217	<0.00217	502
BTM-2	5/11/2023	5'	x	-	<25.5	<25.5	<25.5	<25.5	<0.00102	<0.00102	<0.00102	<0.00204	<0.00204	75.7
BTM-3	5/11/2023	5.5'	x	-	<27.2	<27.2	<27.2	<27.2	<0.00109	<0.00109	<0.00109	<0.00217	<0.00217	337
BTM-4	5/11/20223	5'	x	-	<26.3	<26.3	<26.3	<26.3	<0.00105	<0.00105	<0.00105	<0.00211	<0.00211	538
BTM-5	5/4/2023	4'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	304
BTM-6	5/11/2023	5'	-	x	<26.0	<26.0	<26.0	<26.0	<0.00104	<0.00104	<0.00104	<0.00208	<0.00208	733
	5/19/2023	5.5'	x	-	<26.3	<26.3	<26.3	<26.3	<0.00105	<0.00105	<0.00105	<0.00211	<0.00211	215
BTM-7	5/11/2023	5'	x	-	<25.5	<25.5	<25.5	<25.5	<0.00102	<0.00102	<0.00102	<0.00204	<0.00204	86.1
BTM-8	5/4/2023	4'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	160
BTM-9	5/4/2023	4'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	176
BTM-10	5/4/2023	4'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	160
BTM-11	5/4/2023	4'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	352
BTM-12	5/4/2023	4'	-	x	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	816
	5/11/2023	4.5'	x	-	<25.8	<25.8	<25.8	<25.8	<0.00103	<0.00103	<0.00103	<0.00206	<0.00206	449
BTM-13	5/4/2023	4'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	336
BTM-14	5/4/2023	4'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	528
BTM-15	5/4/2023	4'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	240
BTM-16	5/4/2023	4'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	256
BTM-17	5/4/2023	4'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	208
BTM-18	5/4/2023	2'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	400
BTM-19	5/4/2023	2'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	192
BTM-20	5/4/2023	2'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	256
BTM-21	5/4/2023	2'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	304
BTM-22	5/4/2023	2'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	224
BTM-23	5/4/2023	2'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	96
BTM-24	5/4/2023	2'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	224
BTM-25	5/4/2023	2'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	160
BTM-26	5/4/2023	1'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	128
BTM-27	5/4/2023	1'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	112
BTM-28	5/4/2023	1'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	384
BTM-29	5/4/2023	1'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	128
BTM-30	5/4/2023	1'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	256
BTM-31	5/4/2023	1'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	128

Table 2
Confirmation Analytical Results
Coterra Energy
Tar Heel 19-18-7 Federal Com 18H
Eddy County, New Mexico

Sample ID	Sample Date	Excavtion Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	Total						
RRALs			100 mg/kg						10 mg/kg	50 mg/kg				600 mg/kg
BTM-32	5/4/2023	1'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	384
BTM-33	5/4/2023	1'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	112
BTM-34	5/4/2023	2'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	320
SW-1	5/11/2023	0-5.5'	-	x	<27.2	<27.2	<27.2	<27.2	<0.00109	<0.00109	<0.00109	<0.00217	<0.00109	1000
	5/19/2023	0-5.5'	x	-	<25.5	<25.5	<25.5	<25.5	<0.00102	<0.00102	<0.00102	<0.00204	<0.00204	224
SW-2	5/11/2023	0-4'	x	-	<26.6	<26.6	<26.6	<26.6	<0.00106	<0.00106	<0.00106	<0.00213	<0.00213	100
SW-3	5/4/2023	1-4'	-	x	10.1	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	640
	5/11/2023	1-4'	x	-	<26.6	<26.6	<26.6	<26.6	<0.00106	<0.00106	<0.00106	<0.00213	<0.00213	64.8
SW-4	5/4/2023	0-4'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	432
SW-5	5/4/2023	0-2'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	208
SW-6	5/4/2023	0-2'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	160
SW-7	5/4/2023	0-1'	x	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	320
SW-8	5/11/2023	2-4'	x	-	<26.6	<26.6	<26.6	<26.6	<0.00106	<0.00106	<0.00106	<0.00213	<0.00213	76.8
SW-9	5/11/2023	4-5'	x	-	<25.5	<25.5	<25.5	<25.5	<0.00102	<0.00102	<0.00102	<0.00204	<0.00204	180

NOTES

RRALs (Recommended Remediation Action Levels) are based on NMOCD (New Mexico Oil Conservation Devision) *Guidelines for Remediation of Leaks, Spills, and Releases*.

All screening values and results are presented in milligrams per kilogram (mg/kg)

Bolded cells represent a detected concentration above the respective screening value.

< = analyte was not detected above the respective sample detection limit

ft = feet below ground surface

(-) = not analyzed for respective constituent

TPH = total petroleum hydrocarbons

BTEX = benzene, toluene, ethylbenzene, xylene

Exceedance



Appendix A

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	nAPP2206272830
District RP	
Facility ID	fAPP2202685331
Application ID	

Release Notification

Responsible Party

Responsible Party: Cimarex Energy Co.	OGRID: 215099
Contact Name: Laci Luig	Contact Telephone: (432) 571-7800
Contact email: laci.luig@coterra.com	Incident # (assigned by OCD) nAPP2206272830
Contact mailing address: 600 N Marienfeld Street, Ste. 600 Midland, TX 79701	

Location of Release Source

Latitude 32.02264 _____ Longitude -103.92471 _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Tar Heel 19-18-7 Federal Com 18H	Site Type: Well Pad
Date Release Discovered: 3/3/2022	API# (if applicable)

Unit Letter	Section	Township	Range	County
N	19	26S	30E	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)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 9	Volume Recovered (bbls) 4
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input 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: Equipment Failure

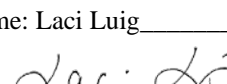
While pressure testing a plug, the 4" hose attached to the outlet of the booster pump via camlock fitting separated from the camlock king nipple resulting in the release of 9 barrels produced water onto the well pad. A vacuum truck was able to recover 4 barrels. An environmental company will be contacted to remediate impacted soils after frac equipment is removed from location.

Incident ID	nAPP2206272830
District RP	
Facility ID	fAPP2202685331
Application ID	

<p>Was this a major release as defined by 19.15.29.7(A) NMAC?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>If YES, for what reason(s) does the responsible party consider this a major release?</p>
<p>If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?</p> <p>By: Laci Luig</p> <p>To: OCD Enviro, BLM</p> <p>By: Email</p>	

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: Laci Luig_____	Title: ESH Specialist_____
Signature: <u></u> _____	Date: 3/3/2022_____
email: laci.luig@coterra.com_____	Telephone: (432) 208-3035_____
<u>OCD Only</u>	
Received by: <u>Shelly Wells</u>	Date: <u>6/26/2023</u>

Incident ID	nAPP2206272830
District RP	
Facility ID	fAPP2202685331
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?	<u>Unknown</u> (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 not 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.

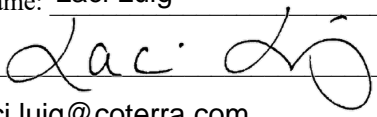
Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☒ 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 ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

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

Incident ID	nAPP2206272830
District RP	
Facility ID	fAPP2202685331
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: Laci Luig Title: ESH Specialist
Signature:  Date: 6/21/2023
email: laci.luig@coterra.com Telephone: (432) 208-3035

OCD Only

Received by: Shelly Wells Date: 6/26/2023

Incident ID	nAPP2206272830
District RP	
Facility ID	fAPP2202685331
Application ID	

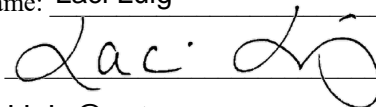
Closure

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: Laci LuigTitle: ESH SpecialistSignature: Date: 6/21/2023email: laci.luig@coterra.comTelephone: (432) 208-3035

OCD Only

Received by: Shelly WellsDate: 6/26/2023

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____



Appendix B

Site Characterization

Site Characterization Summary

Site Information:

Coterra Energy Tar Heel 19-18-7 Fed Com 18H Release
Eddy County, New Mexico
T26S, R30E, Section 19
(32.02264°, -103.92471°)

Site Characterization:

- Medium Karst
- No significant water features within specified distances
- C 4561 POD 1 Groundwater: No Data 1.01 Miles Southwest. (NMOSE, Section 24)
- C 02038 Groundwater: No Data 1.71 Southwest (NMOSE, Section 26)

RRALs:

- 600 mg/kg Chlorides
- 100 mg/kg Total TPH
- 10 mg/kg Benzene
- 50 mg/kg Total BTEX

Explanation:

Due to inadequate groundwater information (distance further than ½ mile/data dated >25 years), Most stringent RRALs will be followed unless groundwater determination bore is drilled, and no water is found at depths of at least 55' BGS or greater.

25 South			29 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

25 South			30 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

25 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South			29 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

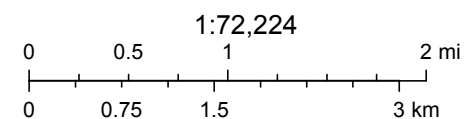
26 South			30 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

New Mexico NFHL Data



May 12, 2023



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand),

nmflood.org is made possible through a collaboration with NMDHSEM,

This is a non-regulatory product for informational use only. Please consult your local floodplain administrator for further information.



National Water Information System: Mapper

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

[Help](#) [Info](#)



Site Information



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 04561 POD1	CUB	ED		4	3	3	24	26S	29E	599924	3543208	1631			
C 02038	C	ED		3	2	4	26	26S	29E	599204	3541992*	2752	200		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 2

Basin/County Search:

County: Eddy

UTMNAD83 Radius Search (in meters):

Easting (X): 601537.301

Northing (Y): 3543451.699

Radius: 3200

*UTM location was derived from PLSS - see Help

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

5/12/23 1:15 PM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: C-4561- POD1

Well owner: XTO ENERGY (Kyle Littrell)

Phone No.: 432.682.8873

Mailing address: 6401 Holiday Hill Dr.

City: Midland

State: Texas

Zip code: 79707

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: Jackie D. Atkins (Atkins Engineering Associates Inc.)

2) New Mexico Well Driller License No.: 1249 Expiration Date: 04/30/23

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Shane Eldridge, Cameron Pruitt, Carmelo Trevino

4) Date well plugging began: 07/27/2021 8/12/2021 Date well plugging concluded: 07/27/2021 8/12/2021 *Per Chris Cortez*

5) GPS Well Location: Latitude: 32 deg, 1 min, 14.17 sec
Longitude: 103 deg, 56 min, 30.83 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 105 ft below ground level (bgl),
by the following manner: weighted tape

7) Static water level measured at initiation of plugging: n/a ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 07/20/2021

9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

DSE DIT AUG 17 2021 PM 3:12

- 10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

<u>Depth</u> (ft bgl)	<u>Plugging Material Used</u> (include any additives used)	<u>Volume of Material Placed</u> (gallons)	<u>Theoretical Volume of Borehole/ Casing</u> (gallons)	<u>Placement Method</u> (tremie pipe, other)	<u>Comments</u> ("casing perforated first", "open annular space also plugged", etc.)
0-10'	Hydrated Bentonite	Approx. 16 gallons	16 gallons	Augers	
10'-105'	Drill Cuttings	Approx. 175 gallons	175 gallons	Boring	

MULTIPLY	BY	AND OBTAIN
cubic feet x	7.4805	= gallons
cubic yards x	201.97	= gallons

III. SIGNATURE:

I, Jackie D. Atkins, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Jackie Atkins

Signature of Well Driller


08/16/2021

Date



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)				(quarters are smallest to largest)		(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
C	02038	3	2	4	26	26S	29E	599204	3541992* 
<hr/>									
Driller License:	421	Driller Company:				GLENN'S WATER WELL SERVICE			
Driller Name:	CORKY GLENN								
Drill Start Date:	09/01/1982	Drill Finish Date:				09/05/1982		Plug Date:	
Log File Date:	09/16/1982	PCW Rev Date:						Source: Shallow	
Pump Type:		Pipe Discharge Size:						Estimated Yield:	
Casing Size:	6.63	Depth Well:				200 feet		Depth Water:	
<hr/>									
Casing Perforations:					Top	Bottom			
					100	140			

*UTM location was derived from PLSS - see Help

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

5/12/23 1:32 PM

POINT OF DIVERSION SUMMARY

Revised June 1972

STATE ENGINEER OFFICE
WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well J.C. Williamson 86 JAN 7 AIO: 94
Street or Post Office Address _____
City and State Midland, Texas

Well was drilled under Permit No. C-2038 and is located in the STATE ENGINEER OFFICE
SANTA FE NEW MEXICO

a. 1/4 NE SE 1/4 of Section 26 Township 26S Range 29E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in
the _____ Grant _____

(B) Drilling Contractor Glenn's Water Well Service License No. WD 421

Address Box 692 Tatum, N.M. ** 88267

Drilling Began Sept. 1, '82 Completed Sept. 5, '82 Type tools rotary Size of hole 8" in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 200 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			

Section 3. RECORD OF CASING

[illegible]

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

State Engineer Representative

FOR USE OF STATE ENGINEER ONLY

Date Received **September 16, 1982**

Quad _____ FWL _____ FSL _____

File No. **C-2038**

Use **Domestic & Stock** Location No. **26-29 26-42324 OFF SE CORNER & SOUTH LINE**

18

Section 7. REMARKS AND ADDITIONAL INFORMATION

W. H. H. H. Driller :

Driller

Released to Imaging: 12/7/2023 9:17:44 AM



Appendix C

Photographic Documentation

Photographic Log
Tar Heel 19-18-7 Federal Com 18H
Coterra Energy, Inc.


Photo: 1**Description:**

View of Remediation Activities – West side of the Site facing east.

**Photo: 2****Description:**

View of Remediation Activities – Northeast side of the Site facing southwest.



Date Taken:	Job No.	Photographs Taken By:	Page No.	Client:	Site Name:	
5/4/2023 – 5/19/2023	212C-MD-03090	M. Flores, M. Castrejon	Page 1 of 4	Coterra Energy, Inc.	Tar Heel 19-18-7 Fed Com 18H	

Photographic Log
Tar Heel 19-18-7 Federal Com 18H
Coterra Energy, Inc.


Photo: 3**Description:**

View of Remediation Activities – East side of the Site facing west.

**Photo: 4****Description:**

View of Remediation Activities – Southeast corner of the Site facing northwest.



Date Taken:	Job No.	Photographs Taken By:	Page No.	Client:	Site Name:	
5/4/2023 – 5/19/2023	212C-MD-03090	M. Flores, M. Castrejon	Page 2 of 4	Coterra Energy, Inc.	Tar Heel 19-18-7 Fed Com 18H	

Photographic Log
Tar Heel 19-18-7 Federal Com 18H
Coterra Energy, Inc.


Photo: 5**Description:**

View of Remediation Activities – Southeast side of the Site facing northwest.

**Photo: 6****Description:**

View of Remediation Activities – West side of the Site facing east.




Date Taken:	Job No.	Photographs Taken By:	Page No.	Client:	Site Name:	
5/4/2023 – 5/19/2023	212C-MD-03090	M. Flores, M. Castrejon	Page 3 of 4	Coterra Energy, Inc.	Tar Heel 19-18-7 Fed Com 18H	

Photographic Log
Tar Heel 19-18-7 Federal Com 18H
Coterra Energy, Inc.

Photo: 7**Description:**

View of Remediation
Activities – West side of
the excavation.



Date Taken:	Job No.	Photographs Taken By:	Page No.	Client:	Site Name:	 TETRA TECH
5/4/2023 – 5/19/2023	212C-MD-03090	M. Flores, M. Castrejon	Page 4 of 4	Coterra Energy, Inc.	Tar Heel 19-18-7 Fed Com 18H	



Appendix D

Analytical Laboratory Reports



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

May 10, 2023

JOHN FAUGHT

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: TAR HEEL 19-18-7

Enclosed are the results of analyses for samples received by the laboratory on 05/05/23 16:01.

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/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: SW - 3 (1-4') (H232255-01)

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	05/08/2023	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	10.1	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 88.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.9 % 49.1-148

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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: SW - 4 (0-4') (H232255-02)

BTEx 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93	
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38	
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41	
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29	
Total BTEx	<0.300	0.300	05/09/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	432	16.0	05/08/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 94.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.2 % 49.1-148

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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: SW - 5 (0-2') (H232255-03)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEx	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	05/08/2023	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 70.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 67.5 % 49.1-148

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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET, STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: SW - 6 (0-2') (H232255-04)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEx	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	05/08/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 85.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET, STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: SW - 7 (0-1') (H232255-05)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEx	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	05/08/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 89.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.0 % 49.1-148

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Analytical Results For:

TETRA TECH
JOHN FAUGHT
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 05/05/2023
Reported: 05/10/2023
Project Name: TAR HEEL 19-18-7
Project Number: 212C - MD - 03090
Project Location: COTERRA - EDDY COUNTY, NM

Sampling Date: 05/04/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: BTM - 5 (4') (H232255-06)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	304	16.0	05/08/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 79.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.7 % 49.1-148

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Analytical Results For:

TETRA TECH
JOHN FAUGHT
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 05/05/2023
Reported: 05/10/2023
Project Name: TAR HEEL 19-18-7
Project Number: 212C - MD - 03090
Project Location: COTERRA - EDDY COUNTY, NM

Sampling Date: 05/04/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: BTM - 8 (4') (H232255-07)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	05/08/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 90.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.1 % 49.1-148

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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 9 (4') (H232255-08)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	05/08/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 90.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.0 % 49.1-148

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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 10 (4') (H232255-09)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	05/08/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 83.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.8 % 49.1-148

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Analytical Results For:

TETRA TECH
JOHN FAUGHT
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MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 11 (4') (H232255-10)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	05/08/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 88.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
JOHN FAUGHT
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 12 (4') (H232255-11)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	816	16.0	05/08/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 61.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 57.9 % 49.1-148

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Analytical Results For:

TETRA TECH
JOHN FAUGHT
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 13 (4') (H232255-12)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	05/08/2023	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 96.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.4 % 49.1-148

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Analytical Results For:

TETRA TECH
JOHN FAUGHT
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 14 (4') (H232255-13)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	528	16.0	05/08/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 79.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.1 % 49.1-148

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Analytical Results For:

TETRA TECH
JOHN FAUGHT
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 15 (4') (H232255-14)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	05/08/2023	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 83.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.8 % 49.1-148

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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 16 (4') (H232255-15)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	05/08/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 84.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 17 (4') (H232255-16)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	05/08/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 94.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.0 % 49.1-148

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Analytical Results For:

TETRA TECH
JOHN FAUGHT
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 05/05/2023
Reported: 05/10/2023
Project Name: TAR HEEL 19-18-7
Project Number: 212C - MD - 03090
Project Location: COTERRA - EDDY COUNTY, NM

Sampling Date: 05/04/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: BTM - 18 (2') (H232255-17)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	05/08/2023	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 79.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 75.1 % 49.1-148

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Analytical Results For:

TETRA TECH
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 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 19 (2') (H232255-18)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	05/08/2023	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 88.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.8 % 49.1-148

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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 20 (2') (H232255-19)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	05/08/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 83.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.8 % 49.1-148

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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 21 (2') (H232255-20)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2023	ND	1.97	98.6	2.00	6.93		
Toluene*	<0.050	0.050	05/09/2023	ND	2.02	101	2.00	7.38		
Ethylbenzene*	<0.050	0.050	05/09/2023	ND	1.95	97.3	2.00	7.41		
Total Xylenes*	<0.150	0.150	05/09/2023	ND	6.03	100	6.00	7.29		
Total BTEX	<0.300	0.300	05/09/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	304	16.0	05/08/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	202	101	200	4.24	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	190	95.2	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 74.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.2 % 49.1-148

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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 22 (2') (H232255-21)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2023	ND	1.89	94.4	2.00	8.63		
Toluene*	<0.050	0.050	05/08/2023	ND	1.94	96.9	2.00	8.85		
Ethylbenzene*	<0.050	0.050	05/08/2023	ND	1.86	93.2	2.00	8.23		
Total Xylenes*	<0.150	0.150	05/08/2023	ND	5.78	96.3	6.00	8.62		
Total BTEX	<0.300	0.300	05/08/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	05/08/2023	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	207	103	200	0.756	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	196	98.2	200	0.628	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 66.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 65.7 % 49.1-148

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Analytical Results For:

TETRA TECH
JOHN FAUGHT
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 23 (2') (H232255-22)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2023	ND	1.89	94.4	2.00	8.63		
Toluene*	<0.050	0.050	05/08/2023	ND	1.94	96.9	2.00	8.85		
Ethylbenzene*	<0.050	0.050	05/08/2023	ND	1.86	93.2	2.00	8.23		
Total Xylenes*	<0.150	0.150	05/08/2023	ND	5.78	96.3	6.00	8.62		
Total BTEX	<0.300	0.300	05/08/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	05/08/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	207	103	200	0.756	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	196	98.2	200	0.628	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 93.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.8 % 49.1-148

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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET, STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received: 05/05/2023
 Reported: 05/10/2023
 Project Name: TAR HEEL 19-18-7
 Project Number: 212C - MD - 03090
 Project Location: COTERRA - EDDY COUNTY, NM

Sampling Date: 05/04/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: BTM - 24 (2') (H232255-23)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2023	ND	1.89	94.4	2.00	8.63		
Toluene*	<0.050	0.050	05/08/2023	ND	1.94	96.9	2.00	8.85		
Ethylbenzene*	<0.050	0.050	05/08/2023	ND	1.86	93.2	2.00	8.23		
Total Xylenes*	<0.150	0.150	05/08/2023	ND	5.78	96.3	6.00	8.62		
Total BTEX	<0.300	0.300	05/08/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	05/08/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	207	103	200	0.756	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	196	98.2	200	0.628	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 86.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
JOHN FAUGHT
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 05/05/2023
Reported: 05/10/2023
Project Name: TAR HEEL 19-18-7
Project Number: 212C - MD - 03090
Project Location: COTERRA - EDDY COUNTY, NM

Sampling Date: 05/04/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: BTM - 25 (2') (H232255-24)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2023	ND	1.89	94.4	2.00	8.63		
Toluene*	<0.050	0.050	05/08/2023	ND	1.94	96.9	2.00	8.85		
Ethylbenzene*	<0.050	0.050	05/08/2023	ND	1.86	93.2	2.00	8.23		
Total Xylenes*	<0.150	0.150	05/08/2023	ND	5.78	96.3	6.00	8.62		
Total BTEX	<0.300	0.300	05/08/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	05/08/2023	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	207	103	200	0.756	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	196	98.2	200	0.628	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 59.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 61.2 % 49.1-148

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Analytical Results For:

TETRA TECH
JOHN FAUGHT
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 26 (1') (H232255-25)

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2023	ND	1.89	94.4	2.00	8.63		
Toluene*	<0.050	0.050	05/08/2023	ND	1.94	96.9	2.00	8.85		
Ethylbenzene*	<0.050	0.050	05/08/2023	ND	1.86	93.2	2.00	8.23		
Total Xylenes*	<0.150	0.150	05/08/2023	ND	5.78	96.3	6.00	8.62		
Total BTEX	<0.300	0.300	05/08/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	05/08/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	207	103	200	0.756	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	196	98.2	200	0.628	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 75.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 27 (1') (H232255-26)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2023	ND	1.89	94.4	2.00	8.63		
Toluene*	<0.050	0.050	05/08/2023	ND	1.94	96.9	2.00	8.85		
Ethylbenzene*	<0.050	0.050	05/08/2023	ND	1.86	93.2	2.00	8.23		
Total Xylenes*	<0.150	0.150	05/08/2023	ND	5.78	96.3	6.00	8.62		
Total BTEX	<0.300	0.300	05/08/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	05/08/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	207	103	200	0.756	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	196	98.2	200	0.628	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 71.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 28 (1') (H232255-27)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2023	ND	1.89	94.4	2.00	8.63		
Toluene*	<0.050	0.050	05/08/2023	ND	1.94	96.9	2.00	8.85		
Ethylbenzene*	<0.050	0.050	05/08/2023	ND	1.86	93.2	2.00	8.23		
Total Xylenes*	<0.150	0.150	05/08/2023	ND	5.78	96.3	6.00	8.62		
Total BTEX	<0.300	0.300	05/08/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	05/08/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	207	103	200	0.756	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	196	98.2	200	0.628	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 77.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 29 (1') (H232255-28)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2023	ND	1.89	94.4	2.00	8.63		
Toluene*	<0.050	0.050	05/08/2023	ND	1.94	96.9	2.00	8.85		
Ethylbenzene*	<0.050	0.050	05/08/2023	ND	1.86	93.2	2.00	8.23		
Total Xylenes*	<0.150	0.150	05/08/2023	ND	5.78	96.3	6.00	8.62		
Total BTEX	<0.300	0.300	05/08/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	05/08/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	207	103	200	0.756	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	196	98.2	200	0.628	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 62.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 65.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
JOHN FAUGHT
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 30 (1') (H232255-29)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2023	ND	1.89	94.4	2.00	8.63		
Toluene*	<0.050	0.050	05/08/2023	ND	1.94	96.9	2.00	8.85		
Ethylbenzene*	<0.050	0.050	05/08/2023	ND	1.86	93.2	2.00	8.23		
Total Xylenes*	<0.150	0.150	05/08/2023	ND	5.78	96.3	6.00	8.62		
Total BTEX	<0.300	0.300	05/08/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	05/08/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	207	103	200	0.756	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	196	98.2	200	0.628	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 64.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 67.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
JOHN FAUGHT
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 31 (1') (H232255-30)

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2023	ND	1.89	94.4	2.00	8.63		
Toluene*	<0.050	0.050	05/08/2023	ND	1.94	96.9	2.00	8.85		
Ethylbenzene*	<0.050	0.050	05/08/2023	ND	1.86	93.2	2.00	8.23		
Total Xylenes*	<0.150	0.150	05/08/2023	ND	5.78	96.3	6.00	8.62		
Total BTEX	<0.300	0.300	05/08/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	05/08/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	207	103	200	0.756	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	196	98.2	200	0.628	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 58.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 60.9 % 49.1-148

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Analytical Results For:

TETRA TECH
JOHN FAUGHT
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 05/05/2023
Reported: 05/10/2023
Project Name: TAR HEEL 19-18-7
Project Number: 212C - MD - 03090
Project Location: COTERRA - EDDY COUNTY, NM

Sampling Date: 05/04/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: BTM - 32 (1') (H232255-31)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2023	ND	1.89	94.4	2.00	8.63		
Toluene*	<0.050	0.050	05/08/2023	ND	1.94	96.9	2.00	8.85		
Ethylbenzene*	<0.050	0.050	05/08/2023	ND	1.86	93.2	2.00	8.23		
Total Xylenes*	<0.150	0.150	05/08/2023	ND	5.78	96.3	6.00	8.62		
Total BTEX	<0.300	0.300	05/08/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	05/08/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	207	103	200	0.756	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	196	98.2	200	0.628	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 50.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 51.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
JOHN FAUGHT
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 33 (1') (H232255-32)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2023	ND	1.89	94.4	2.00	8.63		
Toluene*	<0.050	0.050	05/08/2023	ND	1.94	96.9	2.00	8.85		
Ethylbenzene*	<0.050	0.050	05/08/2023	ND	1.86	93.2	2.00	8.23		
Total Xylenes*	<0.150	0.150	05/08/2023	ND	5.78	96.3	6.00	8.62		
Total BTEX	<0.300	0.300	05/08/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	05/08/2023	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	207	103	200	0.756	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	196	98.2	200	0.628	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 66.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 69.2 % 49.1-148

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Analytical Results For:

TETRA TECH
 JOHN FAUGHT
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	05/05/2023	Sampling Date:	05/04/2023
Reported:	05/10/2023	Sampling Type:	Soil
Project Name:	TAR HEEL 19-18-7	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 03090	Sample Received By:	Shalyn Rodriguez
Project Location:	COTERRA - EDDY COUNTY, NM		

Sample ID: BTM - 34 (2') (H232255-33)

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/08/2023	ND	1.89	94.4	2.00	8.63		
Toluene*	<0.050	0.050	05/08/2023	ND	1.94	96.9	2.00	8.85		
Ethylbenzene*	<0.050	0.050	05/08/2023	ND	1.86	93.2	2.00	8.23		
Total Xylenes*	<0.150	0.150	05/08/2023	ND	5.78	96.3	6.00	8.62		
Total BTEX	<0.300	0.300	05/08/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	05/08/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/08/2023	ND	207	103	200	0.756	
DRO >C10-C28*	<10.0	10.0	05/08/2023	ND	196	98.2	200	0.628	
EXT DRO >C28-C36	<10.0	10.0	05/08/2023	ND					

Surrogate: 1-Chlorooctane 56.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 57.9 % 49.1-148

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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Custody Record



Tetra Tech. Inc.

901 W Wall Street, Ste 100
Midland, Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Page 1 of 1

Client Name:	Colterra Energy	Site Manager:	John Faught
Project Name:	Tar Heel 19-18-7		
Project Location: (county, state)	Eddy County, NM	Project #:	212C-MD-03090
Invoice to:	Colterra, Laci Luig		
Receiving Laboratory:	Cardinal Laboratories	Sampler Signature:	
Comments:	Email: john.faught1@tetratech.com, laci.luig@colterra.com		

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD				# CONTAINERS	FILTERED (Y/N)	ANALYSIS REQUEST (Circle or Specify Method No.)
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE				
									YEAR 2023			
1	SW-3 (1-4')	5/4/2023		X				X		1		BTEX 8021B BTEX 8260B
2	SW-4 (0-4')	5/4/2023		X				X		1		TPH TX1005 (Ext to C35)
3	SW-5 (0-2')	5/4/2023		X				X		1		TPH 8015M (GRO - DRO - ORO - MRO)
4	SW-6 (0-2')	5/4/2023		X				X		1		PAH 8270C
5	SW-7 (0-1')	5/4/2023		X				X		1		Total Metals Ag As Ba Cd Cr Pb Se Hg
6	BTM-5 (4')	5/4/2023		X				X		1		TCLP Metals Ag As Ba Cd Cr Pb Se Hg
7	BTM-8 (4')	5/4/2023		X				X		1		TCLP Volatiles
8	BTM-9 (4')	5/4/2023		X				X		1		TCLP Semi Volatiles
9	BTM-10 (4')	5/4/2023		X				X		1		RCI
10	BTM-11 (4')	5/4/2023		X				X		1		GC/MS Vol. 8260B / 624

Requisitioned by:	Miguel A Flores	Date:	5/5/23	Time:		Received by:	Stefanovsky	Date:	5/5/23	Time:	11001
Requisitioned by:		Date:		Time:		Received by:		Date:		Time:	

LAB USE ONLY	REMARKS: * Customer Request Sample ID changes to 76.5492
<input checked="" type="checkbox"/> RUSH: Same Day 24 hr 48 hr 72 hr	
<input type="checkbox"/> Rush Charges Authorized	
<input type="checkbox"/> Special Report Limits or TRRP Report	

LAB USE ONLY

Sample Temperature

9.5 #113

9.5 #113

ORIGINAL COPY

o Imaging: 12/7/2023 9:17:44 AM

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

901 W Wall Street, Ste 100
Midland, Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Page 3 of 3

Page 39 of 39

Client Name:						Site Manager:						
Project Name:						John Faught						
Project Location: (county, state)						Project #:						
Invoice to:						212C-MD-03090						
Receiving Laboratory:						Sampler Signature:						
Comments:												
Email: john.faught1@tetratech.com; laci.luig@coterra.com												
LAB USE ONLY												
SAMPLE IDENTIFICATION												
BTM-32						SAMPLING YEAR: 2023						
BTM-33						DATE						
BTM-34						TIME						
						WATER						
						SOIL						
						HCL						
						HNO ₃						
						ICE						
						# CONTAINERS						
						FILTERED (Y/N)						
						BTEX 8021B BTEX 8260B						
						TPH TX1005 (Ext to C35)						
						TPH 8015M (GRO - DRO - ORO - MRO)						
						PAH 8270C						
						Total Metals Ag As Ba Cd Cr Pb Se Hg						
						TCLP Metals Ag As Ba Cd Cr Pb Se Hg						
						TCLP Volatiles						
						TCLP Semi Volatiles						
						RCI						
						GC/MS Vol. 8260B / 624						
						GC/MS Semi. Vol. 8270C/625						
						PCB's 8082 / 608						
						NORM						
						PLM (Asbestos)						
						Chloride SM 4500 or EPA 300						
						Chloride Sulfate TDS						
						General Water Chemistry (see attached list)						
						Anion/Cation Balance						
						Hold						

**PERMIAN BASIN
ENVIRONMENTAL LAB, LP
1400 Rankin Hwy
Midland, TX 79701**



Analytical Report Rev. 1

Prepared for:

John Faught
Tetra Tech
901 W Wall Street, Ste 100
Midland, TX 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Location: Eddy County, NM
Lab Order Number: 3E12018



Current Certification

Report Date: 05/26/23

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW-1 (0-5.5')	3E12018-01	Soil	05/11/23 11:10	05-12-2023 12:52
SW-2 (0-4.5')	3E12018-02	Soil	05/11/23 11:20	05-12-2023 12:52
SW-3 (1-4')	3E12018-03	Soil	05/11/23 12:50	05-12-2023 12:52
SW-8 (2-4')	3E12018-04	Soil	05/11/23 10:00	05-12-2023 12:52
SW-9 (4-5')	3E12018-05	Soil	05/11/23 13:10	05-12-2023 12:52
BTM-1 (5')	3E12018-06	Soil	05/11/23 12:30	05-12-2023 12:52
BTM-2 (5')	3E12018-07	Soil	05/11/23 13:10	05-12-2023 12:52
BTM-3 (5.5')	3E12018-08	Soil	05/11/23 12:10	05-12-2023 12:52
BTM-4 (5')	3E12018-09	Soil	05/11/23 14:50	05-12-2023 12:52
BTM-6 (5')	3E12018-10	Soil	05/11/23 11:50	05-12-2023 12:52
BTM-7 (5')	3E12018-11	Soil	05/11/23 14:30	05-12-2023 12:52
BTM-12 (4.5')	3E12018-12	Soil	05/11/23 11:40	05-12-2023 12:52

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

SW-1 (0-5.5')
3E12018-01 (Soil)

Analyte	Limit Result	Reporting Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

BTEX by 8021B

Benzene	ND	0.00109	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 15:02	EPA 8021B
Toluene	ND	0.00109	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 15:02	EPA 8021B
Ethylbenzene	ND	0.00109	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 15:02	EPA 8021B
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 15:02	EPA 8021B
Xylene (o)	ND	0.00109	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 15:02	EPA 8021B
Surrogate: 4-Bromofluorobenzene	103 %	80-120			P3E1703	05/17/23 10:02	05/17/23 15:02	EPA 8021B
Surrogate: 1,4-Difluorobenzene	95.9 %	80-120			P3E1703	05/17/23 10:02	05/17/23 15:02	EPA 8021B

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 02:51	TPH 8015M
>C12-C28	ND	27.2	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 02:51	TPH 8015M
>C28-C35	ND	27.2	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 02:51	TPH 8015M
Surrogate: 1-Chlorooctane	107 %	70-130			P3E1211	05/12/23 14:30	05/13/23 02:51	TPH 8015M
Surrogate: o-Terphenyl	121 %	70-130			P3E1211	05/12/23 14:30	05/13/23 02:51	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	05/12/23 14:30	05/13/23 02:51	calc

General Chemistry Parameters by EPA / Standard Methods

Chloride	1000	1.09	mg/kg dry	1	P3E1203	05/12/23 15:20	05/14/23 03:44	EPA 300.0
% Moisture	8.0	0.1	%	1	P3E1502	05/15/23 09:05	05/15/23 09:16	ASTM D2216

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

SW-2 (0-4.5')
3E12018-02 (Soil)

Analyte	Limit Result	Reporting Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

BTEX by 8021B

Benzene	ND	0.00106	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 15:22	EPA 8021B
Toluene	ND	0.00106	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 15:22	EPA 8021B
Ethylbenzene	ND	0.00106	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 15:22	EPA 8021B
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 15:22	EPA 8021B
Xylene (o)	ND	0.00106	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 15:22	EPA 8021B
Surrogate: 1,4-Difluorobenzene	95.9 %	80-120		P3E1703	05/17/23 10:02	05/17/23 15:22	EPA 8021B	
Surrogate: 4-Bromofluorobenzene	102 %	80-120		P3E1703	05/17/23 10:02	05/17/23 15:22	EPA 8021B	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 03:15	TPH 8015M
>C12-C28	ND	26.6	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 03:15	TPH 8015M
>C28-C35	ND	26.6	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 03:15	TPH 8015M
Surrogate: 1-Chlorooctane	93.7 %	70-130		P3E1211	05/12/23 14:30	05/13/23 03:15	TPH 8015M	
Surrogate: o-Terphenyl	106 %	70-130		P3E1211	05/12/23 14:30	05/13/23 03:15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	05/12/23 14:30	05/13/23 03:15	calc

General Chemistry Parameters by EPA / Standard Methods

Chloride	100	1.06	mg/kg dry	1	P3E1203	05/12/23 15:20	05/14/23 03:58	EPA 300.0
% Moisture	6.0	0.1	%	1	P3E1502	05/15/23 09:05	05/15/23 09:16	ASTM D2216

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

**SW-3 (1-4')
3E12018-03 (Soil)**

Analyte	Limit Result	Reporting Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

BTEX by 8021B

Benzene	ND	0.00106	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 15:43	EPA 8021B
Toluene	ND	0.00106	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 15:43	EPA 8021B
Ethylbenzene	ND	0.00106	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 15:43	EPA 8021B
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 15:43	EPA 8021B
Xylene (o)	ND	0.00106	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 15:43	EPA 8021B
Surrogate: 1,4-Difluorobenzene	95.4 %	80-120		P3E1703	05/17/23 10:02	05/17/23 15:43	EPA 8021B	
Surrogate: 4-Bromofluorobenzene	101 %	80-120		P3E1703	05/17/23 10:02	05/17/23 15:43	EPA 8021B	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 03:38	TPH 8015M
>C12-C28	ND	26.6	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 03:38	TPH 8015M
>C28-C35	ND	26.6	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 03:38	TPH 8015M
Surrogate: 1-Chlorooctane	97.9 %	70-130		P3E1211	05/12/23 14:30	05/13/23 03:38	TPH 8015M	
Surrogate: o-Terphenyl	110 %	70-130		P3E1211	05/12/23 14:30	05/13/23 03:38	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	05/12/23 14:30	05/13/23 03:38	calc

General Chemistry Parameters by EPA / Standard Methods

Chloride	64.8	1.06	mg/kg dry	1	P3E1203	05/12/23 15:20	05/14/23 04:13	EPA 300.0
% Moisture	6.0	0.1	%	1	P3E1502	05/15/23 09:05	05/15/23 09:16	ASTM D2216

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

**SW-8 (2-4')
3E12018-04 (Soil)**

Analyte	Limit Result	Reporting Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

BTEX by 8021B

Benzene	ND	0.00106	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 16:04	EPA 8021B
Toluene	ND	0.00106	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 16:04	EPA 8021B
Ethylbenzene	ND	0.00106	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 16:04	EPA 8021B
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 16:04	EPA 8021B
Xylene (o)	ND	0.00106	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 16:04	EPA 8021B
Surrogate: 4-Bromofluorobenzene	102 %	80-120			P3E1703	05/17/23 10:02	05/17/23 16:04	EPA 8021B
Surrogate: 1,4-Difluorobenzene	96.0 %	80-120			P3E1703	05/17/23 10:02	05/17/23 16:04	EPA 8021B

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 04:49	TPH 8015M
>C12-C28	ND	26.6	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 04:49	TPH 8015M
>C28-C35	ND	26.6	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 04:49	TPH 8015M
Surrogate: 1-Chlorooctane	99.5 %	70-130			P3E1211	05/12/23 14:30	05/13/23 04:49	TPH 8015M
Surrogate: o-Terphenyl	110 %	70-130			P3E1211	05/12/23 14:30	05/13/23 04:49	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	05/12/23 14:30	05/13/23 04:49	calc

General Chemistry Parameters by EPA / Standard Methods

Chloride	76.8	1.06	mg/kg dry	1	P3E1203	05/12/23 15:20	05/14/23 04:27	EPA 300.0
% Moisture	6.0	0.1	%	1	P3E1502	05/15/23 09:05	05/15/23 09:16	ASTM D2216

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

SW-9 (4-5')
3E12018-05 (Soil)

Analyte	Limit Result	Reporting Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

BTEX by 8021B

Benzene	ND	0.00102	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 16:25	EPA 8021B
Toluene	ND	0.00102	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 16:25	EPA 8021B
Ethylbenzene	ND	0.00102	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 16:25	EPA 8021B
Xylene (p/m)	ND	0.00204	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 16:25	EPA 8021B
Xylene (o)	ND	0.00102	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 16:25	EPA 8021B
Surrogate: 4-Bromofluorobenzene	104 %	80-120			P3E1703	05/17/23 10:02	05/17/23 16:25	EPA 8021B
Surrogate: 1,4-Difluorobenzene	96.1 %	80-120			P3E1703	05/17/23 10:02	05/17/23 16:25	EPA 8021B

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.5	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 05:12	TPH 8015M
>C12-C28	ND	25.5	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 05:12	TPH 8015M
>C28-C35	ND	25.5	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 05:12	TPH 8015M
Surrogate: 1-Chlorooctane	95.3 %	70-130			P3E1211	05/12/23 14:30	05/13/23 05:12	TPH 8015M
Surrogate: o-Terphenyl	105 %	70-130			P3E1211	05/12/23 14:30	05/13/23 05:12	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	25.5	mg/kg dry	1	[CALC]	05/12/23 14:30	05/13/23 05:12	calc

General Chemistry Parameters by EPA / Standard Methods

Chloride	180	1.02	mg/kg dry	1	P3E1203	05/12/23 15:20	05/14/23 04:41	EPA 300.0
% Moisture	2.0	0.1	%	1	P3E1502	05/15/23 09:05	05/15/23 09:16	ASTM D2216

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech	Project: Tar Heel 19-18-7
901 W Wall Street, Ste 100	Project Number: 212C-MD-03090
Midland TX, 79705	Project Manager: John Faught

BTM-1 (5')
3E12018-06 (Soil)

Analyte	Limit Result	Reporting Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

BTEX by 8021B

Benzene	ND	0.00109	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 16:46	EPA 8021B
Toluene	ND	0.00109	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 16:46	EPA 8021B
Ethylbenzene	ND	0.00109	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 16:46	EPA 8021B
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 16:46	EPA 8021B
Xylene (o)	ND	0.00109	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 16:46	EPA 8021B
Surrogate: 1,4-Difluorobenzene	96.1 %	80-120		P3E1703	05/17/23 10:02	05/17/23 16:46	EPA 8021B	
Surrogate: 4-Bromofluorobenzene	103 %	80-120		P3E1703	05/17/23 10:02	05/17/23 16:46	EPA 8021B	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 05:35	TPH 8015M
>C12-C28	ND	27.2	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 05:35	TPH 8015M
>C28-C35	ND	27.2	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 05:35	TPH 8015M
Surrogate: 1-Chlorooctane	91.9 %	70-130		P3E1211	05/12/23 14:30	05/13/23 05:35	TPH 8015M	
Surrogate: o-Terphenyl	102 %	70-130		P3E1211	05/12/23 14:30	05/13/23 05:35	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	05/12/23 14:30	05/13/23 05:35	calc

General Chemistry Parameters by EPA / Standard Methods

Chloride	502	1.09	mg/kg dry	1	P3E1203	05/12/23 15:20	05/14/23 04:56	EPA 300.0
% Moisture	8.0	0.1	%	1	P3E1502	05/15/23 09:05	05/15/23 09:16	ASTM D2216

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

BTM-2 (5')
3E12018-07 (Soil)

Analyte	Limit Result	Reporting Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

BTEX by 8021B

Benzene	ND	0.00102	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 17:06	EPA 8021B
Toluene	ND	0.00102	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 17:06	EPA 8021B
Ethylbenzene	ND	0.00102	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 17:06	EPA 8021B
Xylene (p/m)	ND	0.00204	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 17:06	EPA 8021B
Xylene (o)	ND	0.00102	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 17:06	EPA 8021B
Surrogate: 1,4-Difluorobenzene	96.5 %	80-120		P3E1703	05/17/23 10:02	05/17/23 17:06	EPA 8021B	
Surrogate: 4-Bromofluorobenzene	103 %	80-120		P3E1703	05/17/23 10:02	05/17/23 17:06	EPA 8021B	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.5	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 05:59	TPH 8015M
>C12-C28	ND	25.5	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 05:59	TPH 8015M
>C28-C35	ND	25.5	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 05:59	TPH 8015M
Surrogate: 1-Chlorooctane	95.0 %	70-130		P3E1211	05/12/23 14:30	05/13/23 05:59	TPH 8015M	
Surrogate: o-Terphenyl	106 %	70-130		P3E1211	05/12/23 14:30	05/13/23 05:59	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.5	mg/kg dry	1	[CALC]	05/12/23 14:30	05/13/23 05:59	calc

General Chemistry Parameters by EPA / Standard Methods

Chloride	75.7	1.02	mg/kg dry	1	P3E1203	05/12/23 15:20	05/14/23 05:10	EPA 300.0
% Moisture	2.0	0.1	%	1	P3E1502	05/15/23 09:05	05/15/23 09:16	ASTM D2216

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech	Project: Tar Heel 19-18-7
901 W Wall Street, Ste 100	Project Number: 212C-MD-03090
Midland TX, 79705	Project Manager: John Faught

BTM-3 (5.5')

3E12018-08 (Soil)

Analyte	Limit Result	Reporting Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

BTEX by 8021B

Benzene	ND	0.00109	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 17:27	EPA 8021B
Toluene	ND	0.00109	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 17:27	EPA 8021B
Ethylbenzene	ND	0.00109	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 17:27	EPA 8021B
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 17:27	EPA 8021B
Xylene (o)	ND	0.00109	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 17:27	EPA 8021B
Surrogate: 1,4-Difluorobenzene	95.9 %	80-120		P3E1703	05/17/23 10:02	05/17/23 17:27	EPA 8021B	
Surrogate: 4-Bromofluorobenzene	104 %	80-120		P3E1703	05/17/23 10:02	05/17/23 17:27	EPA 8021B	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 06:22	TPH 8015M
>C12-C28	ND	27.2	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 06:22	TPH 8015M
>C28-C35	ND	27.2	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 06:22	TPH 8015M
Surrogate: 1-Chlorooctane	88.1 %	70-130		P3E1211	05/12/23 14:30	05/13/23 06:22	TPH 8015M	
Surrogate: o-Terphenyl	98.4 %	70-130		P3E1211	05/12/23 14:30	05/13/23 06:22	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	05/12/23 14:30	05/13/23 06:22	calc

General Chemistry Parameters by EPA / Standard Methods

Chloride	337	1.09	mg/kg dry	1	P3E1203	05/12/23 15:20	05/14/23 05:24	EPA 300.0
% Moisture	8.0	0.1	%	1	P3E1502	05/15/23 09:05	05/15/23 09:16	ASTM D2216

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

BTM-4 (5')
3E12018-09 (Soil)

Analyte	Limit Result	Reporting Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

BTEX by 8021B

Benzene	ND	0.00105	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 17:48	EPA 8021B
Toluene	ND	0.00105	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 17:48	EPA 8021B
Ethylbenzene	ND	0.00105	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 17:48	EPA 8021B
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 17:48	EPA 8021B
Xylene (o)	ND	0.00105	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 17:48	EPA 8021B
Surrogate: 1,4-Difluorobenzene	96.8 %	80-120		P3E1703	05/17/23 10:02	05/17/23 17:48	EPA 8021B	
Surrogate: 4-Bromofluorobenzene	103 %	80-120		P3E1703	05/17/23 10:02	05/17/23 17:48	EPA 8021B	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 06:45	TPH 8015M
>C12-C28	ND	26.3	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 06:45	TPH 8015M
>C28-C35	ND	26.3	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 06:45	TPH 8015M
Surrogate: 1-Chlorooctane	92.2 %	70-130		P3E1211	05/12/23 14:30	05/13/23 06:45	TPH 8015M	
Surrogate: o-Terphenyl	104 %	70-130		P3E1211	05/12/23 14:30	05/13/23 06:45	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	05/12/23 14:30	05/13/23 06:45	calc

General Chemistry Parameters by EPA / Standard Methods

Chloride	538	1.05	mg/kg dry	1	P3E1302	05/13/23 13:00	05/14/23 14:27	EPA 300.0
% Moisture	5.0	0.1	%	1	P3E1502	05/15/23 09:05	05/15/23 09:16	ASTM D2216

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

BTM-6 (5')
3E12018-10 (Soil)

Analyte	Limit Result	Reporting Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

BTEX by 8021B

Benzene	ND	0.00104	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 18:08	EPA 8021B
Toluene	ND	0.00104	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 18:08	EPA 8021B
Ethylbenzene	ND	0.00104	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 18:08	EPA 8021B
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 18:08	EPA 8021B
Xylene (o)	ND	0.00104	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 18:08	EPA 8021B
Surrogate: 1,4-Difluorobenzene	97.2 %	80-120		P3E1703	05/17/23 10:02	05/17/23 18:08	EPA 8021B	
Surrogate: 4-Bromofluorobenzene	101 %	80-120		P3E1703	05/17/23 10:02	05/17/23 18:08	EPA 8021B	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 07:09	TPH 8015M
>C12-C28	ND	26.0	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 07:09	TPH 8015M
>C28-C35	ND	26.0	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 07:09	TPH 8015M
Surrogate: 1-Chlorooctane	90.0 %	70-130		P3E1211	05/12/23 14:30	05/13/23 07:09	TPH 8015M	
Surrogate: o-Terphenyl	102 %	70-130		P3E1211	05/12/23 14:30	05/13/23 07:09	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	05/12/23 14:30	05/13/23 07:09	calc

General Chemistry Parameters by EPA / Standard Methods

Chloride	733	1.04	mg/kg dry	1	P3E1302	05/13/23 13:00	05/14/23 15:10	EPA 300.0
% Moisture	4.0	0.1	%	1	P3E1502	05/15/23 09:05	05/15/23 09:16	ASTM D2216

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

BTM-7 (5')
3E12018-11 (Soil)

Analyte	Limit Result	Reporting Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

BTEX by 8021B

Benzene	ND	0.00102	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 19:10	EPA 8021B
Toluene	ND	0.00102	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 19:10	EPA 8021B
Ethylbenzene	ND	0.00102	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 19:10	EPA 8021B
Xylene (p/m)	ND	0.00204	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 19:10	EPA 8021B
Xylene (o)	ND	0.00102	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 19:10	EPA 8021B
Surrogate: 4-Bromofluorobenzene	99.4 %	80-120			P3E1703	05/17/23 10:02	05/17/23 19:10	EPA 8021B
Surrogate: 1,4-Difluorobenzene	96.8 %	80-120			P3E1703	05/17/23 10:02	05/17/23 19:10	EPA 8021B

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.5	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 07:32	TPH 8015M
>C12-C28	ND	25.5	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 07:32	TPH 8015M
>C28-C35	ND	25.5	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 07:32	TPH 8015M
Surrogate: 1-Chlorooctane	92.1 %	70-130			P3E1211	05/12/23 14:30	05/13/23 07:32	TPH 8015M
Surrogate: o-Terphenyl	104 %	70-130			P3E1211	05/12/23 14:30	05/13/23 07:32	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	25.5	mg/kg dry	1	[CALC]	05/12/23 14:30	05/13/23 07:32	calc

General Chemistry Parameters by EPA / Standard Methods

Chloride	86.1	1.02	mg/kg dry	1	P3E1302	05/13/23 13:00	05/14/23 15:24	EPA 300.0
% Moisture	2.0	0.1	%	1	P3E1502	05/15/23 09:05	05/15/23 09:16	ASTM D2216

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

BTM-12 (4.5')
3E12018-12 (Soil)

Analyte	Limit Result	Reporting Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

BTEX by 8021B

Benzene	ND	0.00103	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 19:30	EPA 8021B
Toluene	ND	0.00103	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 19:30	EPA 8021B
Ethylbenzene	ND	0.00103	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 19:30	EPA 8021B
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 19:30	EPA 8021B
Xylene (o)	ND	0.00103	mg/kg dry	1	P3E1703	05/17/23 10:02	05/17/23 19:30	EPA 8021B
Surrogate: 1,4-Difluorobenzene	96.6 %	80-120		P3E1703	05/17/23 10:02	05/17/23 19:30	EPA 8021B	
Surrogate: 4-Bromofluorobenzene	100 %	80-120		P3E1703	05/17/23 10:02	05/17/23 19:30	EPA 8021B	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.8	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 07:55	TPH 8015M
>C12-C28	ND	25.8	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 07:55	TPH 8015M
>C28-C35	ND	25.8	mg/kg dry	1	P3E1211	05/12/23 14:30	05/13/23 07:55	TPH 8015M
Surrogate: 1-Chlorooctane	95.3 %	70-130		P3E1211	05/12/23 14:30	05/13/23 07:55	TPH 8015M	
Surrogate: o-Terphenyl	105 %	70-130		P3E1211	05/12/23 14:30	05/13/23 07:55	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.8	mg/kg dry	1	[CALC]	05/12/23 14:30	05/13/23 07:55	calc

General Chemistry Parameters by EPA / Standard Methods

Chloride	449	1.03	mg/kg dry	1	P3E1302	05/13/23 13:00	05/14/23 15:39	EPA 300.0
% Moisture	3.0	0.1	%	1	P3E1502	05/15/23 09:05	05/15/23 09:16	ASTM D2216

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

BTEX by 8021B - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E1703 - * DEFAULT PREP *****

Blank (P3E1703-BLK1)

Prepared & Analyzed: 05/17/23

Benzene	ND	0.00100	mg/kg							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.111		"	0.120		92.4	80-120			
Surrogate: 4-Bromofluorobenzene	0.113		"	0.120		94.0	80-120			

LCS (P3E1703-BS1)

Prepared & Analyzed: 05/17/23

Benzene	0.111	0.00100	mg/kg	0.100		111	80-120			
Toluene	0.108	0.00100	"	0.100		108	80-120			
Ethylbenzene	0.115	0.00100	"	0.100		115	80-120			
Xylene (p/m)	0.211	0.00200	"	0.200		106	80-120			
Xylene (o)	0.101	0.00100	"	0.100		101	80-120			
Surrogate: 1,4-Difluorobenzene	0.111		"	0.120		92.4	80-120			
Surrogate: 4-Bromofluorobenzene	0.119		"	0.120		99.0	80-120			

LCS Dup (P3E1703-BSD1)

Prepared & Analyzed: 05/17/23

Benzene	0.118	0.00100	mg/kg	0.100		118	80-120	6.19	20	
Toluene	0.116	0.00100	"	0.100		116	80-120	6.42	20	
Ethylbenzene	0.119	0.00100	"	0.100		119	80-120	3.77	20	
Xylene (p/m)	0.227	0.00200	"	0.200		113	80-120	7.01	20	
Xylene (o)	0.108	0.00100	"	0.100		108	80-120	7.32	20	
Surrogate: 1,4-Difluorobenzene	0.112		"	0.120		93.1	80-120			
Surrogate: 4-Bromofluorobenzene	0.121		"	0.120		101	80-120			

Calibration Blank (P3E1703-CCB1)

Prepared & Analyzed: 05/17/23

Benzene	0.130		ug/kg							
Toluene	0.430		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.170		"							
Xylene (o)	0.00		"							
Surrogate: 1,4-Difluorobenzene	0.109		"	0.120		90.6	80-120			
Surrogate: 4-Bromofluorobenzene	0.111		"	0.120		92.2	80-120			

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

BTEX by 8021B - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E1703 - * DEFAULT PREP *****

Calibration Blank (P3E1703-CCB2)

Prepared & Analyzed: 05/17/23

Benzene	0.00		ug/kg							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.113		"	0.120		94.2	80-120			
Surrogate: 1,4-Difluorobenzene	0.114		"	0.120		94.9	80-120			

Calibration Check (P3E1703-CCV1)

Prepared & Analyzed: 05/17/23

Benzene	0.110	0.00100	mg/kg	0.100		110	80-120			
Toluene	0.107	0.00100	"	0.100		107	80-120			
Ethylbenzene	0.106	0.00100	"	0.100		106	80-120			
Xylene (p/m)	0.205	0.00200	"	0.200		102	80-120			
Xylene (o)	0.0992	0.00100	"	0.100		99.2	80-120			
Surrogate: 1,4-Difluorobenzene	0.110		"	0.120		91.5	75-125			
Surrogate: 4-Bromofluorobenzene	0.116		"	0.120		96.3	75-125			

Calibration Check (P3E1703-CCV2)

Prepared & Analyzed: 05/17/23

Benzene	0.120	0.00100	mg/kg	0.100		120	80-120			
Toluene	0.115	0.00100	"	0.100		115	80-120			
Ethylbenzene	0.111	0.00100	"	0.100		111	80-120			
Xylene (p/m)	0.218	0.00200	"	0.200		109	80-120			
Xylene (o)	0.110	0.00100	"	0.100		110	80-120			
Surrogate: 1,4-Difluorobenzene	0.114		"	0.120		94.9	75-125			
Surrogate: 4-Bromofluorobenzene	0.119		"	0.120		98.8	75-125			

Calibration Check (P3E1703-CCV3)

Prepared & Analyzed: 05/17/23

Benzene	0.120	0.00100	mg/kg	0.100		120	80-120			
Toluene	0.116	0.00100	"	0.100		116	80-120			
Ethylbenzene	0.110	0.00100	"	0.100		110	80-120			
Xylene (p/m)	0.215	0.00200	"	0.200		107	80-120			
Xylene (o)	0.109	0.00100	"	0.100		109	80-120			
Surrogate: 4-Bromofluorobenzene	0.117		"	0.120		97.2	75-125			
Surrogate: 1,4-Difluorobenzene	0.115		"	0.120		95.6	75-125			

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

BTEX by 8021B - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E1703 - * DEFAULT PREP *****

Matrix Spike (P3E1703-MS1)		Source: 3E12018-01		Prepared & Analyzed: 05/17/23						
Benzene	0.0904	0.00109	mg/kg dry	0.109	ND	83.1	80-120			
Toluene	0.0850	0.00109	"	0.109	ND	78.2	80-120			QM-05
Ethylbenzene	0.0669	0.00109	"	0.109	ND	61.5	80-120			QM-05
Xylene (p/m)	0.139	0.00217	"	0.217	ND	63.9	80-120			QM-05
Xylene (o)	0.0732	0.00109	"	0.109	ND	67.3	80-120			QM-05
Surrogate: 4-Bromofluorobenzene	0.138		"	0.130		105	80-120			
Surrogate: 1,4-Difluorobenzene	0.130		"	0.130		99.3	80-120			

Matrix Spike Dup (P3E1703-MSD1)		Source: 3E12018-01		Prepared & Analyzed: 05/17/23						
Benzene	0.101	0.00109	mg/kg dry	0.109	ND	93.3	80-120	11.5	20	
Toluene	0.0954	0.00109	"	0.109	ND	87.7	80-120	11.5	20	
Ethylbenzene	0.0777	0.00109	"	0.109	ND	71.4	80-120	14.9	20	QM-05
Xylene (p/m)	0.158	0.00217	"	0.217	ND	72.9	80-120	13.2	20	QM-05
Xylene (o)	0.0819	0.00109	"	0.109	ND	75.4	80-120	11.3	20	QM-05
Surrogate: 1,4-Difluorobenzene	0.129		"	0.130		98.6	80-120			
Surrogate: 4-Bromofluorobenzene	0.137		"	0.130		105	80-120			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E1211 - TX 1005

Blank (P3E1211-BLK1)

Prepared & Analyzed: 05/12/23

C6-C12	ND	25.0	mg/kg							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	94.7		"	100		94.7	70-130			
Surrogate: o-Terphenyl	51.7		"	50.0		103	70-130			

LCS (P3E1211-BS1)

Prepared & Analyzed: 05/12/23

C6-C12	1040	25.0	mg/kg	1000		104	75-125			
>C12-C28	892	25.0	"	1000		89.2	75-125			
Surrogate: 1-Chlorooctane	123		"	100		123	70-130			
Surrogate: o-Terphenyl	52.3		"	50.0		105	70-130			

LCS Dup (P3E1211-BSD1)

Prepared: 05/12/23 Analyzed: 05/15/23

C6-C12	1060	25.0	mg/kg	1000		106	75-125	2.18	20	
>C12-C28	966	25.0	"	1000		96.6	75-125	8.01	20	
Surrogate: 1-Chlorooctane	128		"	100		128	70-130			
Surrogate: o-Terphenyl	63.9		"	50.0		128	70-130			

Calibration Check (P3E1211-CCV1)

Prepared & Analyzed: 05/12/23

C6-C12	548	25.0	mg/kg	500		110	85-115			
>C12-C28	544	25.0	"	500		109	85-115			
Surrogate: 1-Chlorooctane	113		"	100		113	70-130			
Surrogate: o-Terphenyl	54.6		"	50.0		109	70-130			

Calibration Check (P3E1211-CCV2)

Prepared: 05/12/23 Analyzed: 05/13/23

C6-C12	547	25.0	mg/kg	500		109	85-115			
>C12-C28	542	25.0	"	500		108	85-115			
Surrogate: 1-Chlorooctane	113		"	100		113	70-130			
Surrogate: o-Terphenyl	56.2		"	50.0		112	70-130			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E1211 - TX 1005

Matrix Spike (P3E1211-MS1)

Source: 3E11015-46

Prepared: 05/12/23 Analyzed: 05/13/23

C6-C12	1090	27.2	mg/kg dry	1090	ND	100	75-125			
>C12-C28	1020	27.2	"	1090	12.3	93.1	75-125			
Surrogate: 1-Chlorooctane	127		"	109		117	70-130			
Surrogate: o-Terphenyl	8.76		"	54.3		16.1	70-130			S-GC

Matrix Spike Dup (P3E1211-MSD1)

Source: 3E11015-46

Prepared: 05/12/23 Analyzed: 05/13/23

C6-C12	1110	27.2	mg/kg dry	1090	ND	102	75-125	1.70	20	
>C12-C28	970	27.2	"	1090	12.3	88.1	75-125	5.54	20	
Surrogate: 1-Chlorooctane	125		"	109		115	70-130			
Surrogate: o-Terphenyl	52.3		"	54.3		96.2	70-130			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E1203 - * DEFAULT PREP *****

Blank (P3E1203-BLK1)

Prepared: 05/12/23 Analyzed: 05/13/23

Chloride	ND	1.00	mg/kg
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LCS (P3E1203-BS1)

Prepared: 05/12/23 Analyzed: 05/13/23

Chloride	17.6		mg/kg	18.4	95.6	90-110
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LCS Dup (P3E1203-BSD1)

Prepared: 05/12/23 Analyzed: 05/13/23

Chloride	17.8		mg/kg	18.4	96.7	90-110	1.12	10
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Calibration Check (P3E1203-CCV1)

Prepared: 05/12/23 Analyzed: 05/13/23

Chloride	18.7		mg/kg	18.0	104	90-110
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Calibration Check (P3E1203-CCV2)

Prepared: 05/12/23 Analyzed: 05/14/23

Chloride	18.0		mg/kg	18.0	100	90-110
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Matrix Spike (P3E1203-MS1)

Source: 3E12002-03

Prepared: 05/12/23 Analyzed: 05/13/23

Chloride	44.9		mg/kg	50.0	1.40	86.9	80-120
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Matrix Spike (P3E1203-MS2)

Source: 3E12004-06

Prepared: 05/12/23 Analyzed: 05/14/23

Chloride	45.1		mg/kg	50.0	0.294	89.7	80-120
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Matrix Spike Dup (P3E1203-MSD1)

Source: 3E12002-03

Prepared: 05/12/23 Analyzed: 05/13/23

Chloride	41.9		mg/kg	50.0	1.40	81.1	80-120	6.73	20
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Matrix Spike Dup (P3E1203-MSD2)

Source: 3E12004-06

Prepared: 05/12/23 Analyzed: 05/14/23

Chloride	43.0		mg/kg	50.0	0.294	85.4	80-120	4.83	20
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Batch P3E1302 - * DEFAULT PREP *****

Blank (P3E1302-BLK1)

Prepared: 05/13/23 Analyzed: 05/14/23

Chloride	ND	1.00	mg/kg
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Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E1302 - * DEFAULT PREP *****

Calibration Check (P3E1302-CCV1)

Prepared: 05/13/23 Analyzed: 05/14/23

Chloride	18.0		mg/kg	18.0	100	90-110			
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Calibration Check (P3E1302-CCV2)

Prepared: 05/13/23 Analyzed: 05/14/23

Chloride	17.3		mg/kg	18.0	95.9	90-110			
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Matrix Spike (P3E1302-MS2)

Source: 3E12019-07

Prepared: 05/13/23 Analyzed: 05/14/23

Chloride	143		mg/kg	100	41.0	102	80-120		
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Matrix Spike Dup (P3E1302-MSD2)

Source: 3E12019-07

Prepared: 05/13/23 Analyzed: 05/14/23

Chloride	139		mg/kg	100	41.0	98.4	80-120	2.82	20
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Batch P3E1502 - * DEFAULT PREP *****

Blank (P3E1502-BLK1)

Prepared & Analyzed: 05/15/23

% Moisture	ND	0.1	%						
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Blank (P3E1502-BLK2)

Prepared & Analyzed: 05/15/23

% Moisture	ND	0.1	%						
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Blank (P3E1502-BLK3)

Prepared & Analyzed: 05/15/23

% Moisture	ND	0.1	%						
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Blank (P3E1502-BLK4)

Prepared & Analyzed: 05/15/23

% Moisture	ND	0.1	%						
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Blank (P3E1502-BLK5)

Prepared & Analyzed: 05/15/23

% Moisture	ND	0.1	%						
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Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E1502 - * DEFAULT PREP *****

Blank (P3E1502-BLK6)	Prepared & Analyzed: 05/15/23									
% Moisture	ND	0.1	%							
Blank (P3E1502-BLK7)	Prepared & Analyzed: 05/15/23									
% Moisture	ND	0.1	%							
Duplicate (P3E1502-DUP1)	Source: 3E09016-19		Prepared & Analyzed: 05/15/23							
% Moisture	11.0	0.1	%		14.0			24.0	20	R3
Duplicate (P3E1502-DUP2)	Source: 3E09016-09		Prepared & Analyzed: 05/15/23							
% Moisture	14.0	0.1	%		10.0			33.3	20	R3
Duplicate (P3E1502-DUP3)	Source: 3E12002-06		Prepared & Analyzed: 05/15/23							
% Moisture	3.0	0.1	%		3.0			0.00	20	
Duplicate (P3E1502-DUP4)	Source: 3E11019-02		Prepared & Analyzed: 05/15/23							
% Moisture	5.0	0.1	%		6.0			18.2	20	
Duplicate (P3E1502-DUP5)	Source: 3E11015-07		Prepared & Analyzed: 05/15/23							
% Moisture	ND	0.1	%		ND				20	
Duplicate (P3E1502-DUP6)	Source: 3E11015-17		Prepared & Analyzed: 05/15/23							
% Moisture	1.0	0.1	%		2.0			66.7	20	R3
Duplicate (P3E1502-DUP7)	Source: 3E11015-32		Prepared & Analyzed: 05/15/23							
% Moisture	4.0	0.1	%		4.0			0.00	20	
Duplicate (P3E1502-DUP8)	Source: 3E11015-42		Prepared & Analyzed: 05/15/23							
% Moisture	1.0	0.1	%		1.0			0.00	20	

Permian Basin Environmental Lab, L.P.

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Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E1502 - * DEFAULT PREP *****

Duplicate (P3E1502-DUP9)	Source: 3E12004-05		Prepared & Analyzed: 05/15/23							
% Moisture	1.0	0.1	%		16.0			176	20	R3
Duplicate (P3E1502-DUPA)	Source: 3E12006-15		Prepared & Analyzed: 05/15/23							
% Moisture	1.0	0.1	%		1.0			0.00	20	
Duplicate (P3E1502-DUPB)	Source: 3E12006-30		Prepared & Analyzed: 05/15/23							
% Moisture	1.0	0.1	%		1.0			0.00	20	
Duplicate (P3E1502-DUPC)	Source: 3E12006-40		Prepared & Analyzed: 05/15/23							
% Moisture	1.0	0.1	%		1.0			0.00	20	
Duplicate (P3E1502-DUPD)	Source: 3E12018-05		Prepared & Analyzed: 05/15/23							
% Moisture	3.0	0.1	%		2.0			40.0	20	R3

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

Notes and Definitions

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

ROI Received on Ice

R3 The RPD exceeded the acceptance limit due to sample matrix effects.

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.

NPBEL C Chain of Custody was not generated at PBELAB

BULK Samples received in Bulk soil containers may be biased low in the nC6-C12 TPH Range

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

5/26/2023

Brent Barron, Laboratory Director/Technical Director

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.

Tetra Tech, Inc.

901 W Wall Street, Ste 100
Midland, Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

3E 12018

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Tetra Tech, Inc.

901 W Wall Street, Ste 100
Midland, Texas 79701
Tel (432) 682-4559
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3/02/98

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**PERMIAN BASIN
ENVIRONMENTAL LAB, LP
1400 Rankin Hwy
Midland, TX 79701**



Analytical Report

Prepared for:

John Faught
Tetra Tech
901 W Wall Street, Ste 100
Midland, TX 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Location: Eddy County, NM
Lab Order Number: 3E19009



Current Certification

Report Date: 05/25/23

Tetra Tech	Project: Tar Heel 19-18-7
901 W Wall Street, Ste 100	Project Number: 212C-MD-03090
Midland TX, 79705	Project Manager: John Faught

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW-1 (0-5.5')	3E19009-01	Soil	05/19/23 14:22	05-19-2023 14:22
BTM-6 (5.5')	3E19009-02	Soil	05/19/23 00:00	05-19-2023 14:22

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

SW-1 (0-5.5')
3E19009-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

BTEX by 8021B

Benzene	ND	0.00102	mg/kg dry	1	P3E2404	05/24/23 09:19	05/24/23 17:46	EPA 8021B	
Toluene	ND	0.00102	mg/kg dry	1	P3E2404	05/24/23 09:19	05/24/23 17:46	EPA 8021B	
Ethylbenzene	ND	0.00102	mg/kg dry	1	P3E2404	05/24/23 09:19	05/24/23 17:46	EPA 8021B	
Xylene (p/m)	ND	0.00204	mg/kg dry	1	P3E2404	05/24/23 09:19	05/24/23 17:46	EPA 8021B	
Xylene (o)	ND	0.00102	mg/kg dry	1	P3E2404	05/24/23 09:19	05/24/23 17:46	EPA 8021B	
Surrogate: 4-Bromofluorobenzene	89.8 %		80-120		P3E2404	05/24/23 09:19	05/24/23 17:46	EPA 8021B	
Surrogate: 1,4-Difluorobenzene	96.6 %		80-120		P3E2404	05/24/23 09:19	05/24/23 17:46	EPA 8021B	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.5	mg/kg dry	1	P3E2215	05/22/23 14:00	05/23/23 12:06	TPH 8015M	
>C12-C28	ND	25.5	mg/kg dry	1	P3E2215	05/22/23 14:00	05/23/23 12:06	TPH 8015M	
>C28-C35	ND	25.5	mg/kg dry	1	P3E2215	05/22/23 14:00	05/23/23 12:06	TPH 8015M	
Surrogate: 1-Chlorooctane	80.3 %		70-130		P3E2215	05/22/23 14:00	05/23/23 12:06	TPH 8015M	
Surrogate: o-Terphenyl	89.1 %		70-130		P3E2215	05/22/23 14:00	05/23/23 12:06	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.5	mg/kg dry	1	[CALC]	05/22/23 14:00	05/23/23 12:06	calc	

General Chemistry Parameters by EPA / Standard Methods

Chloride	224	1.02	mg/kg dry	1	P3E2210	05/22/23 08:00	05/22/23 15:17	EPA 300.0	
% Moisture	2.0	0.1	%	1	P3E2208	05/22/23 08:38	05/22/23 08:45	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

BTM-6 (5.5')
3E19009-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

BTEX by 8021B

Benzene	ND	0.00105	mg/kg dry	1	P3E2404	05/24/23 09:19	05/24/23 18:07	EPA 8021B	
Toluene	ND	0.00105	mg/kg dry	1	P3E2404	05/24/23 09:19	05/24/23 18:07	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P3E2404	05/24/23 09:19	05/24/23 18:07	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P3E2404	05/24/23 09:19	05/24/23 18:07	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P3E2404	05/24/23 09:19	05/24/23 18:07	EPA 8021B	
Surrogate: 4-Bromofluorobenzene	86.0 %		80-120		P3E2404	05/24/23 09:19	05/24/23 18:07	EPA 8021B	
Surrogate: 1,4-Difluorobenzene	96.9 %		80-120		P3E2404	05/24/23 09:19	05/24/23 18:07	EPA 8021B	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P3E2215	05/22/23 14:00	05/23/23 12:32	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P3E2215	05/22/23 14:00	05/23/23 12:32	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P3E2215	05/22/23 14:00	05/23/23 12:32	TPH 8015M	
Surrogate: 1-Chlorooctane	84.7 %		70-130		P3E2215	05/22/23 14:00	05/23/23 12:32	TPH 8015M	
Surrogate: o-Terphenyl	94.3 %		70-130		P3E2215	05/22/23 14:00	05/23/23 12:32	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	05/22/23 14:00	05/23/23 12:32	calc	

General Chemistry Parameters by EPA / Standard Methods

Chloride	215	1.05	mg/kg dry	1	P3E2210	05/22/23 08:00	05/22/23 15:31	EPA 300.0	
% Moisture	5.0	0.1	%	1	P3E2208	05/22/23 08:38	05/22/23 08:45	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faight

BTEX by 8021B - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E2404 - * DEFAULT PREP *****

Blank (P3E2404-BLK1)

Prepared & Analyzed: 05/24/23

Benzene	ND	0.00100	mg/kg							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.116		"	0.120		96.8	80-120			
Surrogate: 4-Bromofluorobenzene	0.113		"	0.120		94.2	80-120			

LCS (P3E2404-BS1)

Prepared & Analyzed: 05/24/23

Benzene	0.119	0.00100	mg/kg	0.100		119	80-120			
Toluene	0.117	0.00100	"	0.100		117	80-120			
Ethylbenzene	0.118	0.00100	"	0.100		118	80-120			
Xylene (p/m)	0.223	0.00200	"	0.200		111	80-120			
Xylene (o)	0.109	0.00100	"	0.100		109	80-120			
Surrogate: 4-Bromofluorobenzene	0.111		"	0.120		92.4	80-120			
Surrogate: 1,4-Difluorobenzene	0.108		"	0.120		90.0	80-120			

LCS Dup (P3E2404-BSD1)

Prepared & Analyzed: 05/24/23

Benzene	0.120	0.00100	mg/kg	0.100		120	80-120	0.662	20	
Toluene	0.117	0.00100	"	0.100		117	80-120	0.0772	20	
Ethylbenzene	0.118	0.00100	"	0.100		118	80-120	0.203	20	
Xylene (p/m)	0.223	0.00200	"	0.200		111	80-120	0.0135	20	
Xylene (o)	0.110	0.00100	"	0.100		110	80-120	0.677	20	
Surrogate: 4-Bromofluorobenzene	0.113		"	0.120		94.4	80-120			
Surrogate: 1,4-Difluorobenzene	0.107		"	0.120		88.9	80-120			

Calibration Blank (P3E2404-CCB1)

Prepared & Analyzed: 05/24/23

Benzene	0.00		ug/kg							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	0.104		"	0.120		86.3	80-120			
Surrogate: 1,4-Difluorobenzene	0.114		"	0.120		95.1	80-120			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

BTEX by 8021B - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E2404 - * DEFAULT PREP *****

Calibration Blank (P3E2404-CCB2)

Prepared & Analyzed: 05/24/23

Benzene	0.00		ug/kg							
Toluene	0.00		"							
Ethylbenzene	0.110		"							
Xylene (p/m)	0.120		"							
Xylene (o)	0.00		"							
Surrogate: 1,4-Difluorobenzene	0.113		"	0.120		94.5	80-120			
Surrogate: 4-Bromofluorobenzene	0.108		"	0.120		89.6	80-120			

Calibration Blank (P3E2404-CCB3)

Prepared & Analyzed: 05/24/23

Benzene	0.00		ug/kg							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.110		"							
Xylene (o)	0.00		"							
Surrogate: 1,4-Difluorobenzene	0.113		"	0.120		93.8	80-120			
Surrogate: 4-Bromofluorobenzene	0.106		"	0.120		88.7	80-120			

Calibration Check (P3E2404-CCV1)

Prepared & Analyzed: 05/24/23

Benzene	0.118	0.00100	mg/kg	0.100		118	80-120			
Toluene	0.111	0.00100	"	0.100		111	80-120			
Ethylbenzene	0.105	0.00100	"	0.100		105	80-120			
Xylene (p/m)	0.212	0.00200	"	0.200		106	80-120			
Xylene (o)	0.106	0.00100	"	0.100		106	80-120			
Surrogate: 1,4-Difluorobenzene	0.118		"	0.120		98.2	75-125			
Surrogate: 4-Bromofluorobenzene	0.121		"	0.120		101	75-125			

Calibration Check (P3E2404-CCV2)

Prepared & Analyzed: 05/24/23

Benzene	0.120	0.00100	mg/kg	0.100		120	80-120			
Toluene	0.109	0.00100	"	0.100		109	80-120			
Ethylbenzene	0.101	0.00100	"	0.100		101	80-120			
Xylene (p/m)	0.202	0.00200	"	0.200		101	80-120			
Xylene (o)	0.103	0.00100	"	0.100		103	80-120			
Surrogate: 1,4-Difluorobenzene	0.103		"	0.120		85.9	75-125			
Surrogate: 4-Bromofluorobenzene	0.102		"	0.120		84.9	75-125			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

BTEX by 8021B - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E2404 - * DEFAULT PREP *****

Calibration Check (P3E2404-CCV3)

Prepared & Analyzed: 05/24/23

Benzene	0.120	0.00100	mg/kg	0.100		120	80-120			
Toluene	0.107	0.00100	"	0.100		107	80-120			
Ethylbenzene	0.0972	0.00100	"	0.100		97.2	80-120			
Xylene (p/m)	0.193	0.00200	"	0.200		96.5	80-120			
Xylene (o)	0.101	0.00100	"	0.100		101	80-120			
Surrogate: 4-Bromofluorobenzene	0.0896		"	0.120		74.6	75-125			
Surrogate: 1,4-Difluorobenzene	0.0972		"	0.120		81.0	75-125			

Matrix Spike (P3E2404-MS1)

Source: 3E22016-01

Prepared & Analyzed: 05/24/23

Benzene	0.106	0.00101	mg/kg dry	0.101	ND	104	80-120			
Toluene	0.0803	0.00101	"	0.101	ND	79.5	80-120			
Ethylbenzene	0.0687	0.00101	"	0.101	ND	68.0	80-120			
Xylene (p/m)	0.128	0.00202	"	0.202	ND	63.4	80-120			
Xylene (o)	0.0645	0.00101	"	0.101	ND	63.9	80-120			
Surrogate: 4-Bromofluorobenzene	0.105		"	0.121		86.6	80-120			
Surrogate: 1,4-Difluorobenzene	0.118		"	0.121		97.4	80-120			

Matrix Spike Dup (P3E2404-MSD1)

Source: 3E22016-01

Prepared & Analyzed: 05/24/23

Benzene	0.120	0.00101	mg/kg dry	0.101	ND	119	80-120	12.8	20	
Toluene	0.0943	0.00101	"	0.101	ND	93.3	80-120	16.0	20	
Ethylbenzene	0.0813	0.00101	"	0.101	ND	80.5	80-120	16.8	20	
Xylene (p/m)	0.152	0.00202	"	0.202	ND	75.0	80-120	16.7	20	
Xylene (o)	0.0766	0.00101	"	0.101	ND	75.8	80-120	17.2	20	
Surrogate: 4-Bromofluorobenzene	0.106		"	0.121		87.8	80-120			
Surrogate: 1,4-Difluorobenzene	0.119		"	0.121		98.1	80-120			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E2215 - TX 1005

Blank (P3E2215-BLK1)

Prepared: 05/22/23 Analyzed: 05/23/23

C6-C12	ND	25.0	mg/kg							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	118		"	100		118	70-130			
Surrogate: o-Terphenyl	63.4		"	50.0		127	70-130			

LCS (P3E2215-BS1)

Prepared: 05/22/23 Analyzed: 05/23/23

C6-C12	1070	25.0	mg/kg	1000		107	75-125			
>C12-C28	918	25.0	"	1000		91.8	75-125			
Surrogate: 1-Chlorooctane	121		"	100		121	70-130			
Surrogate: o-Terphenyl	63.1		"	50.0		126	70-130			

LCS Dup (P3E2215-BSD1)

Prepared: 05/22/23 Analyzed: 05/23/23

C6-C12	1080	25.0	mg/kg	1000		108	75-125	0.662	20	
>C12-C28	926	25.0	"	1000		92.6	75-125	0.936	20	
Surrogate: 1-Chlorooctane	121		"	100		121	70-130			
Surrogate: o-Terphenyl	62.9		"	50.0		126	70-130			

Calibration Blank (P3E2215-CCB1)

Prepared: 05/22/23 Analyzed: 05/23/23

C6-C12	8.53		mg/kg							
>C12-C28	7.33		"							
Surrogate: 1-Chlorooctane	115		"	100		115	70-130			
Surrogate: o-Terphenyl	61.5		"	50.0		123	70-130			

Calibration Blank (P3E2215-CCB2)

Prepared: 05/22/23 Analyzed: 05/23/23

C6-C12	6.95		mg/kg							
>C12-C28	12.8		"							
Surrogate: 1-Chlorooctane	113		"	100		113	70-130			
Surrogate: o-Terphenyl	59.5		"	50.0		119	70-130			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E2215 - TX 1005

Calibration Check (P3E2215-CCV1)

Prepared: 05/22/23 Analyzed: 05/23/23

C6-C12	493	25.0	mg/kg	500		98.7	85-115			
>C12-C28	472	25.0	"	500		94.4	85-115			
Surrogate: 1-Chlorooctane	128		"	100		128	70-130			
Surrogate: o-Terphenyl	60.0		"	50.0		120	70-130			

Calibration Check (P3E2215-CCV2)

Prepared: 05/22/23 Analyzed: 05/23/23

C6-C12	478	25.0	mg/kg	500		95.7	85-115			
>C12-C28	469	25.0	"	500		93.9	85-115			
Surrogate: 1-Chlorooctane	125		"	100		125	70-130			
Surrogate: o-Terphenyl	59.1		"	50.0		118	70-130			

Duplicate (P3E2215-DUP1)

Source: 3E19005-01

Prepared: 05/22/23 Analyzed: 05/23/23

C6-C12	79.5	140	mg/kg dry		ND			133	20	
>C12-C28	2090	140	"		372			139	20	
Surrogate: 1-Chlorooctane	101		"	112		89.6	70-130			
Surrogate: o-Terphenyl	57.3		"	56.2		102	70-130			

Permian Basin Environmental Lab, L.P.

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Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E2208 - * DEFAULT PREP *****

Blank (P3E2208-BLK1)	Prepared & Analyzed: 05/22/23									
% Moisture	ND	0.1	%							
Blank (P3E2208-BLK2)	Prepared & Analyzed: 05/22/23									
% Moisture	ND	0.1	%							
Blank (P3E2208-BLK3)	Prepared & Analyzed: 05/22/23									
% Moisture	ND	0.1	%							
Blank (P3E2208-BLK4)	Prepared & Analyzed: 05/22/23									
% Moisture	ND	0.1	%							
Blank (P3E2208-BLK5)	Prepared & Analyzed: 05/22/23									
% Moisture	ND	0.1	%							
Blank (P3E2208-BLK6)	Prepared & Analyzed: 05/22/23									
% Moisture	ND	0.1	%							
Duplicate (P3E2208-DUP1)	Source: 3E17004-01		Prepared & Analyzed: 05/22/23							
% Moisture	9.0	0.1	%		9.0			0.00	20	
Duplicate (P3E2208-DUP2)	Source: 3E17004-11		Prepared & Analyzed: 05/22/23							
% Moisture	6.0	0.1	%		7.0			15.4	20	
Duplicate (P3E2208-DUP3)	Source: 3E17004-26		Prepared & Analyzed: 05/22/23							
% Moisture	9.0	0.1	%		10.0			10.5	20	
Duplicate (P3E2208-DUP4)	Source: 3E17004-36		Prepared & Analyzed: 05/22/23							
% Moisture	6.0	0.1	%		6.0			0.00	20	

Permian Basin Environmental Lab, L.P.

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Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E2208 - * DEFAULT PREP *****

Duplicate (P3E2208-DUP5)	Source: 3E17004-51		Prepared & Analyzed: 05/22/23							
% Moisture	8.0	0.1	%		8.0			0.00	20	
Duplicate (P3E2208-DUP6)	Source: 3E17004-61		Prepared & Analyzed: 05/22/23							
% Moisture	8.0	0.1	%		8.0			0.00	20	
Duplicate (P3E2208-DUP7)	Source: 3E17012-01		Prepared & Analyzed: 05/22/23							
% Moisture	17.0	0.1	%		17.0			0.00	20	
Duplicate (P3E2208-DUP8)	Source: 3E18016-12		Prepared & Analyzed: 05/22/23							
% Moisture	2.0	0.1	%		2.0			0.00	20	
Duplicate (P3E2208-DUP9)	Source: 3E19001-07		Prepared & Analyzed: 05/22/23							
% Moisture	4.0	0.1	%		4.0			0.00	20	
Duplicate (P3E2208-DUPA)	Source: 3E19001-17		Prepared & Analyzed: 05/22/23							
% Moisture	9.0	0.1	%		9.0			0.00	20	
Duplicate (P3E2208-DUPB)	Source: 3E19010-01		Prepared & Analyzed: 05/22/23							
% Moisture	3.0	0.1	%		4.0			28.6	20	R3

Batch P3E2210 - * DEFAULT PREP *****

Blank (P3E2210-BLK1)	Prepared & Analyzed: 05/22/23									
Chloride	ND	1.00	mg/kg							
LCS (P3E2210-BS1)	Prepared & Analyzed: 05/22/23									
Chloride	18.6		mg/kg	20.0		92.8	90-110			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P3E2210 - * DEFAULT PREP *****

LCS Dup (P3E2210-BSD1)

Prepared & Analyzed: 05/22/23

Chloride	18.2		mg/kg	20.0		91.0	90-110	1.96	10	
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Calibration Check (P3E2210-CCV1)

Prepared & Analyzed: 05/22/23

Chloride	18.7		mg/kg	20.0		93.5	90-110			
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Calibration Check (P3E2210-CCV2)

Prepared & Analyzed: 05/22/23

Chloride	19.3		mg/kg	20.0		96.7	90-110			
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Matrix Spike (P3E2210-MS1)

Source: 3E17002-17

Prepared & Analyzed: 05/22/23

Chloride	117		mg/kg	100	17.9	99.2	80-120			
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Matrix Spike Dup (P3E2210-MSD1)

Source: 3E17002-17

Prepared & Analyzed: 05/22/23

Chloride	119		mg/kg	100	17.9	101	80-120	1.31	20	
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Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Tar Heel 19-18-7
Project Number: 212C-MD-03090
Project Manager: John Faught

Notes and Definitions

ROI Received on Ice

R3 The RPD exceeded the acceptance limit due to sample matrix effects.

NPBEL C Chain of Custody was not generated at PBELAB

BULK Samples received in Bulk soil containers may be biased low in the nC6-C12 TPH Range

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

5/25/2023

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

From: [Laci Luig](#)
To: [Wells, Shelly, EMNRD](#)
Subject: [EXTERNAL] Fwd: nAPP2206272830 Tar Heel 19-18-7 Fed Com 18H sample notification
Date: Wednesday, December 6, 2023 11:03:34 AM

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

Hi Shelly!

This is all I'm seeing for the sampling notification. I'll keep looking, but I'm not seeing a response email from the OCD.

Laci Luig
(432) 208-3035

Begin forwarded message:

From: Laci Luig <Laci.Luig@coterra.com>
Date: April 28, 2023 at 7:50:10 AM CDT
To: NMOCD Spill Notifications <ocd.enviro@emnrd.nm.gov>, BLM Spill Notifications <blm_nm_cfo_spill@blm.gov>
Cc: john.faught1@tetrattech.com
Subject: nAPP2206272830 Tar Heel 19-18-7 Fed Com 18H sample notification

All,

This email serves as notification for confirmation sampling on the Tar Heel 19-18-7 Federal Com 18H in Eddy County. Sampling is scheduled to begin Thursday, May 4th at 8:30am (MST), weather and soil conditions permitting. Tetra Tech will be onsite to collect the confirmation samples.

Thank you,



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

CONDITIONS

Action 232827

CONDITIONS

Operator: CIMAREX ENERGY CO. 6001 Deauville Blvd Midland, TX 79706	OGRID: 215099
	Action Number: 232827
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
scwells	None	12/7/2023