



Ike Tavarez
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December 21, 2022

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Subject: **Boo Radley 21C CTB Release
Unit Letter C, Section 21, Township 26 South, Range 28 East
Eddy County, New Mexico
Incident ID NAPP2230542080**

Sir or Madam:

On October 18, 2022, an incident occurred at the ConocoPhillips Boo Radley 21C CTB. This incident resulted in a full facility loss. The facility has been deconstructed. Reconstruction of the facility is scheduled to begin in March of 2023.

ConocoPhillips has taken a proactive approach and has assessed and evaluated the release at the Boo Radley 21C Central Tank Battery within 90 days of release, as detailed in the attached work plan. The loss of the facility has halted major activity in this area and prolonged closure of the facility will cause significant loss of production.

To meet the facility reconstruction timeline, an expedited review of this work plan is requested. Pending approval of this work plan, remediation is tentatively scheduled to begin first week of February 2023.

The Release Characterization and Remediation Work Plan for the subject line incident as prepared by Tetra Tech on behalf of COP is enclosed. The attached Work Plan will be submitted via the NMOCD Fee Application portal. If you have any questions, please contact me at 432-701-8630.

Sincerely,

A handwritten signature in black ink, appearing to read "Ike Tavarez", written over a light blue circular background.

Ike Tavarez, P.G.
Program Manager – RMR

cc: Site Files

Attachments: Release Characterization and Remediation Work Plan, Boo Radley 21C CTB Release, NAPP2230542080



December 21, 2022

District Supervisor
Oil Conservation Division, District 2
506 W. Texas Ave.
Artesia, New Mexico 88210

**Re: Release Characterization and Remediation Work Plan
ConocoPhillips Company
Heritage Concho
Boo Radley 21C Federal CTB Release
Unit Letter C, Section 21, Township 26 South, Range 28 East
Eddy County, New Mexico
Incident ID NAPP2230542080**

Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips Company (COPC) to assess and evaluate a release that occurred at the Boo Radley Federal 21C Central Tank Battery (CTB). The release footprint is located in Public Land Survey System (PLSS) Unit Letter C, Section 21, Township 26 South, and Range 28 East, Eddy County, New Mexico (Site). The approximate release point occurred at coordinates 32.033379° -104.092976°, as shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico C-141 Initial Report (Appendix A), the release was discovered on October 18, 2022. The incident was caused by unclosed emergency shutdown (ESD) features on vicinity wells, which sent fluid to the combustor and resulted in a fire. Approximately 2,250 barrels (bbls) of produced water and 500 bbls of crude oil were reported released based on tank measurements collected before the fire. An unknown quantity of crude oil and produced water were recovered during recovery efforts. The fire and addition of water from the fire department hindered the estimate of the amount of fluid recovered. The fire remained on pad; the release of liquids ran off pad along a pipeline right of way. The release extent reported by COPC encompassed an area of approximately 200,000 square feet of oil-gas lease pad and pastureland. The release point was noted as being on the southeast corner of the tank battery. The New Mexico Oil Conservation District (NMOCD) received the C-141 report form for the release on November 1, 2022. The NMOCD Incident ID for this release is NAPP2230542080.

SITE CHARACTERIZATION

A site characterization was performed and no sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, stream bodies, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the distances specified in 19.15.29 New Mexico Administrative Code (NMAC). The Site is in an area of high karst potential.

According to the New Mexico Office of the State Engineers reporting system, there are no water wells within ½ mile (800 meters) of the Site. A borehole (DTW) was drilled to 59 feet below ground surface (bgs) on November 16, 2021, by a licensed drilling subcontractor as part of work performed at the Diamondback 22 State 2H (Incident ID NAPP2129931373), located approximately 0.6 miles from the Site. The borehole was dry upon completion, and soils were dry from surface to total depth. The borehole coordinates are

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32.03314°, -104.08201°. The site characterization data, along with the DTW boring log, is included as Appendix B.

ARCHAEOLOGICAL SURVEY

On behalf of COPC, Tetra Tech contracted with SWCA Environmental Consultants (SWCA) to conduct an intensive cultural resources pedestrian survey in support of the release assessment. Approval from the NMSLO is required prior to any intrusive work being completed at the site. This includes intrusive initial response and assessment. Alissa Healy, SWCA, submitted a NMCRIS report to the NMSLO on November 15, 2022. NMSLO approved the finding the same day. Per the NMSLO:

- *“From a cultural resource protection standpoint, this negative NIAF and the absence of any presence of the two sites despite relocation efforts demonstrates that remediation of this area will have no adverse impact on any cultural properties. The proponent is free to proceed with remediation under whatever instrument authorizes their entry onto trust lands for that purpose.”*

The NMCRIS report and subsequent NMSLO correspondence approving the report are included as Appendix C.

REGULATORY FRAMEWORK

Based upon the release footprint and in accordance with Subsection E of 19.15.29.12 NMAC, per 19.15.29.11 NMAC, the site characterization data was used to determine recommended remedial action levels (RRALs) for benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX), total petroleum hydrocarbons (TPH), and chloride in soil.

Based on the site characterization (high karst) and in accordance with Table I of 19.15.29.12 NMAC, the proposed RRALs for the Site are as follows:

Constituent	RRAL
Chloride	600 mg/kg
TPH (GRO+DRO+ORO)	100 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

VISUAL SITE INSPECTION

Tetra Tech personnel conducted a site visit on November 1, 2022, to visually assess the impacted release areas in the pastureland adjacent to the release point located on the lease pad. The release was noted as extending approximately 1,550 feet east from the southeast corner of the Boo Radley 21C CTB lease pad to an adjacent ConocoPhillips (former COG Operating, LLC) lease pad. The Boo Radley 21C CTB area was not accessed as operations were still in the process of deconstructing the facility.

Tetra Tech personnel determined that the provided release extent was not representative of the actual flow path through the pastureland. Areas shown as broad and all-encompassing, in fact, followed low lying, braided flow paths. The revised release extent encompasses an area of approximately 175,847 square feet. Visually impacted areas were noted throughout the footprint in the pastureland areas. Photographic documentation of current Site conditions during the visual inspection is included in Appendix D. The approximate release extent is indicated in Figure 3.

SITE ASSESSMENT ACTIVITIES AND RESULTS

Tetra Tech personnel were onsite to delineate and sample the pasture portion of the release area in November 2022. A total of twenty-seven (27) soil borings (AH-1 through AH-27) were installed using a hand auger within and around the release area in the pastureland to evaluate the vertical and horizontal extent of the release.

Tetra Tech remobilized to the release site to perform the on-pad portion of the assessment in December 2022. A total of seventeen (17) trenches (T-1 through T-16 and T-3A) were advanced on the pad and in the pastureland. An additional seven (7) soil borings (AH-28 through AH-34) were installed using a hand auger around the release on the pad to evaluate the vertical and horizontal extent of the release. Additionally, two (2) background borings were installed off-site to the west and south to obtain a representative sample of subsurface soil conditions. The sampling locations associated with the site assessment activities are shown on Figure 4.

A total of one hundred and thirty-four (134) samples were collected from the sample locations and transferred under chain of custody and analyzed within appropriate holding times by Cardinal Laboratories (Cardinal). A total of one hundred and nine (109) soil samples were analyzed for TPH via Method 8015 Modified, chloride via Method SM4500Cl-B, and BTEX via Method 8021B. The remaining twenty-five (25) samples were analyzed for chloride only via Method SM4500Cl-B. Photographic documentation of Site conditions during site assessment activities is included in Appendix D. A copy of the laboratory analytical report and chain-of-custody documentation are included in Appendix E.

SUBSURFACE DATA EVALUATION

The subsurface conditions in the pad area are extremely variable. In most areas on the northwest side, the excavator bucket met refusal between 2' and 6' bgs, however, in other portions of the pad, the soils were loose and friable. In several areas there were layers of interbedded gypsum and sandy lenses noted during trenching.

During an evaluation of results from the trench assessment portion of the work, trench location T-3 exhibited anomalous results when compared to the remainder of the pad assessment locations. To verify the findings from T-3, trench T-3A was advanced approximately 10' north of T-3 to verify the anomalous results. Based on review of the analytical results from T-3 and compared to T-3A, it is likely that cross contamination was present at T-3 during the trenching activities. The chloride concentrations observed at depth are inconsistent with the remainder of the pad assessment data and appear to increase with depth. It is conceivable that the upper impacted material may have sloughed into the trench during sampling at this location. These data anomalies will be verified by confirmation sampling during the proposed remedial activities. The T-3 area will be initially excavated down of approximately 1.0' and the excavation floor will be sampled. If results indicate impact above the 600 mg/kg threshold for chloride, excavation will continue until the results are below the RRALs for the Site. The specific area of T-3 will also be trenched and sampled to verify the collected data and determine if deeper excavation is required.

Additionally, exhibited anomalies were also observed in the T-4, T-5, T-10 and T-11 subsurface data. The data at these locations indicated that stratigraphic intervals of clean material overlie impacted layers beneath. At T-11 and T-10, the chloride and TPH concentrations detected below 1-foot bgs and 2-foot bgs respectively may be due to sampling error or cross-contamination during sampling. These areas will be excavated to these appropriate depths, then trenched and sampled to verify the collected data and determine if deeper excavation is required. Anomalies at T-4 and T-5 indicate variable impacts in the subsurface, and these results could be cross-contamination or "hot spots". Nonetheless, these areas will be excavated as indicated in the figures, however, if the collected data indicates no impact at depth, the result may be a shallower excavation.

SITE ASSESSMENT RESULTS

Results from the November and December 2022 soil sampling event are summarized in Table 1. Analytical results associated with boring location AH-1 AH-3, AH-5, AH-6, AH-8 through AH-11, AH-25, AH-26, T-1 through T-12, T-14 through T-16 and T-3A exceeded the proposed Site RRALs for chloride in soils. Additionally, results associated with T-5, T-7 through T-9 and T-12 exceeded the proposed RRAL for TPH. All other analytical results from the November and December 2022 sampling were below Site RRALs.

The indicated excavation extents are presented based on the data collected during the November and December assessments. As mentioned, these identified anomalies will be further evaluated and assessed

during remedial activities to determine final depths of excavation. The release is horizontally and vertically delineated following the December 2022 sampling events.

REMEDIATION WORK PLAN

Based on the analytical results, COPC proposes to remove the remaining impacted material as shown on Figure 5. Impacted soils will be excavated using heavy equipment (backhoes, hoe rams, and track hoes) ranging from a surficial scrape to a maximum depth of 6.5 feet below the surrounding surface or until a representative sample from the walls and bottom of the excavation is below the applicable RRALs. Areas in the vicinity of trench locations T-3 and T-11 will be excavated to depths of 1 to 2 ft bgs, Tetra Tech personnel will collect confirmation floor samples to be evaluated for chloride, TPH and BTEX. If concentrations exceed the site RRALs, the defined areas will be further excavated until a representative sample from the bottom of the excavation is below the applicable RRALs. Any area containing pressurized lines will be hand-dug to the proposed depth shown on Figure 5 or the maximum extent practicable; heavy equipment will come no more than 4 feet from any pressurized lines.

Due to permitting and right-of-entry requirements in the pasture area, the proposed remediation will be conducted in two phases. The first phase will include the remedial activities to be conducted within the extent of the lease pad which includes the removal of approximately 7,704 cubic yards of material. Following the receipt of the permissions mentioned above, the second phase of the remediation to address the pasture area will begin. The second phase includes the removal of approximately 4,431 cubic yards of material.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. Prior to confirmation sampling the NMOCD district office will be notified via email in accordance with Subsection D of 19.15.29.12 NMAC. Confirmation floor and sidewall samples will be collected for verification of remedial activities and analyzed for TPH, BTEX, and chloride. The estimated total volume of material to be remediated is approximately 12,135 cubic yards.

ALTERNATIVE CONFIRMATION SAMPLING PLAN

In accordance with 19.15.29.12(D)(1)(b) NMAC, COPC proposes the following alternative confirmation sampling plan to adhere with NMOCD requirements. The proposed confirmation sample locations are depicted in Figure 6. Approximately two-hundred and seventy-seven (277) confirmation floor samples and ninety (90) confirmation sidewall samples are proposed for verification of remedial activities. The proposed floors in the pad area are situated on an approximate 600 square foot grid. The proposed excavation, including the surficial scrape areas, encompasses a surface area of approximately 187,040 square feet.

As mentioned, the pad area confirmation sidewall and floor samples are proposed to be representative of approximately 600 square feet of excavated area. The pasture area confirmation sidewall and floor samples will be representative of no more than approximately 400 square feet of excavated area. Confirmation samples will be sent to an accredited analytical laboratory for analysis of chloride, TPH, and BTEX. Once acceptable results are received, the excavation will then be backfilled with clean material to surface grade.

Due to the size of the Site, scaled down versions of Figure 5 and Figure 6 have been included as Figure 5A, Figure 5B, Figure 6A and Figure 6B.

SITE RECLAMATION AND RESTORATION PLAN

Due to the Site being located within a high karst area, the release area will be remediated to the most stringent RRALs. Therefore, the proposed remediation will also meet reclamation requirements for the Site in accordance with Subsection D of 19.15.29.13 NMAC.

The backfilled areas located outside of oil and gas operations areas will be seeded in Spring 2023, or the first favorable growing season following backfilling, to aid in revegetation. Based on the soils at the site, the New Mexico State Land Office (NMSLO) Loamy (L) Sites Seed Mixture will be used for seeding and will be planted in the amount specified in the pounds pure live seed (PLS) per acre. The seed mixture will be

Release Characterization and Remediation Work Plan
December 21, 2022

ConocoPhillips

spread by a drill equipped with a depth regulator or a hand-held broadcaster and raked. If a hand-held broadcaster is used for dispersal, the pounds pure live seed per acre will be doubled.

Site inspections will be performed to assess the revegetation progress and evaluate the site for the presence of primary or secondary noxious weeds. If noxious weeds are identified, the NMSLO will be contacted to determine an effective method for eradication. If the site does not show revegetation after one growing season, the area will be reseeded as appropriate. The NMSLO seed mixture details and corresponding pounds pure live seed per acre are included in Appendix F.

CONCLUSION

COP proposes to begin remediation activities at the Site within 30 days of NMOCD plan approval. Upon completion of the proposed work, a final closure report detailing the remediation activities and the results of the confirmation sampling will be submitted to NMOCD. The facility has been deconstructed. Reconstruction of the facility is scheduled to begin in March of 2023.

ConocoPhillips has taken a proactive approach to this incident and has assessed and evaluated the release at the Boo Radley 21C Central Tank Battery within 90 days, as detailed in this work plan. The loss of the facility has halted major activity and production in this area and prolonged closure of the Facility will cause significant economic adversity.

To meet the facility reconstruction timeline, an expedited review of this work plan is requested. Pending approval of this work plan, remediation is tentatively scheduled to begin first week of February 2023.

If you have any questions concerning the soil assessment or the proposed remedial activities for the Site, please call me at (512) 217-7254 or Christian at (512) 338-2861.

Sincerely,

Tetra Tech, Inc.



Ryan C Dickerson
Project Lead



Christian M. Llull, P.G.
Project Manager

cc:
Mr. Ike Tavarez, RMR – ConocoPhillips

LIST OF ATTACHMENTS

Figures:

- Figure 1 – Overview Map
- Figure 2 – Site Location/Topographic Map
- Figure 3 – Approximate Release Extent and Initial Response
- Figure 4 – Site Assessment
- Figure 5 – Proposed Remediation Extent
- Figure 6 – Alternative Confirmation Sampling Plan

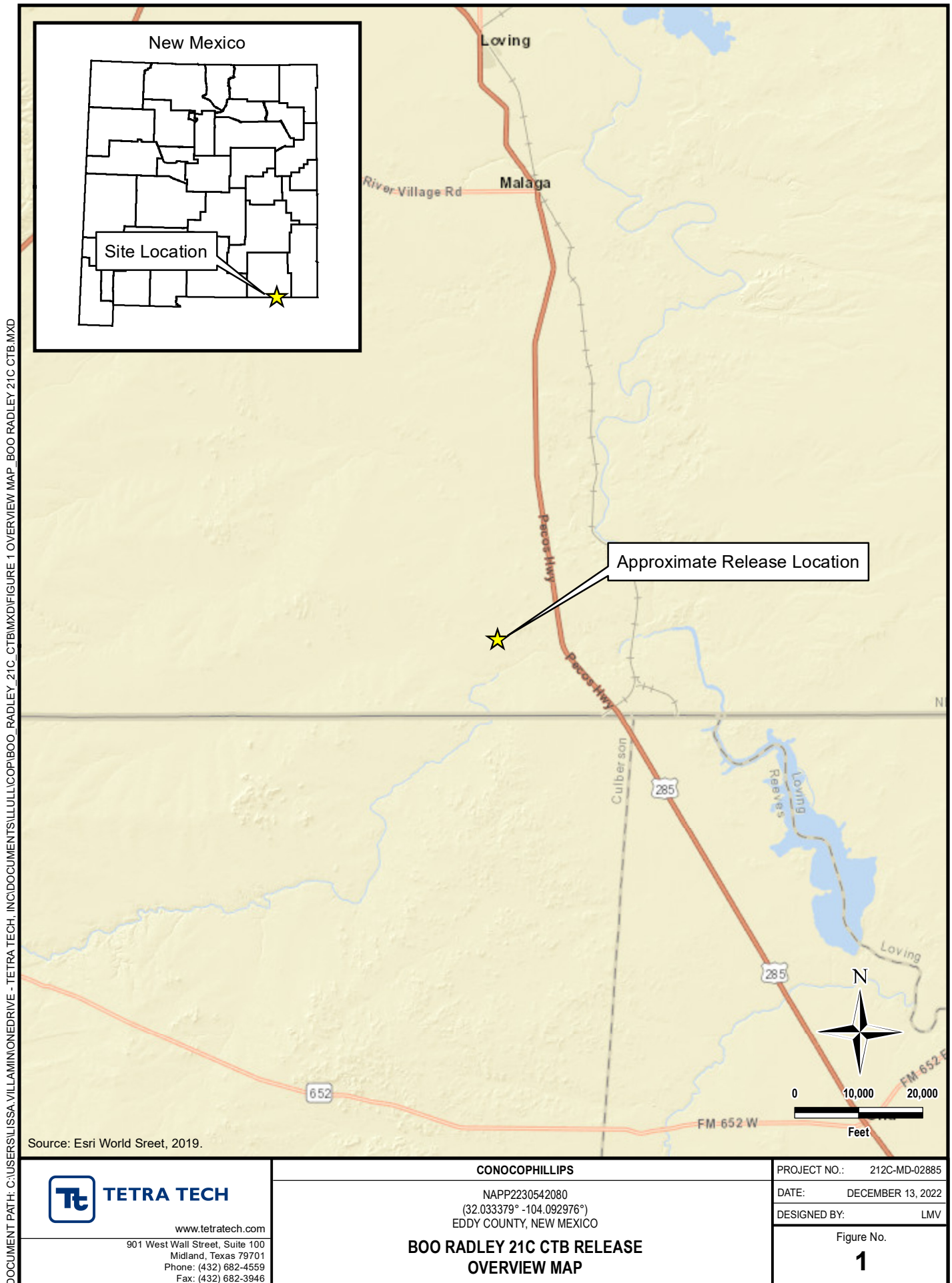
Tables:

- Table 1 – Summary of Analytical Results –Soil Assessment

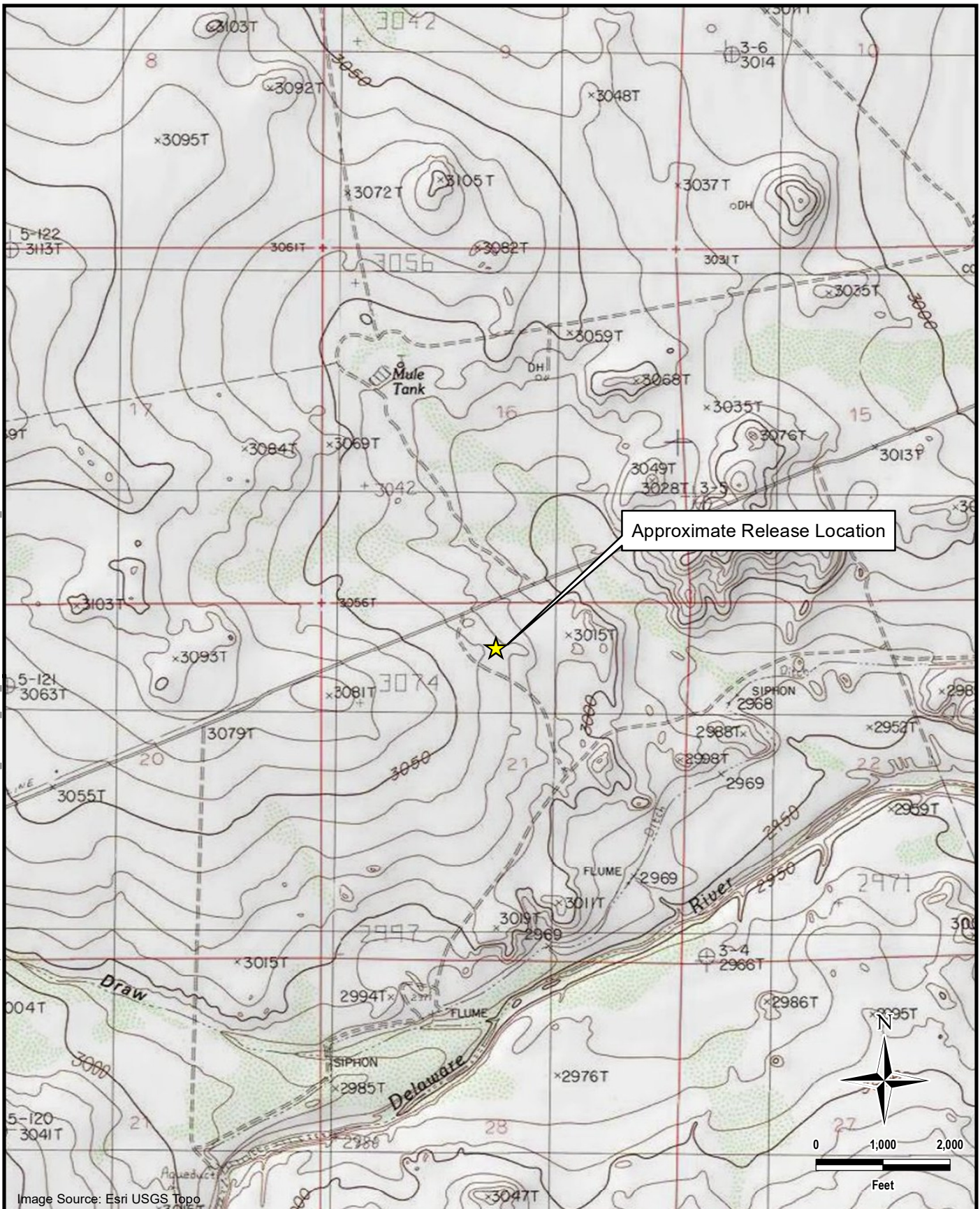
Appendices:

- Appendix A – C-141 Forms
- Appendix B – Site Characterization Data
- Appendix C – Regulatory Correspondence
- Appendix D – Photographic Documentation
- Appendix E – Laboratory Analytical Data
- Appendix F – NMSLO Seed Mixture Details

FIGURES



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**TETRA TECH**

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CONOCOPHILLIPS

NAPP2230542080
(32.033379° -104.092976°)
EDDY COUNTY, NEW MEXICO

**BOO RADLEY 21C CTB RELEASE
TOPOGRAPHIC MAP**

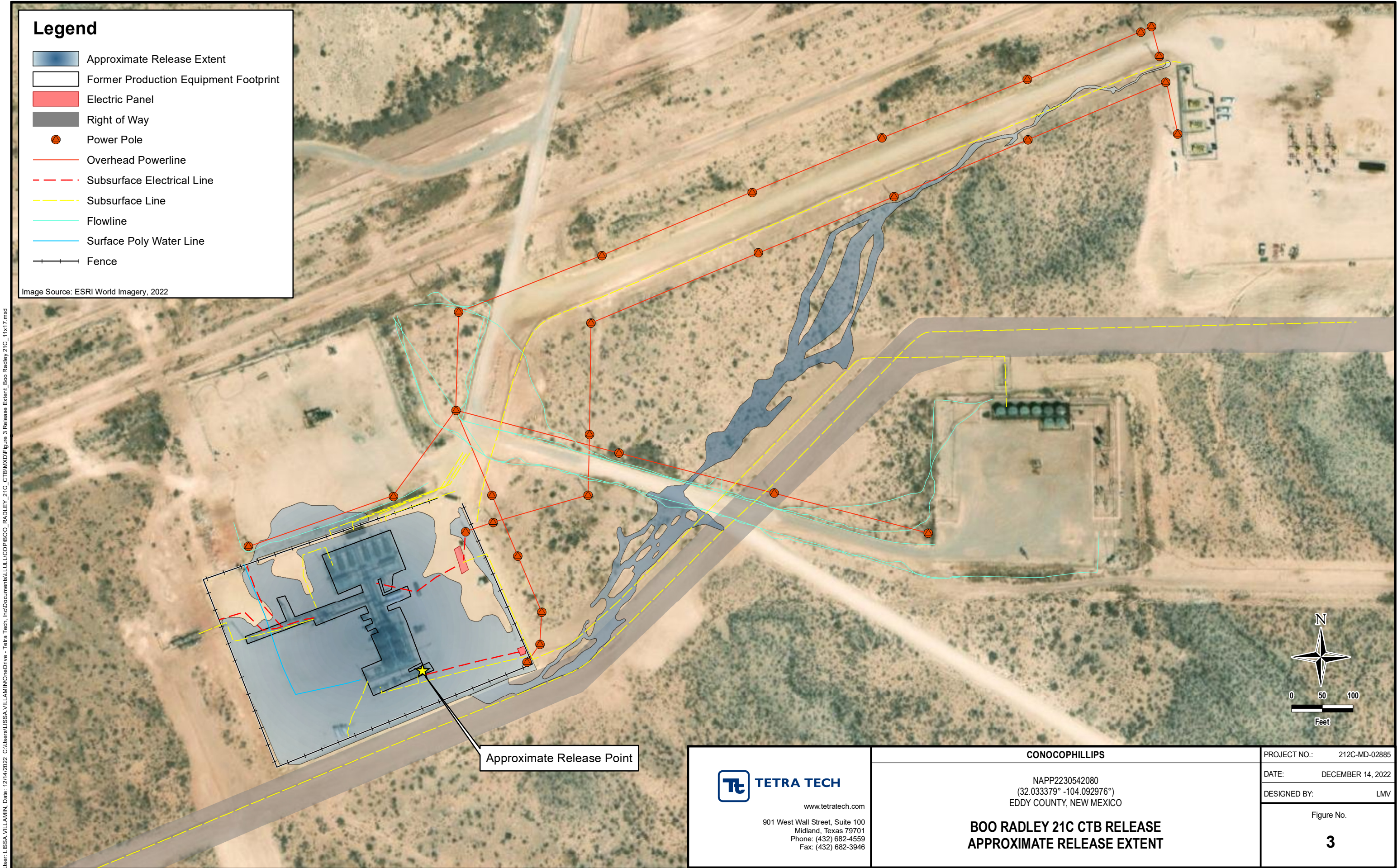
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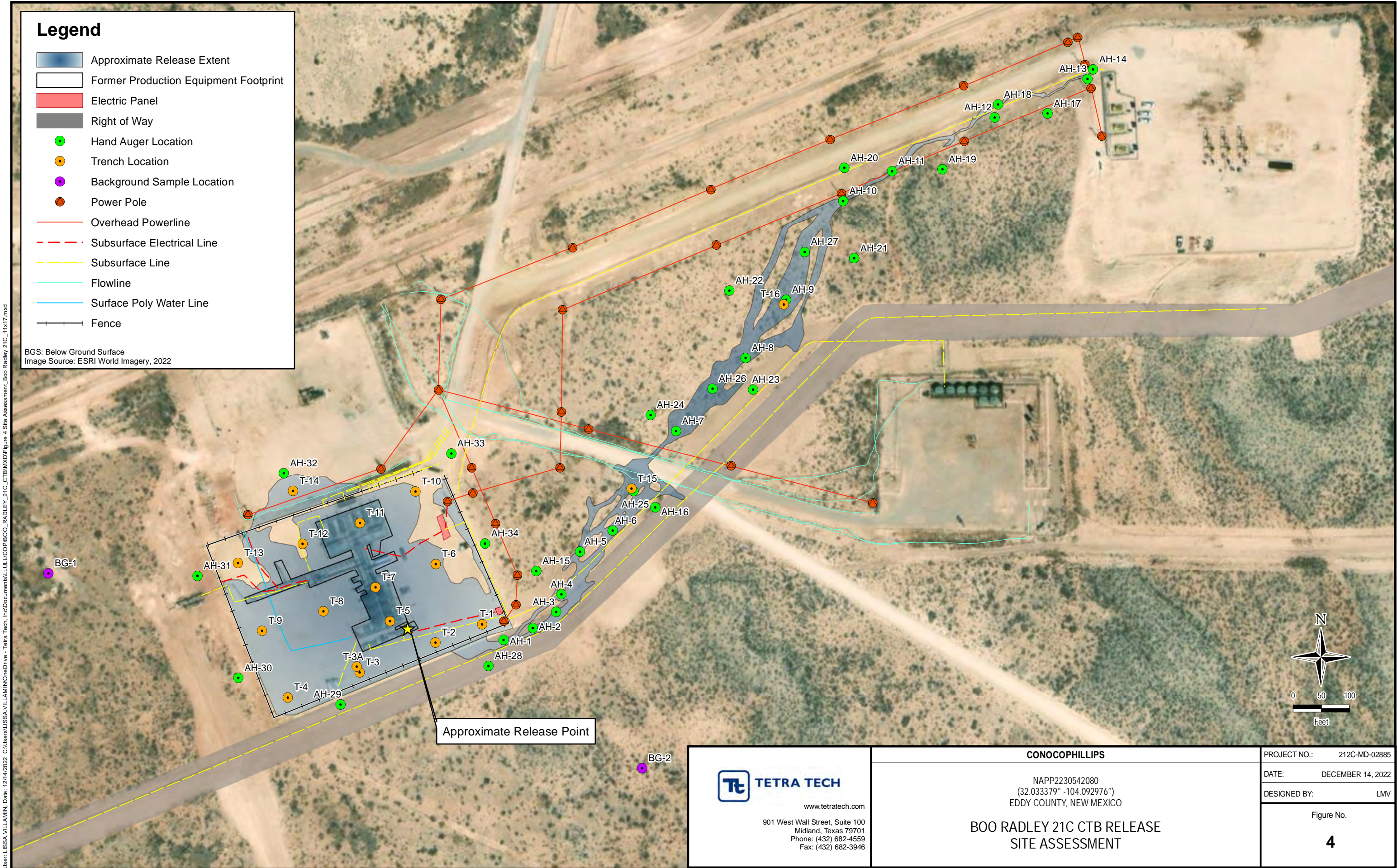
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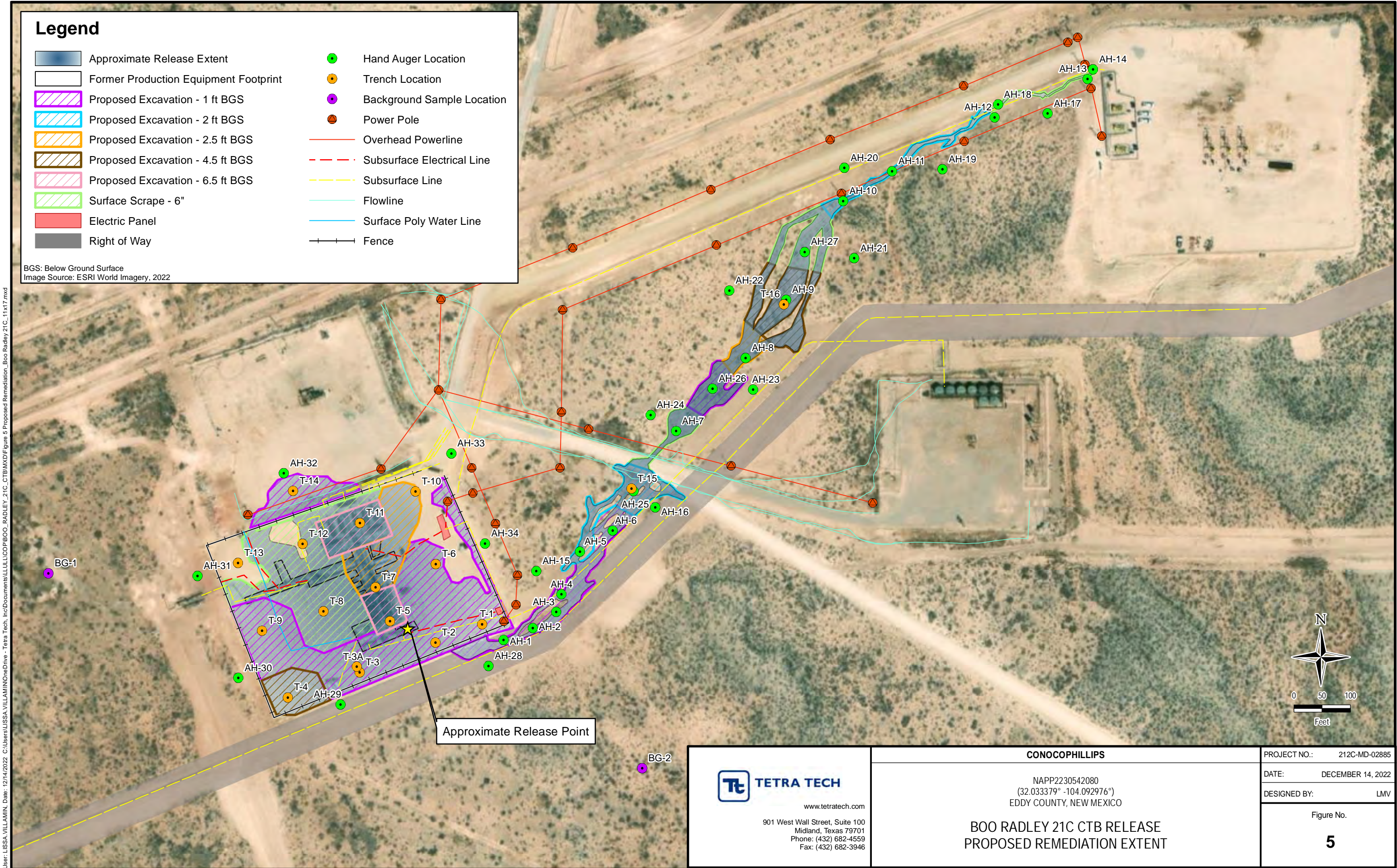
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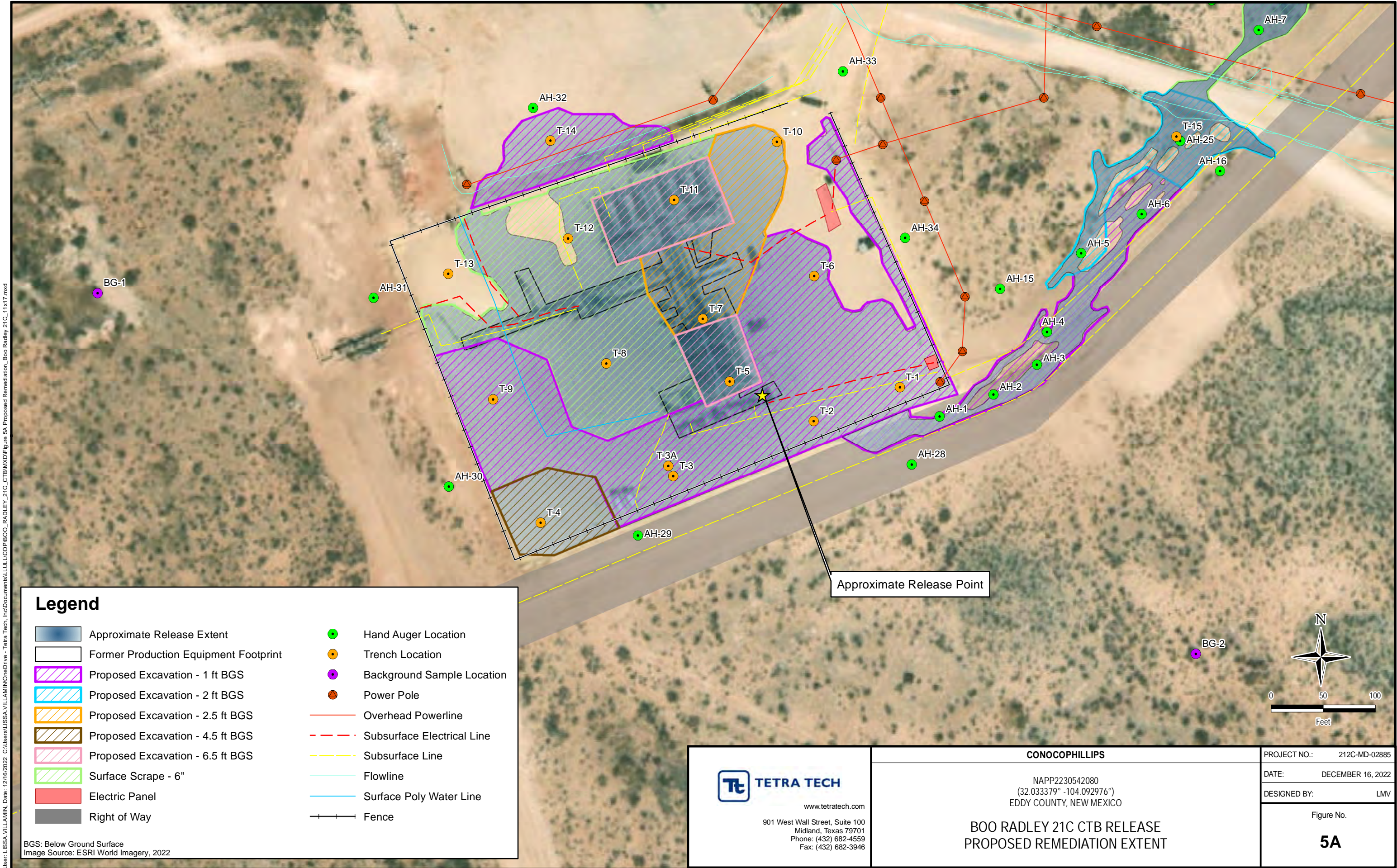
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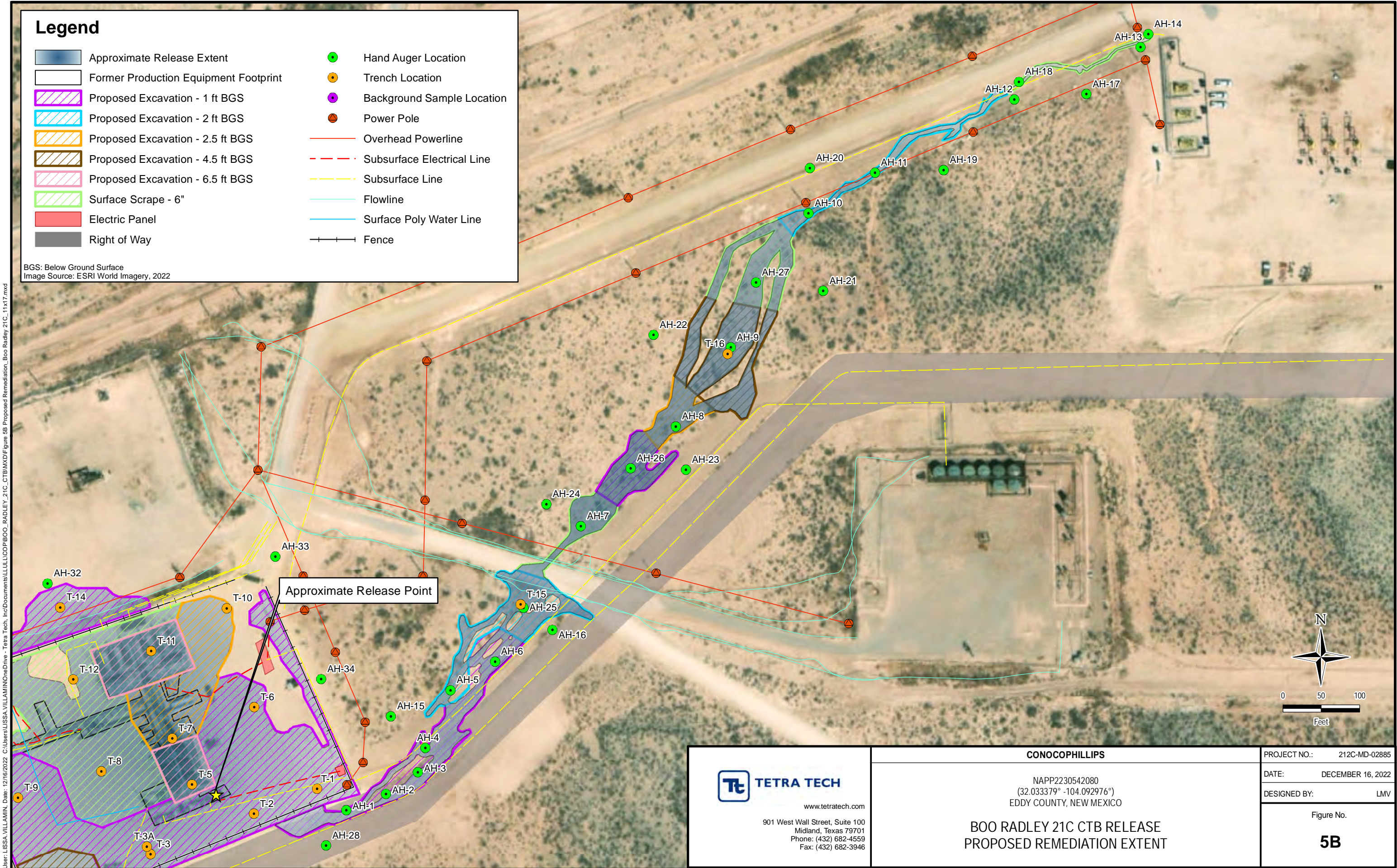
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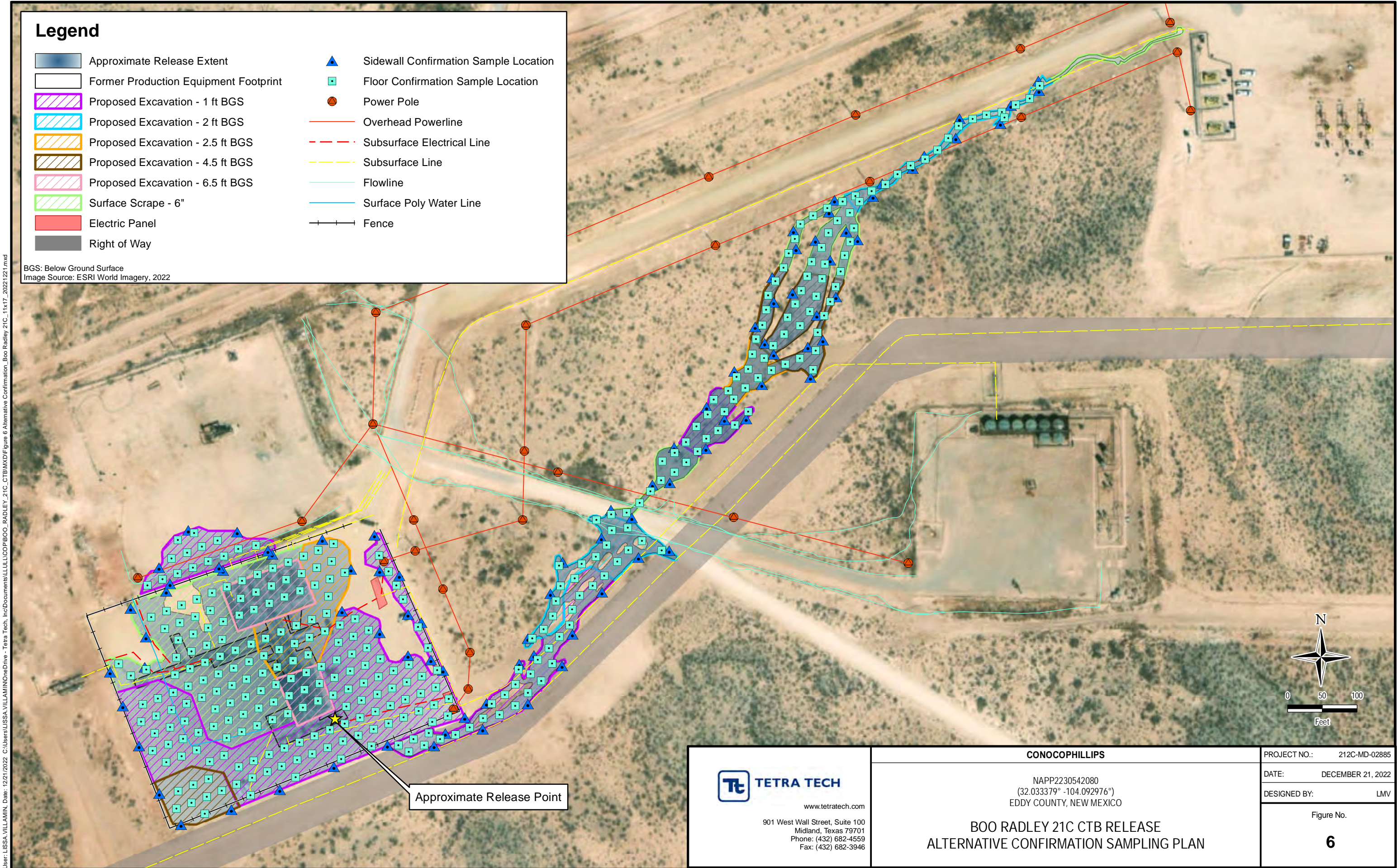


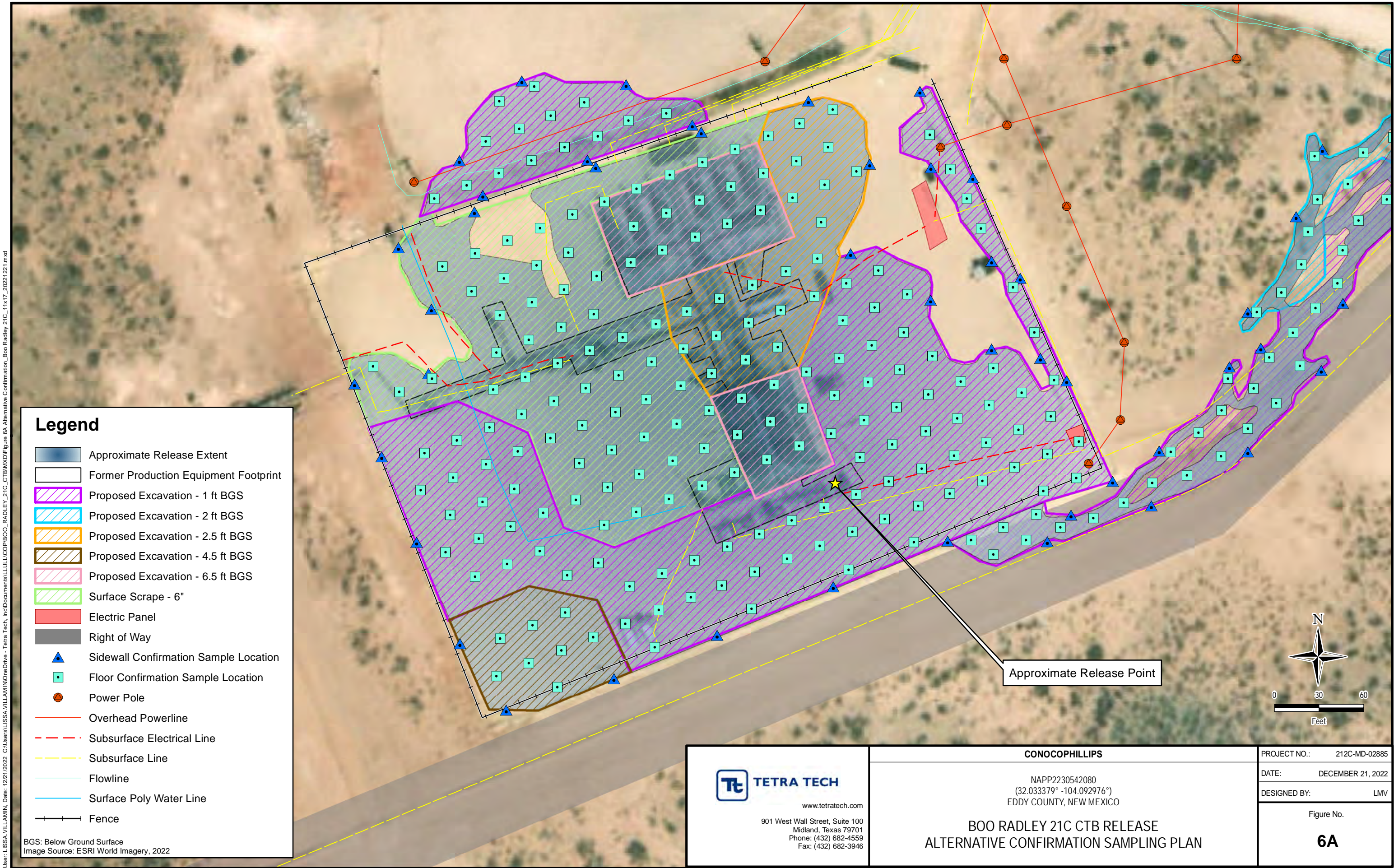


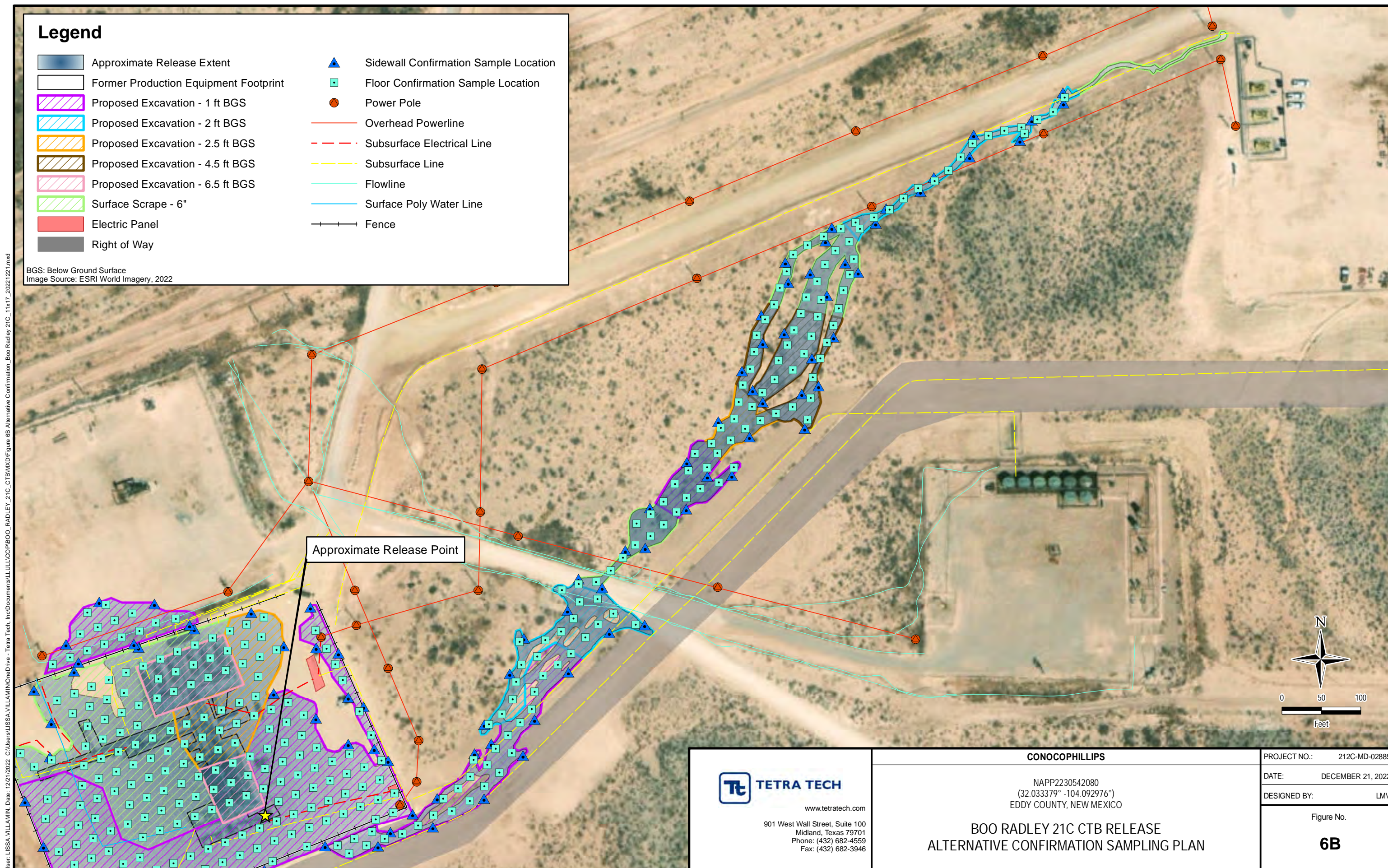




User: LUISA VILLAMIN Date: 12/16/2022 C:\Users\LUISA.VILLAMIN\OneDrive - Tetra Tech, Inc\Documents\LUISAVILLAMIN\BOO_RADLEY_21C_CTBMXD\Figure 5B Proposed Remediation_Boo Radley 21C_11x17.mxd







TABLE

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
2022 SOIL ASSESSMENT- nAPP2230542080
CONOCOPHILLIPS
BOO RADLEY 21C CTB RELEASE
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Field Screening Results		Chloride ¹		BTEX ²										TPH ³						
			Chloride	Titration			Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH
		ft. bgs	ppm	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	C ₆ - C ₁₀	Q	> C ₁₀ - C ₂₈	Q	> C ₂₈ - C ₃₆	Q
AH-1	11/4/2022	0-1			4,080		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		2-3			528		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-2	11/4/2022	0-1			512		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		1-2			144		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-3	11/4/2022	0-1			704		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-4	11/4/2022	0-1			288		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		2-3			128		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-5	11/4/2022	0-1			592		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		1-2			816		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-6	11/7/2022	0-1			1,820		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		1-2			80.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-7	11/7/2022	0-1			160		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		1-2			320		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-8	11/7/2022	0-1			2,060		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		1-2			736		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-9	11/7/2022	0-1			9,680		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		2-3			1,570		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4			912		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-10	11/7/2022	0-1			4,440		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		1-2			1,570		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-11	11/7/2022	0-1			9,120		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-12	11/7/2022	0-1			112		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-13	11/7/2022	0-1			64.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-14	11/7/2022	0-1			160		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-15	11/4/2022	0-1			64.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-16	11/7/2022	0-1			64.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-17	11/7/2022	0-1			80.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-18	11/7/2022	0-1			96.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		10.9		<10.0		10.9
AH-19	11/7/2022	0-1			64.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-20	11/7/2022	0-1			16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-21	11/7/2022	0-1			16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-22	11/7/2022	0-1			<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-23	11/7/2022	0-1			32.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-24	11/7/2022	0-1			<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-25	11/10/2022	0-1			704		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		1-2			768		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-26	11/10/2022	0-1			1,060		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		1-2			448		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
2022 SOIL ASSESSMENT- nAPP2230542080
CONOCOPHILLIPS
BOO RADLEY 21C CTB RELEASE
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Field Screening Results		Chloride ¹		BTEX ²										TPH ³						Total TPH (GRO+DRO+EXT DRO)
							Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		
			Chloride	Titration	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	
		ft. bgs	ppm		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	C ₆ - C ₁₀		C ₁₀ - C ₂₈		C ₂₈ - C ₃₆		
AH-27	11/10/2022	0-1			80.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		4-5			560		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-28	12/6/2022	0-1			32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-29	12/6/2022	0-1			16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-30	12/6/2022	0-1			<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-31	12/6/2022	0-1			<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		38.1		<10.0		38.1
AH-32	12/6/2022	0-1			208		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-33	12/6/2022	0-1			112		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		29.5		<10.0		29.5
AH-34	12/6/2022	0-1			16		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
T-1	12/1/2022	0-6 (in)	780		240		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		6-12 (in)	2,120	1,180	1,200		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		1-2	1,470	380	304		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4	1,660		336		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		5-6	1,490	320	288		NA		NA		NA		NA		NA		NA		NA		NA		-
		7-8	1,160	200	160		NA		NA		NA		NA		NA		NA		NA		NA		-
T-2	12/1/2022	0-6 (in)	2,700		2,400		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		6-12 (in)	5,820		5,440		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		1-2	712		448		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4	810		352		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		5-6			320		NA		NA		NA		NA		NA		NA		NA		NA		-
T-3	12/1/2022	0-6 (in)	1,650		624		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		36.5		<10.0		36.5
		6-12 (in)	1,830		816		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		60.5		<10.0		60.5
		1-2	2,750		1,120		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4	3,280		2,440		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		5-6			3,080		NA		NA		NA		NA		NA		NA		NA		NA		-
T-3A	12/6/2022	0-6 (in)			1,400		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		6-12 (in)			1,250		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		1-2			80		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4			112		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
T-4	12/1/2022	0-6 (in)	7,340		9,000		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		6-12 (in)	2,310	800	1,230		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		1-2	1,480		288		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4	1,830		752		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		27.3		<10.0		27.3
		5-6	1,180		320		NA		NA		NA		NA		NA		NA		NA		NA		-
		7-8	662		288		NA		NA		NA		NA		NA		NA		NA		NA		-
T-5	12/2/2022	0-1	2,370		2,040		0.089		1.31		1.31		22.8		25.5		842		17,700		2,860		21,402
		1-2	2,850		1,660		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		16.1		<10.0		16.1
		3-4	1,610		320		<0.050		<0.050		<0.050		<0.150		<0.300		19.2		528		53.9		601.1
		5-6	1,720		1,090		<0.050		<0.050		<0.050		<0.150		<0.300		14.3		693		61.7		769
		7-8	1,630		400		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		33.5		<10.0		33.5
T-6	12/1/2022	0-6 (in)			256		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		6-12 (in)			704		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		1-2			304		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4			80		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		5-6			32		NA		NA		NA		NA		NA		NA		NA		NA		-
		7-8			16		NA		NA		NA		NA		NA		NA		NA		NA		-

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
2022 SOIL ASSESSMENT- nAPP2230542080
CONOCOPHILLIPS
BOO RADLEY 21C CTB RELEASE
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Field Screening Results		Chloride ¹		BTEX ²										TPH ³										
			Chloride	Titration			Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH				
		ft. bgs	ppm	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	C ₆ - C ₁₀	mg/kg	Q	> C ₁₀ - C ₂₈	mg/kg	Q	> C ₂₈ - C ₃₆	mg/kg	Q	(GRO+DRO+EXT DRO)
T-7	12/2/2022	0-1			4,720		<0.200		3.9		2.09		29.5		35.6		1,270		Q	19,900		Q	4,280		Q	25,450	
		1-2			960		<0.050		<0.050		<0.050		0.284		0.334		<10.0		Q	29.0		Q	<10.0		Q	29.0	
		3-4			80		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		5-6			400		NA		NA		NA		NA		NA		NA		Q	NA		Q	NA		Q	-	
		7-8			80		NA		NA		NA		NA		NA		NA		Q	NA		Q	NA		Q	-	
T-8	12/1/2022	0-6 (in)	2,590		3,120		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	2,280		Q	714		Q	2,994	
		6-12 (in)	1,510		384		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		1-2	1,630		480		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	70.0		Q	<10.0		Q	70.0	
T-9	12/1/2022	0-6 (in)	4,130		2,560		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	479		Q	90.5		Q	569.5	
		6-12 (in)	4,440		4,200		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	81.9		Q	11.7		Q	93.6	
		1-2			176		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		3-4			128		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
T-10	12/1/2022	0-6 (in)	1,140		224		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		6-12 (in)	1,230	400	256		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		1-2			1,300		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		3-4			512		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		5-6			208		NA		NA		NA		NA		NA		NA		Q	NA		Q	NA		Q	-	
T-11	12/1/2022	7-8			176		NA		NA		NA		NA		NA		NA		Q	NA		Q	NA		Q	-	
		0-6 (in)			640		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		6-12 (in)			4,000		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		1-2			160		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		3-4			176		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
T-12	12/1/2022	5-6			784		NA		NA		NA		NA		NA		NA		Q	NA		Q	NA		Q	-	
		7-8			64		NA		NA		NA		NA		NA		NA		Q	NA		Q	NA		Q	-	
		0-6 (in)			192		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	93.2		Q	47.6		Q	140.8	
		6-12 (in)			512		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	31.8		Q	13.4		Q	45.2	
		1-2			80		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
T-13	12/1/2022	3-4			240		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		5-6			256		NA		NA		NA		NA		NA		NA		Q	NA		Q	NA		Q	-	
		0-6 (in)		425		96		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-
		6-12 (in)		394	200	144		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-
T-14	12/1/2022	1-2			48		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		0-6 (in)		2,140		928		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-
		6-12 (in)		2,290	920	1,120		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-
T-15	12/6/2022	1-2			112		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		0-1			928		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		1-2			3,560		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
T-16	12/6/2022	3-4			144		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		0-1			1,020		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		1-2			128		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	
		3-4			64		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		Q	<10.0		Q	<10.0		Q	-	

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
2022 SOIL ASSESSMENT- nAPP2230542080
CONOCOPHILLIPS
BOO RADLEY 21C CTB RELEASE
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Field Screening Results		Chloride ¹		BTEX ²										TPH ³							
			Chloride	Titration			Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH	
			ft. bgs	ppm	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	(GRO+DRO+EXT DRO)
BG-1	12/6/2022	0-1			<16.0		NA		NA		NA		NA		NA		NA		NA		NA		-	
		1-2			<16.0		NA		NA		NA		NA		NA		NA		NA		NA		-	
		3-4			<16.0		NA		NA		NA		NA		NA		NA		NA		NA		-	
		5-6			<16.0		NA		NA		NA		NA		NA		NA		NA		NA		-	
BG-2	12/6/2022	0-1			<16.0		NA		NA		NA		NA		NA		NA		NA		NA		-	
		1-2			<16.0		NA		NA		NA		NA		NA		NA		NA		NA		-	
		3-4			<16.0		NA		NA		NA		NA		NA		NA		NA		NA		-	
		5-6			<16.0		NA		NA		NA		NA		NA		NA		NA		NA		-	

NOTES:

ft. Feet
bgs Below ground surface
mg/kg Milligrams per kilogram
TPH Total Petroleum Hydrocarbons
GRO Gasoline range organics
DRO Diesel range organics
1 Method SM4500Cl-B
2 Method 8021B
3 Method 8015M

Bold and italicized values indicate exceedance of proposed Remediation RRALs and Reclamation Requirements.

Shaded rows indicate intervals proposed for excavation.

QUALIFIERS:

APPENDIX A

C-141 Forms

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # (assigned by OCD)
Contact mailing address	

Location of Release Source

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

Site Name	Site Type
Date Release Discovered	API# (if applicable)

Unit Letter	Section	Township	Range	County

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 type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	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

Incident ID	
District RP	
Facility ID	
Application ID	

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

Initial Response

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

<input type="checkbox"/> The source of the release has been stopped.	
<input type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input 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: _____	Title: _____
Signature: <u>Patricia Espinoza</u>	Date: _____
email: _____	Telephone: _____
<u>OCD Only</u>	
Received by: <u>Jocelyn Harimon</u>	Date: <u>11/01/2022</u>

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input 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 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 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 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 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 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 type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input 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.

Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature:  _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Jocelyn Harimon Date: 12/21/2022

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan


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

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

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

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: _____ Title: _____
Signature:  _____ Date: _____
email: _____ Telephone: _____

OCD Only

Received by: Jocelyn Harimon Date: 12/21/2022

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

APPENDIX B

Site Characterization Data



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 02160 S7	CUB	ED		3	3	1	22	26S	28E	586638	3543998*	1112	300	120	180

Average Depth to Water: **120 feet**

Minimum Depth: **120 feet**

Maximum Depth: **120 feet**

Record Count: 1

UTM NAD83 Radius Search (in meters):

Easting (X): 585643.28

Northing (Y): 3544495.13

Radius: 1200

*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.

11/16/22 10:45 AM

Page 1 of 1

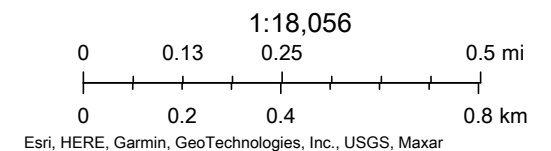
WATER COLUMN/ AVERAGE
DEPTH TO WATER

OCD USGS Groundwater Wells



11/10/2022, 9:12:04 AM

▲ USGS Historical GW Wells





Project Name : Diamondback 22 State 2H(08.30.2021)
Project No. : 214634
Location : Eddy Co, New Mexico
Coordinates : 32.03314°, -104.08201°
Elevation : 2,991'

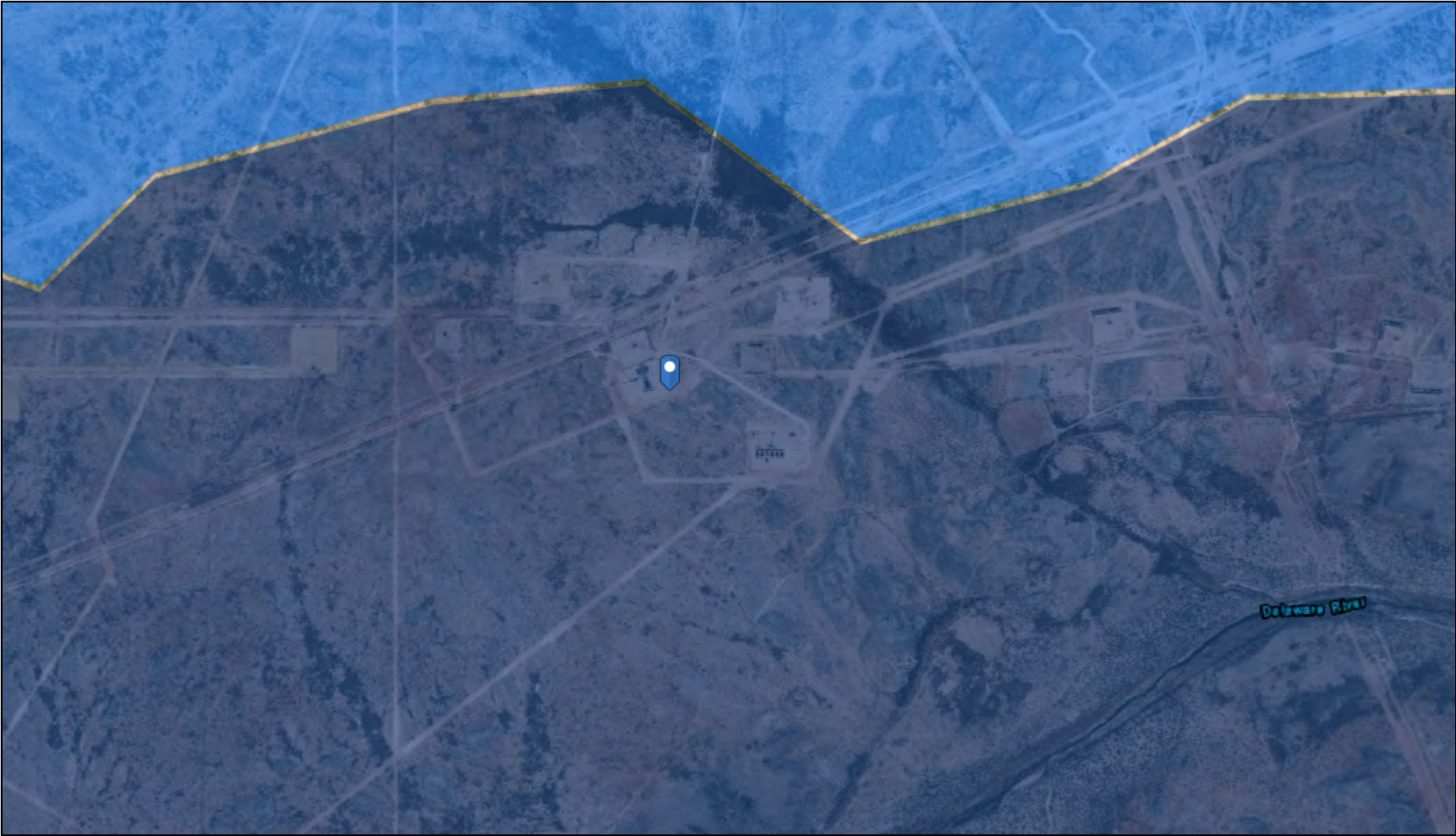
Date : November 16, 2021
Sampler : Clint Merritt
Driller : Scarborough Drilling
Method : Air Rotary

Depth (ft.)	WL	Soil Description	Lithology	Depth (ft.)	WL	Soil Description	Lithology
0		(0') - Yellowish Orange/White well graded gravel with <50% coarse sand and caliche (GW). Dry		50		(50') - Light brown soft clay with <50% fine loose sand (CL). Dry	
5		(5') - Light reddish brown loose, medium sand with <50% fine well cemented gravel (SW). Dry		55			
10		(10') - Light reddish brown/ white loose fine sand with <25% fine well cemented gravel (SW). Dry		60		(59') - Light brown soft clay with 50% fine loose sand (CL). Moist	
15				65			
20		(20') - Light brown loose fine sand with <25% fine poorly cemented gravel and trace gypsum (SM). Dry		70			
25		(25') - White fine very loose sand with 100% gypsum (ML). Dry		75			
30				80			
35				85			
40				90			
45				95			
50				100			

Comments : Total Depth 59' bgs
 Drilling Terminated @ 14:00 CT No groundwater present

On 11/19/2021 No groundwater present

OCD Karst Potential Map



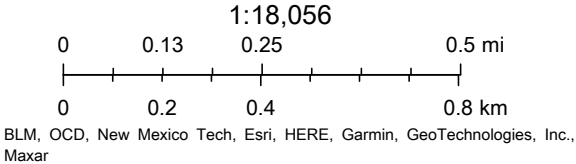
11/10/2022, 9:11:20 AM

Karst Occurrence Potential

High

Medium

Released to Imaging: 2/2/2023 9:22:12 AM

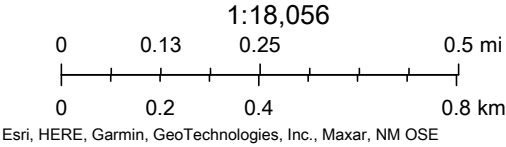


OCD Waterbodies Map



11/10/2022, 9:12:33 AM

— OSE Streams



APPENDIX C

Archaeological Survey

Poole, Nicholas



From: Llull, Christian
Sent: Tuesday, November 15, 2022 4:36 PM
To: Tavaréz, Ike
Cc: Poole, Nicholas; Chavira, Lisbeth
Subject: Fwd: NMCRIS 151354 submittal

Ike,

SLO has approved the cultural survey at Boo Radley.

Christian

From: Alissa Healy <Alissa.Healy@swca.com>
Sent: Tuesday, November 15, 2022 1:18 PM
To: Llull, Christian <Christian.Llull@tetrattech.com>
Subject: FW: NMCRIS 151354 submittal

 **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. 

Hi Christian –

Please see below for the SLO concurrence that you are approved to begin remediations at the Boo Radley Site. Please let me know if you have any questions.

Thank you,
Alissa

From: Tsesmeli, Evangelia <etsesmeli@slo.state.nm.us>
Sent: Tuesday, November 15, 2022 12:16 PM
To: Alissa Healy <Alissa.Healy@swca.com>; SLO CRO <CRO@slo.state.nm.us>
Subject: RE: NMCRIS 151354 submittal

EXTERNAL: This email originated from outside SWCA. Please use caution when replying.

Hello Alissa,

From a cultural resource protection standpoint, this negative NIAF and the absence of any presence of the two sites despite relocation efforts demonstrates that remediation of this area will have no adverse impact on any cultural properties. The proponent is free to proceed with remediation under whatever instrument authorizes their entry onto trust lands for that purpose.

Thank you,



Lia Tsesmeli, Ph.D.

Cultural Resources Office Manager

Trust Land Archaeologist

Cultural Resources Office

505.827.5792 Office

505.469.2894 Mobile

New Mexico State Land Office

310 Old Santa Fe Trail

P.O. Box 1148



Santa Fe, NM 87504-1148

etsesmeli@slo.state.nm.us

nmstatelands.org

.....
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From: Alissa Healy <Alissa.Healy@swca.com>

Sent: Tuesday, November 15, 2022 9:19 AM

To: SLO CRO <CRO@slo.state.nm.us>

Subject: [EXTERNAL] NMCRIS 151354 submittal

Good morning,

Please see attached the NIAF and two LA forms for the not located LA 177231 and LA 66113. Please let me know if you agree that Tetra Tech is approved to begin remediations of the Boo Radley inadvertent release.

Thank you,

Alissa Healy | she, her, hers
Cultural Resources Team Lead

SWCA Environmental Consultants

7770 Jefferson Street NE, Suite 410

Albuquerque, New Mexico, 87109

P 505.234.6841

SWCA

CELEBRATING
40 YEARS 1981
2021

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NMCRIS INVESTIGATION ABSTRACT FORM (NIAF)

1. NMCRIS Activity No.: 151354	2a. Lead (Sponsoring) Agency: New Mexico State Land Office (SLO)	2b. Other Permitting Agency(ies):	3. Lead Agency Report No.:									
4. Title of Report: A Cultural Resources Survey for the Conoco Phillips Boo Radley 21C CTB Inadvertent Pipeline Release Remediation Project in Eddy County, New Mexico Author(s): Mara Smith			5. Type of Report <input checked="" type="checkbox"/> Negative <input type="checkbox"/> Positive									
6. Investigation Type <input type="checkbox"/> Research Design <input checked="" type="checkbox"/> Survey/Inventory <input type="checkbox"/> Test Excavation <input type="checkbox"/> Excavation <input type="checkbox"/> Collections/Non-Field Study <input type="checkbox"/> Overview/Lit Review <input type="checkbox"/> Monitoring <input type="checkbox"/> Ethnographic study <input type="checkbox"/> Site specific visit <input type="checkbox"/> Other												
7. Description of Undertaking (what does the project entail?): Tetra Tech contracted SWCA Environmental Consultants (SWCA) to conduct an intensive cultural resources pedestrian survey in support of the Conoco Phillips Boo Radley 21C CTB inadvertent pipeline release remediation project in Eddy County, New Mexico. The remediation process will require removing impacted sediments from the contaminated area and replacing them with clean soils. The inadvertent release area covers 4.25 acres (1.72 hectares) and is located approximately 21 kilometers (13.04 miles) south of Malaga, New Mexico on lands managed by the New Mexico State Land Office (SLO). The SLO will serve as the lead agency. NM SLO strongly recommends that an archeological survey be conducted to current standards for the APE pursuant with and in compliance with the New Mexico Administrative Code (NMAC) 4.10.15 to ensure that cultural properties are not inadvertently excavated, injured, or destroyed by any person. SWCA conducted an intensive cultural resource survey of the proposed project area in compliance with these standards. SWCA surveyed a 30-meter (m) (100-foot) cultural buffer around the spill area for a total of 2.99 acres (1.21 hectares) of SLO-managed land. A large portion of the APE had been previously surveyed and was excluded from the current survey (NMCRIS 141981, 146351, 147829 and 149993). Two previously recorded archaeological sites (LA 177231 and LA 66113) within the area were not relocated and are assumed destroyed. No isolated occurrences (IO) were identified. No further investigation or treatment is recommended for the current undertaking.		8. Dates of Investigation: November 1, 2022 9. Report Date: November 15, 2022										
10. Performing Agency/Consultant: SWCA Environmental Consultants Principal Investigator: Alissa Healy Project Manager: Alissa Healy Field Supervisor: Thea Stehlik-Barry		11. Performing Agency/Consultant Report No.: SWCA Cultural Resources Report No. 22-817 12. Applicable Cultural Resource Permit No(s): NM State Permit: NM-22-055-S (expires 12-31-2022)										
13. Client/Customer (project proponent): Tetra Tech Contact: Christian Llull, P.G. Address: 8911 N. Capital of Texas Highway, Bldg 2, Suite 2310 Austin, Texas 78759 Phone: (512) 338-1667		14. Client/Customer Project No.: SWCA Project No. 77573										
15. Land Ownership Status (<u>Must</u> be indicated on project map): <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th style="width: 50%;">Landowner</th> <th style="width: 25%;">Acres Surveyed</th> <th style="width: 25%;">Acres in APE</th> </tr> </thead> <tbody> <tr> <td>SLO</td> <td style="text-align: center;">2.99</td> <td style="text-align: center;">4.25</td> </tr> <tr> <td style="text-align: right;">TOTALS</td> <td style="text-align: center;">2.99</td> <td style="text-align: center;">4.25</td> </tr> </tbody> </table>				Landowner	Acres Surveyed	Acres in APE	SLO	2.99	4.25	TOTALS	2.99	4.25
Landowner	Acres Surveyed	Acres in APE										
SLO	2.99	4.25										
TOTALS	2.99	4.25										
16 Records Search(es): <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width: 35%;">Date(s) of ARMS File Review 10/25/2022</td> <td style="width: 35%;">Name of Reviewer(s) Alissa Healy</td> <td style="width: 30%;"></td> </tr> <tr> <td>Date(s) of NR/SR File Review 10/25/2022</td> <td>Name of Reviewer(s) Alissa Healy</td> <td></td> </tr> <tr> <td>Date(s) of Other Agency File Review</td> <td>Name of Reviewer(s)</td> <td>Agency</td> </tr> </table>				Date(s) of ARMS File Review 10/25/2022	Name of Reviewer(s) Alissa Healy		Date(s) of NR/SR File Review 10/25/2022	Name of Reviewer(s) Alissa Healy		Date(s) of Other Agency File Review	Name of Reviewer(s)	Agency
Date(s) of ARMS File Review 10/25/2022	Name of Reviewer(s) Alissa Healy											
Date(s) of NR/SR File Review 10/25/2022	Name of Reviewer(s) Alissa Healy											
Date(s) of Other Agency File Review	Name of Reviewer(s)	Agency										
17. Survey Data: a. Source Graphics <input type="checkbox"/> NAD 27 <input checked="" type="checkbox"/> NAD 83												

<input checked="" type="checkbox"/> USGS 7.5' (1:24,000) topo map <input checked="" type="checkbox"/> GPS Unit Accuracy <input checked="" type="checkbox"/> <1.0m	<input type="checkbox"/> Other topo map, Scale: <input type="checkbox"/> 1-10m <input type="checkbox"/> 10-100m <input type="checkbox"/> >100m
--	--

b. USGS 7.5' Topographic Map Name **USGS Quad Code**

Red Bluff, 1986	32104-A1
-----------------	----------

17. Survey Data (continued):

c. County(ies): Eddy

d. Nearest City or Town: Malaga, NM

e. Legal Description:

Township	Range	Section	1/4 1/4
T 26S	R 28E	16	SWSE
		21	NENW
			NWNE

Projected legal description? Yes [] , No [X] Unplatted []

f. Other Description (e.g. well pad footages, mile markers, plats, land grant name, etc.): N/A

18. Survey Field Methods:

Intensity: ☒ 100% coverage ☐ <100% coverage

Configuration: ☒ block survey units: 100-foot buffer ☐ linear survey units (l x w): ☐ other survey units (specify):

Scope: ☒ non-selective (all sites recorded) ☐ selective/thematic (selected sites recorded)

Coverage Method: ☒ systematic pedestrian coverage ☐ other method (describe)

Survey Interval (m): 15 **Crew Size:** 1 **Fieldwork Dates:** November 1, 2022

Survey Person Hours: 6 **Recording Person Hours:** 0 **Total Hours:** 6

Additional Narrative: Four previous qualifying archaeological surveys partially covered the project area: NMCRIS 141981, performed by Advanced Archaeological solutions in 2018 (no cultural resources recorded), NMCRIS 146351 performed by Lone Mountain Archaeological Services in 2020 (one cultural resource recorded), NMCRIS 147829, performed by APAC in 2020 (no cultural resources recorded), and NMCRIS 149993, performed by SWCA environmental consultants in 2020 (one cultural resource recorded).

19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.):

The survey area is located within the Chihuahuan Basins and Playas (level 4) of the Chihuahuan Deserts Ecoregion (level 3) (Griffith et al. 2006). Physiography of the region includes deep depressions that have filled with sediments that have formed into rolling basins. These basins are either alluvial in nature by surrounding rivers (Pecos or Rio Grande) or are drained internally. Streams in the region are ephemeral. Bedrock and surficial geology include Quaternary and some Tertiary alluvium, erosional materials from nearby mountains, and basins of silt, sand, and gravels. The area is used today primarily for rangeland and oil and gas exploration.

Two soil types are associated with the survey area and are described in the table below.

Map Unit Symbol	Map Unit Name	Acres	Percent of Survey Area	Description
RG	Reeves-Gypsum land complex, 0 to 3 percent slopes	2.89	96.75	These soils are deep, well drained, moderately permeable and of a high run off class. Typical profiles include strongly alkaline loams, strongly alkaline clay loams, and gypsiferous materials.
UG	Upton gravelly loam, 0 to 9 percent slopes	0.10	3.25	These soils are deep, well drained, moderately permeable and of a high run off class. Typical profiles include slightly alkaline gravelly loams and cemented materials.
Total		2.99	100%	

Source: Natural Resources Conservation Service (2022).

Elevation within the survey area averages approximately 925 m (3,034 feet). The area is used today primarily for rangeland and oil and gas exploration. As a result of oil and gas development, numerous roads, power lines, pipelines, and well pads occur throughout the project area.

The climate information for the survey area was compiled using the Carlsbad, New Mexico (291469), climate station data (period

of record February 1, 1900, to June 10, 2016). Rainfall for the general project area is most abundant from May through October, averaging 32 centimeters (cm) (12.84 inches) annually, with September having the heaviest average precipitation. Snowfall is expectedly heaviest between December and February, with an average of 3.12 cm (1.23 inches) and can fall from November through April; annual snowfall averages 11.17 cm (4.4 inches). Temperatures are coldest in January at -2.28 degrees Celsius (°C) (27.8 degrees Fahrenheit [°F]) and warmest in July at 35.33°C (95.6°F) (Western Regional Climate Center 2022).

Typical vegetation of the Chihuahua Basins and Playas are saltbush, pickleweed and seepweed within the playa margins and creosote, tarbush, yucca sandsage and mesquite in the shrub land areas (Griffith et al. 2006). Mesquite was an important prehistoric resource. Many of the other typical grasses and plants were also collected prehistorically for subsistence and to provide material for non-subsistence use.

The most common animals found in the region include mule deer, white-tailed deer, cottontail rabbit, black-tailed jackrabbit, and coyote. Also typical to the area are bobcat, gopher, pronghorn, collared peccary, various species of field mice, striped skunk, and pack rat. There are a variety of birds, including mourning doves, lesser prairie chicken, bald eagle, and hawks. Numerous lizards and snakes are also in the project area, such as the round-tailed horned lizard and the prairie rattle snake. Frogs are also present in the region (Biota Information System of New Mexico 2022). Prehistorically, bison were in the region during at least some periods. Bison, pronghorn, deer, and rabbit were important food resources for the prehistoric inhabitants of the region.

References:

Biota Information System of New Mexico

2022 Database Query for Eddy County. Available at: <http://www.bison-m.org/>. Accessed November 2022.

Griffith, G. E., J. M. Omernik, M. M. McGraw, G. Z. Jacobi, C. M. Canavan, T. S. Schrader, D. Mercer, R. Hill, and B. C. Moran
2006 Ecoregions of New Mexico (color poster with map, descriptive text, summary tables, and photographs). Reston, Virginia: U.S. Geological Survey (map scale 1:1,400,000).

Natural Resources Conservation Service

2022 Web Soil Survey. Available at: <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Accessed November 2022.

Western Regional Climate Center

2022 Climate summary for Carlsbad, New Mexico (291469). Available at: <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?nm1469>
Accessed November 2022.

a. Percent Ground Visibility: Ground visibility averaged 75-99 percent within the survey area and was obscured by caliche cobbles and vegetation including bunched grasses and forbs.

b. Condition of Survey Area (grazed, bladed, undisturbed, etc.): Observed disturbances include oil and gas development, well pads, roads, fences, and pipelines.

21. CULTURAL RESOURCE FINDINGS ☐ Yes, See Page 3 ☒ No, Discuss Why: Previously recorded sites in the area have been destroyed by oil and gas development.

22. Required Attachments (check all appropriate boxes):

- ☒ USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn
- ☒ Copy of NMCRIS Mapserver Map Check
- ☐ LA Site Forms - new sites (with sketch map & topographic map)
- ☒ LA Site Forms (update) - previously recorded & un-relocated sites (first 2 pages minimum)
- ☐ Historic Cultural Property Inventory Forms
- ☐ List and Description of isolates, if applicable
- ☐ List and Description of Collections, if applicable

23. Other Attachments:
☒ Photographs and Log
☐ Other Attachments
(Describe):

24. I certify the information provided above is correct and accurate and meets all applicable agency standards.
Principal Investigator/Responsible Archaeologist:

Signature

Missy H. Healy

Date: 7/27/2022

Title (if not PI):

25. Reviewing Agency:

Reviewer's Name/Date

Accepted () Rejected ()

Tribal Consultation (if applicable): ☐ Yes ☐ No

26. SHPO

Reviewer's Name/Date:

HPD Log #:

SHPO File Location:

Date sent to ARMS:

CULTURAL RESOURCE FINDINGS*[fill in appropriate section(s)]*

1. NMCRIS Activity No.: 151354	2. Lead (Sponsoring) Agency: SLO	3. Lead Agency Report No.:
--	--	-----------------------------------

SURVEY RESULTS:

Sites discovered and registered: 0
 Sites discovered and NOT registered: 0
 Previously recorded sites revisited (*site update form required*): 0
 Previously recorded sites not relocated (*site update form required*): 2
TOTAL SITES VISITED: 2
 Total isolates recorded: 0 Non-selective isolate recording? ☒
 Total structures recorded (*new and previously recorded, including acequias*): 0

MANAGEMENT SUMMARY: The intensive pedestrian survey for the Sunoco Conoco Phillips Boo Radley 21C CTB inadvertent pipeline release remediation project in Eddy County, New Mexico covered 2.99 acres (1.21 hectares) on lands managed by the SLO. Two previously recorded archaeological sites within the survey area were not relocated during this survey. No isolated occurrences (IO) were observed. No further investigation or treatment is recommended for the current undertaking.

LA No.	Field/Agency No.	Eligible? (Y/N, applicable criteria)
LA 177231		Not located
LA 66113		Not located

IF REPORT IS NEGATIVE YOU ARE DONE AT THIS POINT.

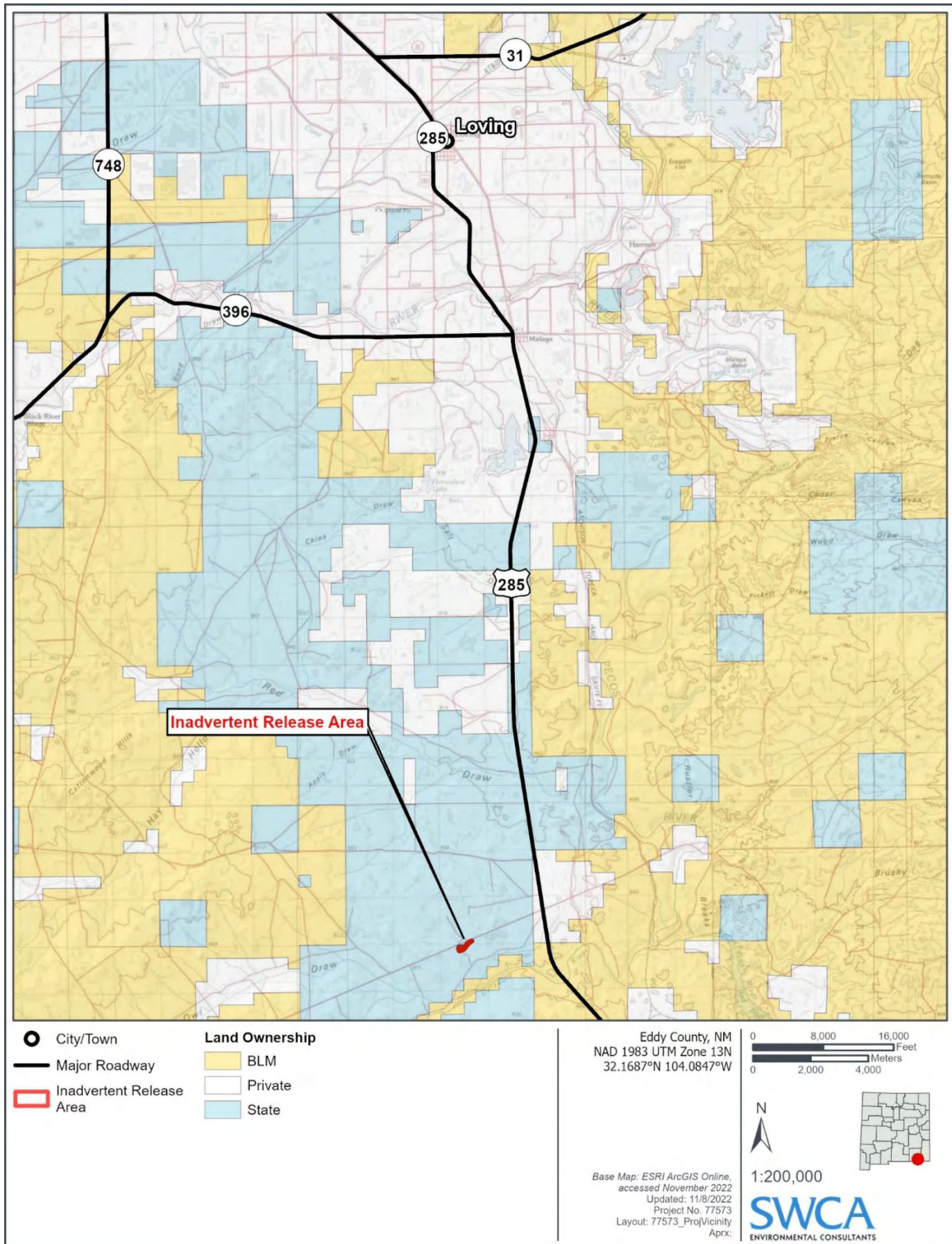


Figure 1. Project vicinity map.

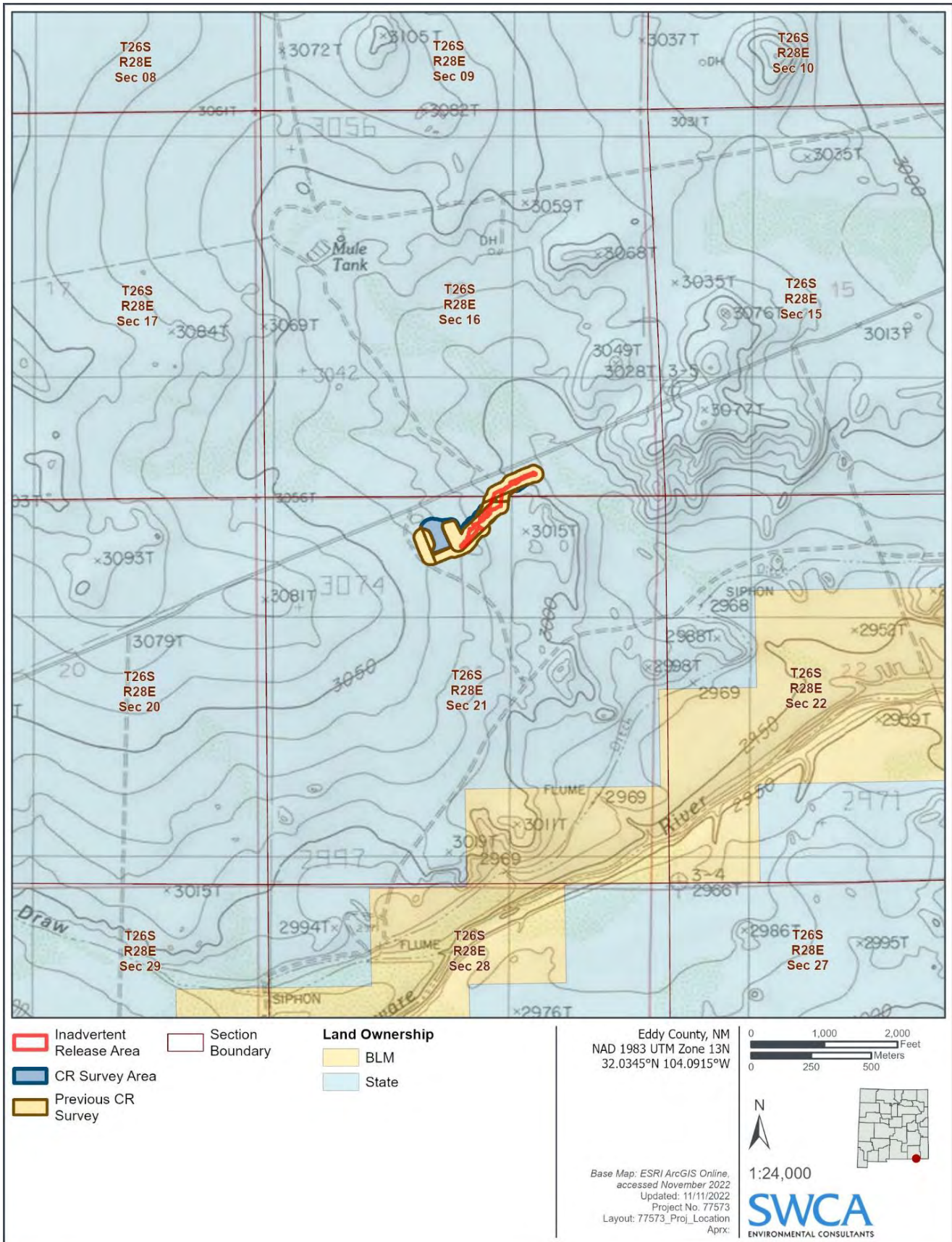


Figure 2. Project location map.

Image intentionally Removed

Figure 3. Project location map with cultural resources



Figure 4. Overview of well pad with surface spill, facing northeast (Frame T63-8480).



Figure 5. Overview of the survey area, facing northeast (Frame T63-4614).



Figure 6. Portion of spill area on well pad, facing southeast (Frame T63-4293).



Figure 7. Overview of survey area, facing northwest (Frame T63-2029).

Image intentionally Removed

Figure 8. NMCRIS records search near the project area. Yellow and brown polygons represent previous surveys, orange polygons represent previously recorded archaeological sites.

Table 1. Cultural Resources within 500m of the Project Area

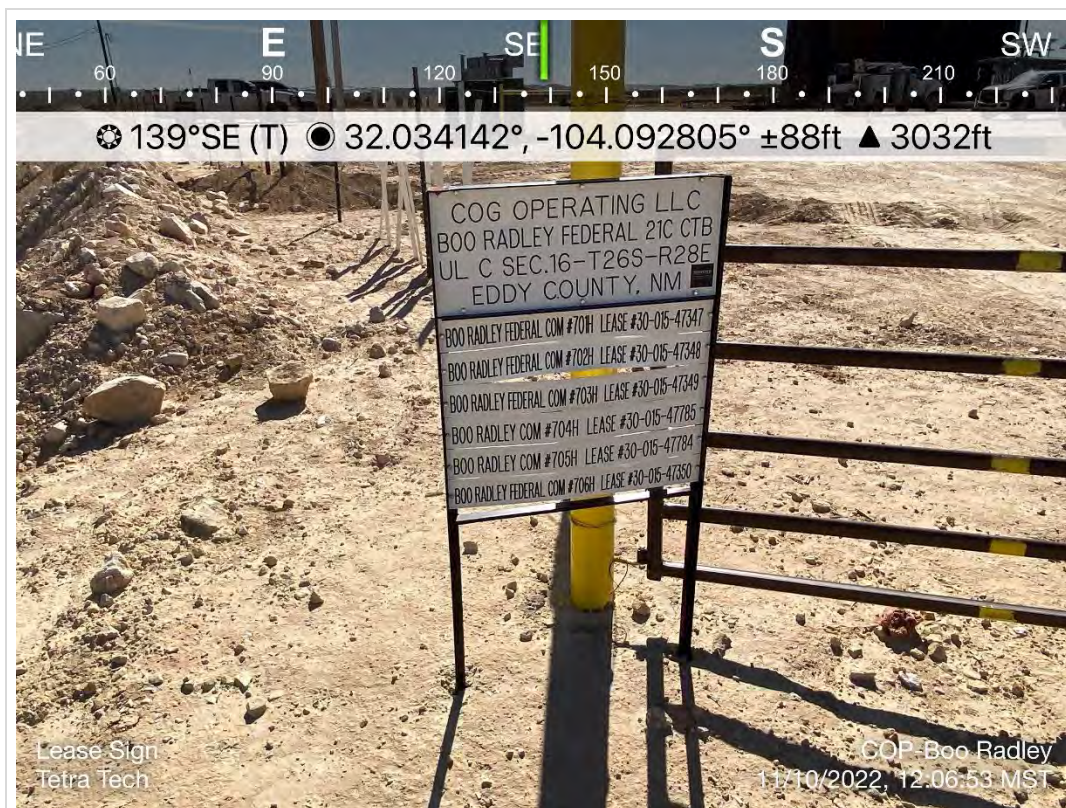
LA No.	Site Type	Cultural Affiliation	Eligibility	In / Out of Project Area
LA 66113	Archaeology/ features	Unknown Aboriginal (Unspecified 9500 B.C.- A.D.1880)	Not entered	Inside, not re-located
LA 177231	Archaeology/ features	Unknown Aboriginal (Unspecified 9500 B.C.- A.D.1880)	Not eligible (HPD log 102279)	Inside, not re-located

Table 2. Cultural Resource Surveys within 500m of the Project Area

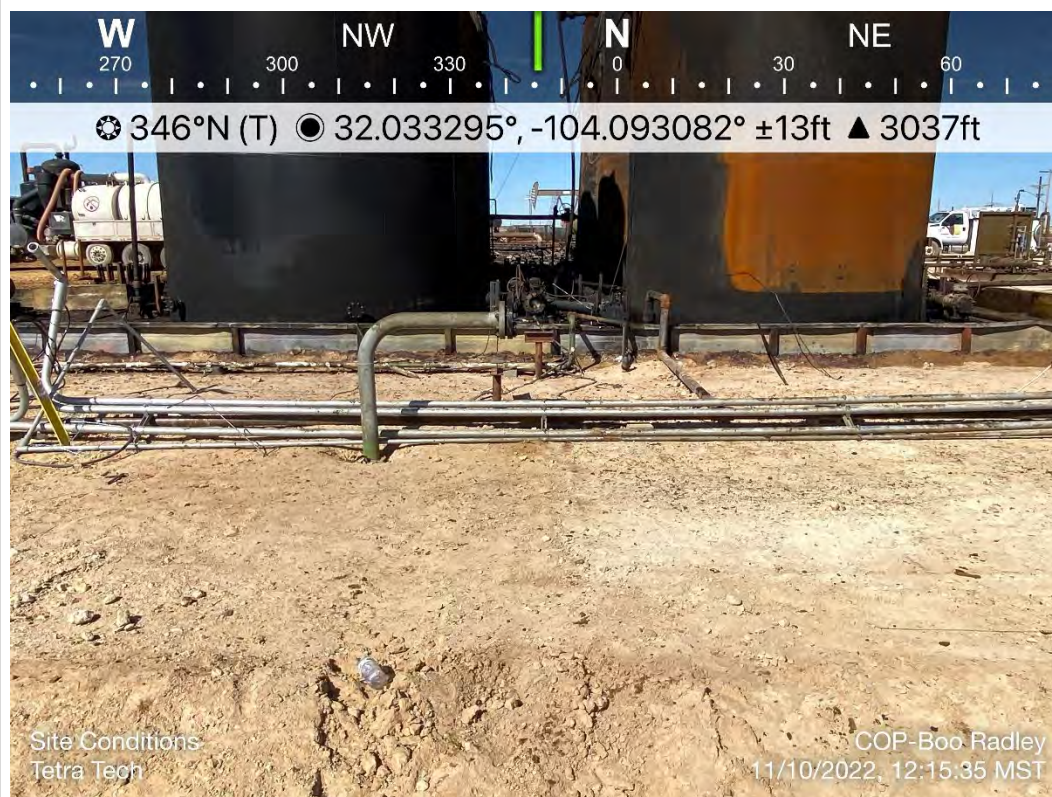
NMCRIS No.	Performing Agency	Date	Acreage	Resources Recorded
140164	Advanced Archaeological Solutions	04/13/2018	431.50	10
141981	Advanced Archaeological Solutions	11/23/2018	15.60	0
146351	Lone Mountain Archaeological Services	08/03/2020	35.78	1
146684	APAC	09/06/2020	7.44	1
147258	Goshawk Environmental Consulting	01/14/2021	12.55	0
147697	Goshawk Environmental Consulting	03/16/2021	1.35	0
147829	APAC	03/23/2021	5.98	0
149993	SWCA Environmental Consultants	04/12/2022	5.38	1

APPENDIX D

Photographic Documentation



TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	Site signage. Boo Radley 21C CTB Release Site.	1
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	11/10/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View north. View of damaged production equipment. Approximate release area to the northeast.	2
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	11/10/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View west. Damaged production equipment. Chloride staining present. View of release extent.	3
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	11/1/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View west. View of release extent and lease road. Production equipment to the west.	4
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	11/1/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View southwest west. View of release extent. Lease road to the right. Production equipment to the west.	5
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	11/1/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View southwest. Release extent with surface staining present. Overhead power lines.	6
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	11/1/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View south southwest. Continuation of release extent with surface staining. Overhead power lines present.	7
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	11/1/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View northeast. View of release extent fingering.	8
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	11/1/2022



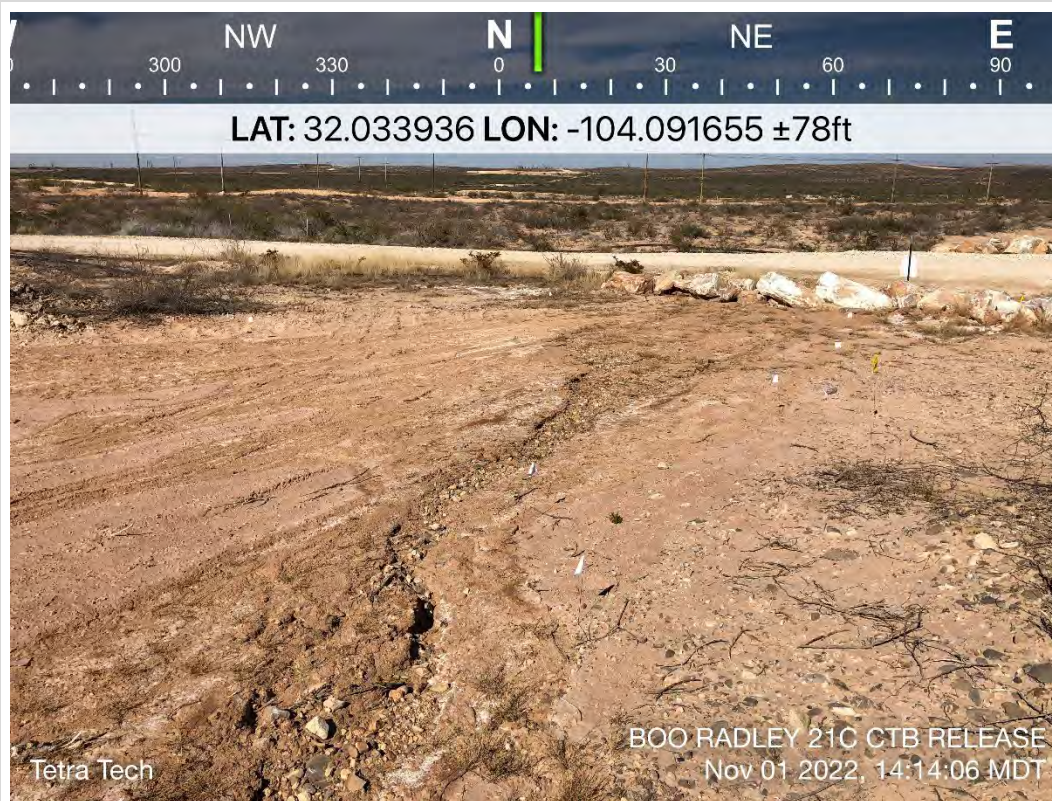
TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View east. View of lease road located north of the lease pad. Release extent heading north.	9
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	11/1/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View southwest. Continuation of release extent. View of production equipment and overhead powerlines.	10
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	11/1/2022



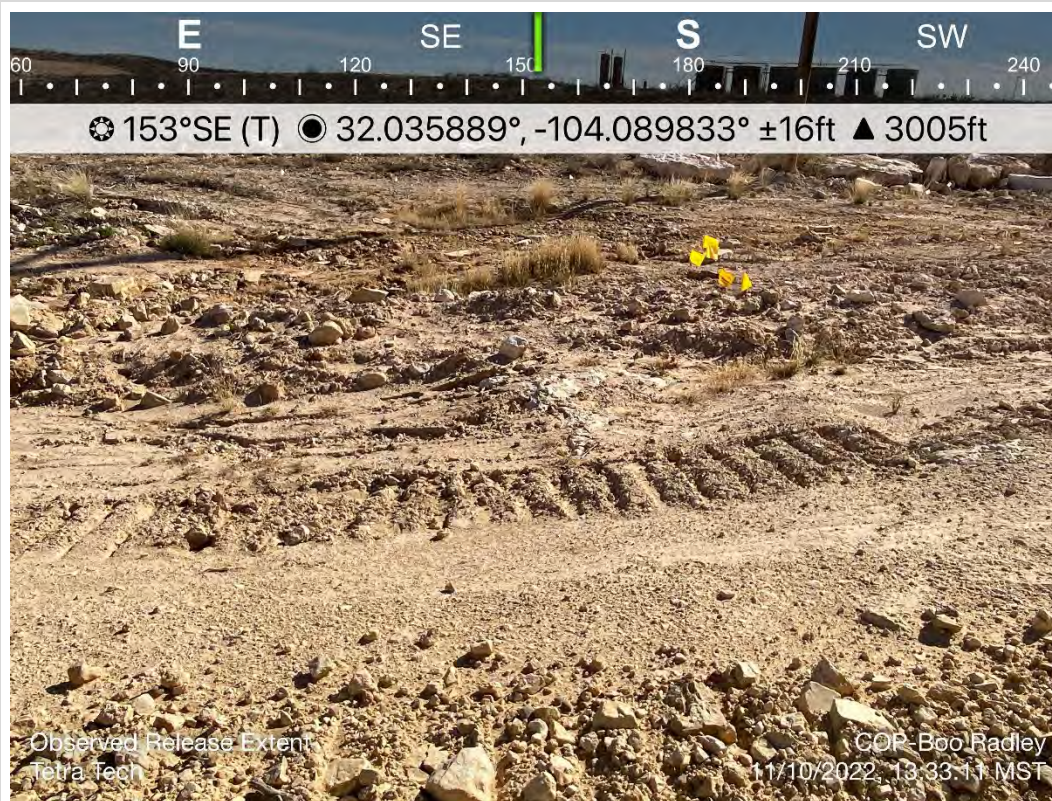
TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View west. View of release extent with surface staining.	11
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	11/1/2022



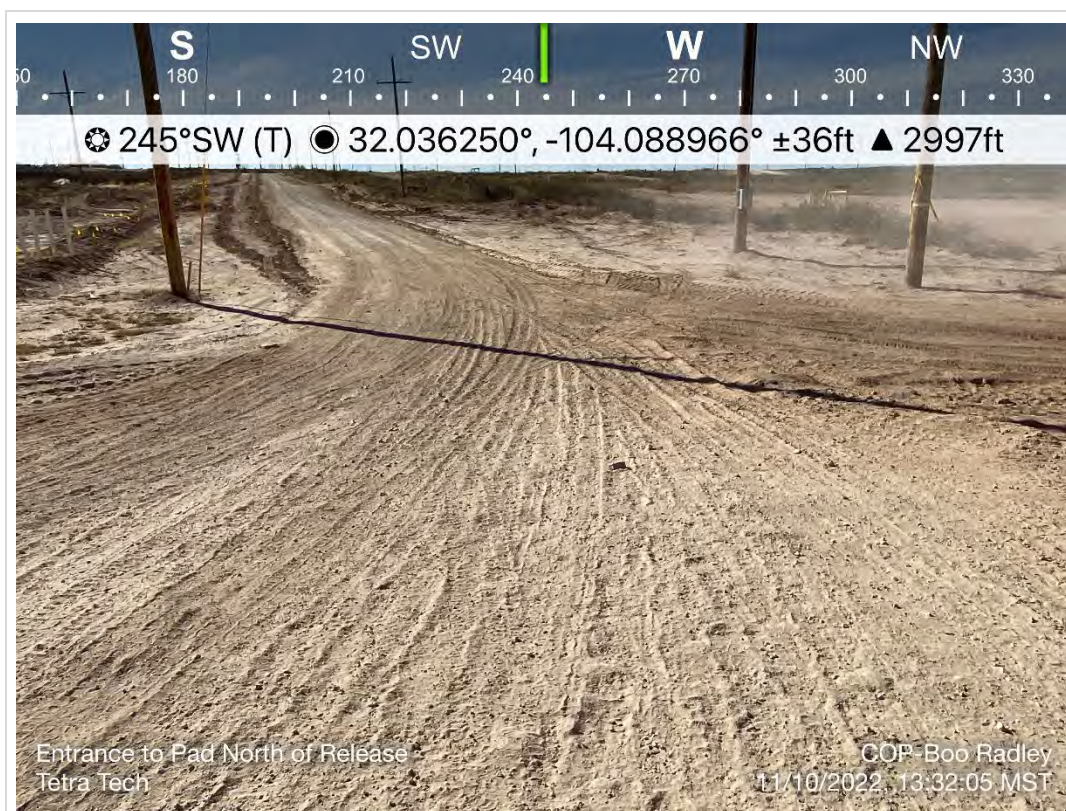
TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View north. View of release extent with surface staining. Lease road located to the north.	12
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	11/1/2022



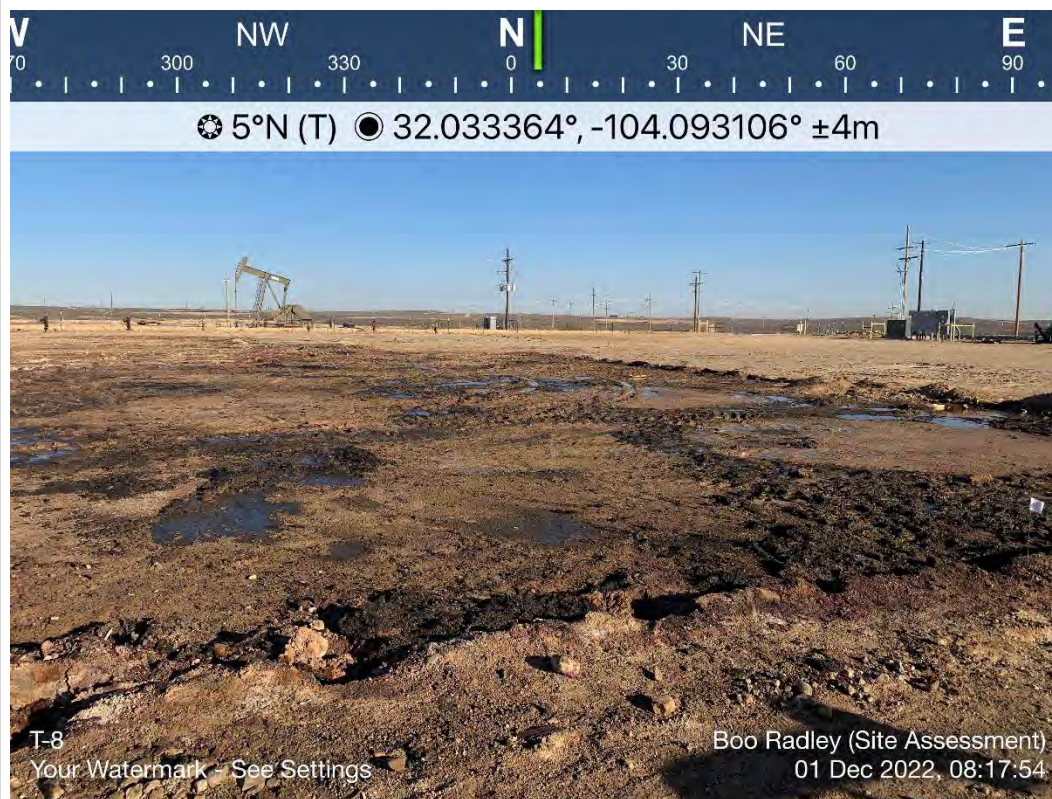
TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View northeast. View of release extent fingering with surface staining present.	13
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	11/10/2022



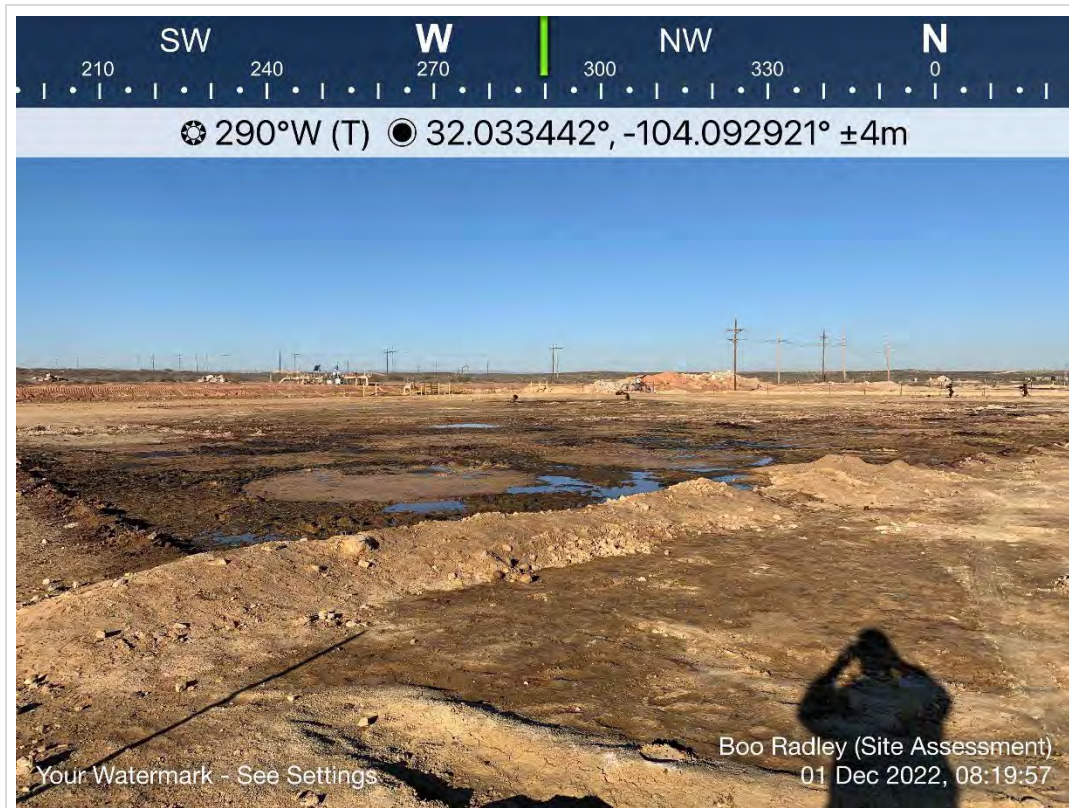
TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View southeast. View of release extent with surface staining present.	14
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	11/10/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View southwest. View of lease road. End of release extent to the west.	15
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	11/10/2022



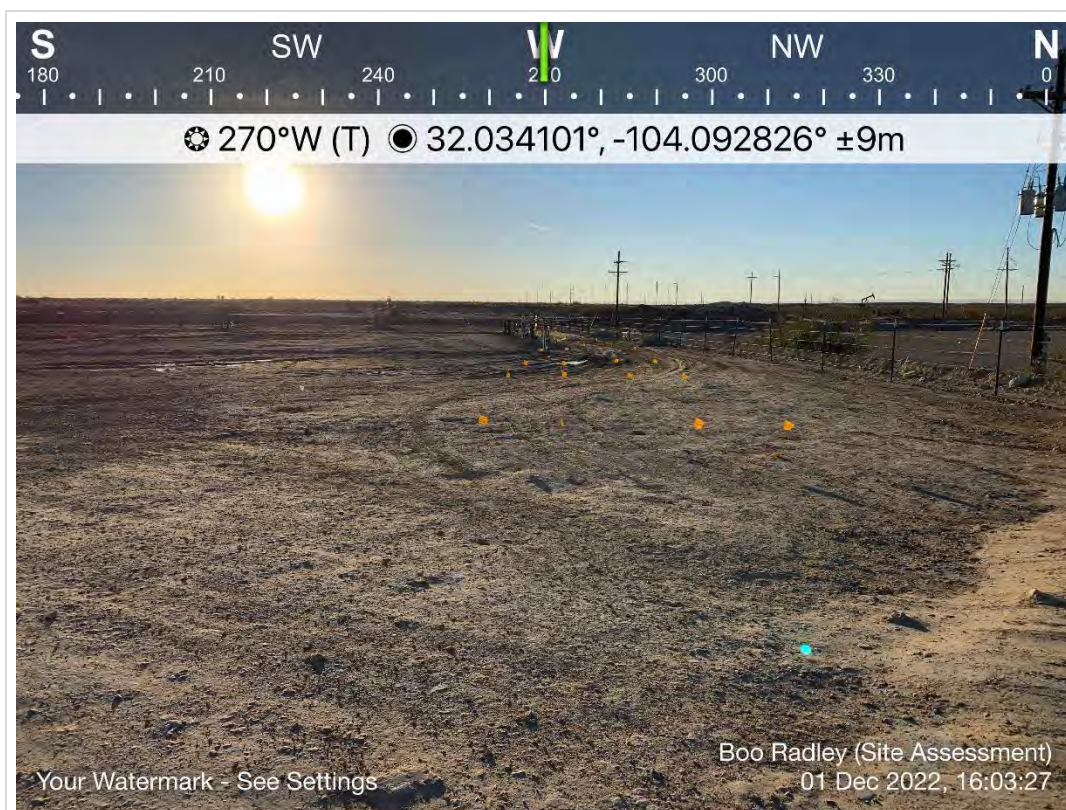
TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View north. Center of pad, view of former equipment area.	16
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	12/1/2022



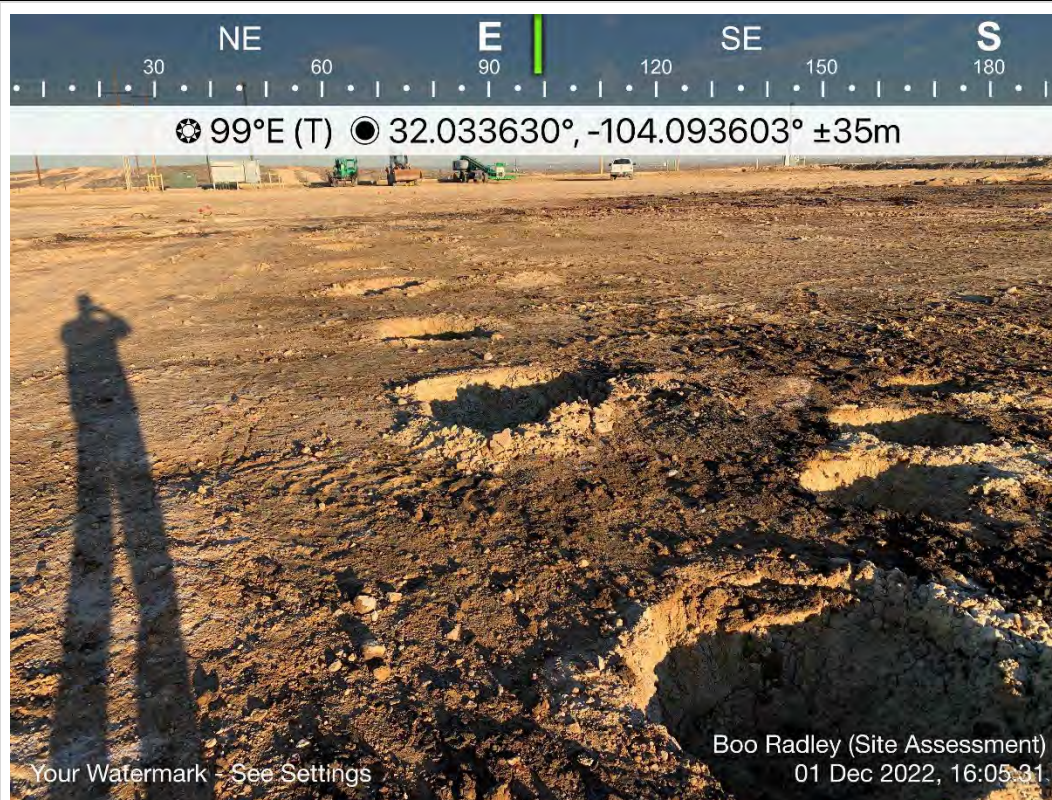
TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View west. View of west portion of pad.	17
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	12/1/2022



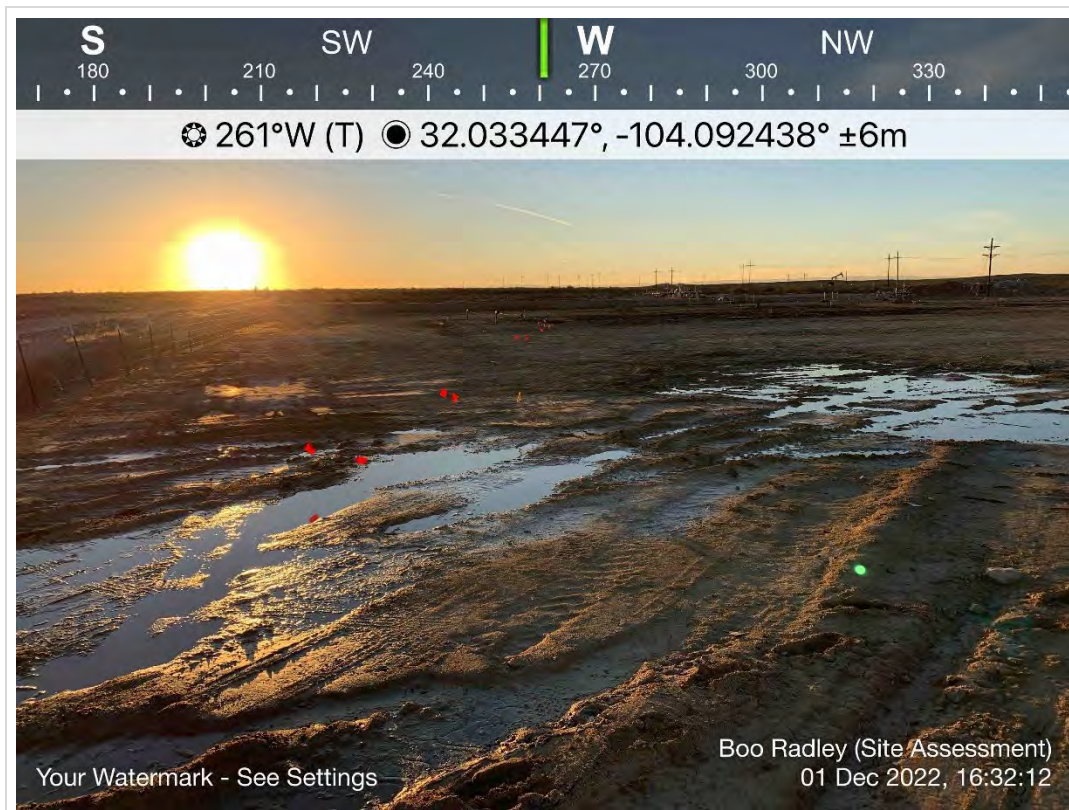
TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View west. Former production equipment area.	18
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	12/1/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View west. View of west edge of pad. Former equipment area.	19
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	12/1/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View east. Assessment activities on west portion of the pad.	20
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	12/1/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View west. Former production equipment area.	21
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	12/1/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02885	DESCRIPTION	View west. Former production equipment area. Overhead powerlines.	22
	SITE NAME	ConocoPhillips Boo Radley 21C CTB Release	12/2/2022

APPENDIX E

Laboratory Analytical Data



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

November 11, 2022

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: BOO RADLEY 21C CTB RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 11/04/22 15:06.

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, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/04/2022	Sampling Date:	11/04/2022
Reported:	11/11/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Shalyn Rodriguez
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: AH - 1 (0-1') (H225232-01)

BTX 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	11/11/2022	ND	1.77	88.5	2.00	1.86	
Toluene*	<0.050	0.050	11/11/2022	ND	1.81	90.4	2.00	0.0107	
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.80	89.8	2.00	2.04	
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.59	93.1	6.00	0.435	
Total BTX	<0.300	0.300	11/11/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4080	16.0	11/08/2022	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/08/2022	ND	197	98.7	200	4.78	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	190	95.0	200	3.55	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 94.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 101 % 46.3-178

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 11/04/2022
 Reported: 11/11/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/04/2022
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 1 (2-3') (H225232-02)

BTX 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	11/11/2022	ND	1.77	88.5	2.00	1.86	
Toluene*	<0.050	0.050	11/11/2022	ND	1.81	90.4	2.00	0.0107	
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.80	89.8	2.00	2.04	
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.59	93.1	6.00	0.435	
Total BTX	<0.300	0.300	11/11/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	528	16.0	11/08/2022	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/08/2022	ND	197	98.7	200	4.78	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	190	95.0	200	3.55	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 89.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.2 % 46.3-178

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/04/2022
 Reported: 11/11/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/04/2022
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 2 (0-1') (H225232-03)

BTX 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	11/11/2022	ND	1.77	88.5	2.00	1.86	
Toluene*	<0.050	0.050	11/11/2022	ND	1.81	90.4	2.00	0.0107	
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.80	89.8	2.00	2.04	
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.59	93.1	6.00	0.435	
Total BTX	<0.300	0.300	11/11/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	512	16.0	11/08/2022	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/08/2022	ND	197	98.7	200	4.78	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	190	95.0	200	3.55	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 99.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 105 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/04/2022
 Reported: 11/11/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/04/2022
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 2 (1-2') (H225232-04)

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	11/11/2022	ND	1.77	88.5	2.00	1.86		
Toluene*	<0.050	0.050	11/11/2022	ND	1.81	90.4	2.00	0.0107		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.80	89.8	2.00	2.04		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.59	93.1	6.00	0.435		
Total BTEX	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	11/08/2022	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/08/2022	ND	197	98.7	200	4.78	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	190	95.0	200	3.55	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 98.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 104 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/04/2022
 Reported: 11/11/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/04/2022
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 3 (0-1') (H225232-05)

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	11/11/2022	ND	1.77	88.5	2.00	1.86		
Toluene*	<0.050	0.050	11/11/2022	ND	1.81	90.4	2.00	0.0107		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.80	89.8	2.00	2.04		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.59	93.1	6.00	0.435		
Total BTEX	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	704	16.0	11/08/2022	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/08/2022	ND	197	98.7	200	4.78	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	190	95.0	200	3.55	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 88.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 93.4 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 11/04/2022
 Reported: 11/11/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/04/2022
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 4 (0-1') (H225232-06)

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	11/11/2022	ND	1.77	88.5	2.00	1.86		
Toluene*	<0.050	0.050	11/11/2022	ND	1.81	90.4	2.00	0.0107		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.80	89.8	2.00	2.04		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.59	93.1	6.00	0.435		
Total BTEX	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	11/08/2022	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/08/2022	ND	197	98.7	200	4.78	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	190	95.0	200	3.55	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 97.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 101 % 46.3-178

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Analytical Results For:

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

Received: 11/04/2022
 Reported: 11/11/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/04/2022
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 4 (2-3') (H225232-07)

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	11/11/2022	ND	1.77	88.5	2.00	1.86		
Toluene*	<0.050	0.050	11/11/2022	ND	1.81	90.4	2.00	0.0107		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.80	89.8	2.00	2.04		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.59	93.1	6.00	0.435		
Total BTEX	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	11/08/2022	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/08/2022	ND	197	98.7	200	4.78	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	190	95.0	200	3.55	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 84.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 88.3 % 46.3-178

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Analytical Results For:

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

Received:	11/04/2022	Sampling Date:	11/04/2022
Reported:	11/11/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Shalyn Rodriguez
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: AH - 5 (0-1') (H225232-08)

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	11/11/2022	ND	1.77	88.5	2.00	1.86	
Toluene*	<0.050	0.050	11/11/2022	ND	1.81	90.4	2.00	0.0107	
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.80	89.8	2.00	2.04	
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.59	93.1	6.00	0.435	
Total BTEX	<0.300	0.300	11/11/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	592	16.0	11/08/2022	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/08/2022	ND	197	98.7	200	4.78	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	190	95.0	200	3.55	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 95.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 100 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/04/2022
 Reported: 11/11/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/04/2022
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 5 (1-2') (H225232-09)

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	11/11/2022	ND	1.77	88.5	2.00	1.86		
Toluene*	<0.050	0.050	11/11/2022	ND	1.81	90.4	2.00	0.0107		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.80	89.8	2.00	2.04		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.59	93.1	6.00	0.435		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	816	16.0	11/08/2022	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/08/2022	ND	197	98.7	200	4.78	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	190	95.0	200	3.55	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 93.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 96.7 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/04/2022
 Reported: 11/11/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/04/2022
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 15 (0-1') (H225232-10)

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	11/11/2022	ND	1.77	88.5	2.00	1.86		
Toluene*	<0.050	0.050	11/11/2022	ND	1.81	90.4	2.00	0.0107		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.80	89.8	2.00	2.04		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.59	93.1	6.00	0.435		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	11/08/2022	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/08/2022	ND	197	98.7	200	4.78	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	190	95.0	200	3.55	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 89.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 91.5 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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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



(575) 393-2326 FAX (575) 393-2476

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



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

November 14, 2022

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: BOO RADLEY 21C CTB RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 11/07/22 15:06.

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, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 6 (0-1') (H225246-01)

BTX 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	11/11/2022	ND	1.90	95.2	2.00	3.45	
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44	
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05	
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75	
Total BTX	<0.300	0.300	11/11/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1820	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	203	101	200	0.918	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	214	107	200	1.45	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 81.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 79.1 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 6 (1'-2') (H225246-02)

BTX 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	11/11/2022	ND	1.90	95.2	2.00	3.45		
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75		
Total BTX	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.0 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	203	101	200	0.918	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	214	107	200	1.45	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 86.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 84.0 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 7 (0-1') (H225246-03)

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	11/11/2022	ND	1.90	95.2	2.00	3.45		
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.7 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	203	101	200	0.918	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	214	107	200	1.45	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 98.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 100 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 7 (1'-2') (H225246-04)

BTX 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	11/11/2022	ND	1.90	95.2	2.00	3.45		
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75		
Total BTX	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.7 % 69.9-140

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	11/08/2022	ND	432	108	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	11/08/2022	ND	203	101	200	0.918	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	214	107	200	1.45	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 86.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 85.8 % 46.3-178

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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 8 (0-1') (H225246-05)

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	11/11/2022	ND	1.90	95.2	2.00	3.45		
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75		
Total BTEX	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.7 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2060	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 103 % 45.3-161

Surrogate: 1-Chlorooctadecane 116 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 8 (1'-2') (H225246-06)

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	11/11/2022	ND	1.90	95.2	2.00	3.45		
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75		
Total BTEX	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.3 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	736	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 91.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 103 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 9 (0-1') (H225246-07)

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	11/11/2022	ND	1.90	95.2	2.00	3.45		
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.7 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	9680	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 92.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 104 % 46.3-178

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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 9 (2'-3') (H225246-08)

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	11/11/2022	ND	1.90	95.2	2.00	3.45		
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75		
Total BTEX	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.8 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1570	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 106 % 45.3-161

Surrogate: 1-Chlorooctadecane 120 % 46.3-178

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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 9 (3'-4') (H225246-09)

BTX 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	11/11/2022	ND	1.90	95.2	2.00	3.45		
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75		
Total BTX	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	912	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 105 % 45.3-161

Surrogate: 1-Chlorooctadecane 118 % 46.3-178

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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 10 (0-1') (H225246-10)

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	11/11/2022	ND	1.90	95.2	2.00	3.45		
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4440	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 103 % 45.3-161

Surrogate: 1-Chlorooctadecane 115 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 10 (1'-2') (H225246-11)

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	11/11/2022	ND	1.90	95.2	2.00	3.45		
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1570	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 97.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 112 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 11 (0-1') (H225246-12)

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	11/11/2022	ND	1.90	95.2	2.00	3.45		
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	9120	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 98.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 109 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 12 (0-1') (H225246-13)

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	11/11/2022	ND	1.90	95.2	2.00	3.45		
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.9 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 98.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 108 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 13 (0-1') (H225246-14)

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	11/11/2022	ND	1.90	95.2	2.00	3.45		
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 100 % 45.3-161

Surrogate: 1-Chlorooctadecane 111 % 46.3-178

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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 14 (0-1') (H225246-15)

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	11/11/2022	ND	1.90	95.2	2.00	3.45		
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.0 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 88.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.5 % 46.3-178

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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 16 (0-1') (H225246-16)

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	11/11/2022	ND	1.90	95.2	2.00	3.45		
Toluene*	<0.050	0.050	11/11/2022	ND	2.11	106	2.00	4.44		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.94	97.1	2.00	2.05		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	5.86	97.6	6.00	2.75		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.1 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 101 % 45.3-161

Surrogate: 1-Chlorooctadecane 114 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 17 (0-1') (H225246-17)

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	11/11/2022	ND	1.90	94.9	2.00	4.23		
Toluene*	<0.050	0.050	11/11/2022	ND	2.04	102	2.00	3.77		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.99	99.6	2.00	3.73		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	6.06	101	6.00	3.65		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.0 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 99.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 111 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 18 (0-1') (H225246-18)

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	11/11/2022	ND	1.90	94.9	2.00	4.23		
Toluene*	<0.050	0.050	11/11/2022	ND	2.04	102	2.00	3.77		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.99	99.6	2.00	3.73		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	6.06	101	6.00	3.65		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 88.9 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	10.9	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 93.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 105 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 19 (0-1') (H225246-19)

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	11/11/2022	ND	1.90	94.9	2.00	4.23		
Toluene*	<0.050	0.050	11/11/2022	ND	2.04	102	2.00	3.77		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.99	99.6	2.00	3.73		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	6.06	101	6.00	3.65		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.5 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	11/08/2022	ND	432	108	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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 100 % 45.3-161

Surrogate: 1-Chlorooctadecane 113 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 20 (0-1') (H225246-20)

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	11/11/2022	ND	1.90	94.9	2.00	4.23		
Toluene*	<0.050	0.050	11/11/2022	ND	2.04	102	2.00	3.77		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.99	99.6	2.00	3.73		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	6.06	101	6.00	3.65		
Total BTEX	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 87.6 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	11/08/2022	ND	384	96.0	400	4.08		

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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 98.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 111 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 21 (0-1') (H225246-21)

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	11/11/2022	ND	1.90	94.9	2.00	4.23		
Toluene*	<0.050	0.050	11/11/2022	ND	2.04	102	2.00	3.77		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.99	99.6	2.00	3.73		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	6.06	101	6.00	3.65		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.1 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	11/08/2022	ND	384	96.0	400	4.08		

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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 101 % 45.3-161

Surrogate: 1-Chlorooctadecane 114 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 22 (0-1') (H225246-22)

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	11/11/2022	ND	1.90	94.9	2.00	4.23		
Toluene*	<0.050	0.050	11/11/2022	ND	2.04	102	2.00	3.77		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.99	99.6	2.00	3.73		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	6.06	101	6.00	3.65		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.5 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/08/2022	ND	384	96.0	400	4.08		

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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 94.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 105 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 23 (0-1') (H225246-23)

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	11/11/2022	ND	1.90	94.9	2.00	4.23		
Toluene*	<0.050	0.050	11/11/2022	ND	2.04	102	2.00	3.77		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.99	99.6	2.00	3.73		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	6.06	101	6.00	3.65		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.8 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	11/08/2022	ND	384	96.0	400	4.08		

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	11/08/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane 100 % 45.3-161

Surrogate: 1-Chlorooctadecane 113 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/07/2022
 Reported: 11/14/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/07/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Shalyn Rodriguez

Sample ID: AH - 24 (0-1') (H225246-24)

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	11/11/2022	ND	1.90	94.9	2.00	4.23		
Toluene*	<0.050	0.050	11/11/2022	ND	2.04	102	2.00	3.77		
Ethylbenzene*	<0.050	0.050	11/11/2022	ND	1.99	99.6	2.00	3.73		
Total Xylenes*	<0.150	0.150	11/11/2022	ND	6.06	101	6.00	3.65		
Total BTEx	<0.300	0.300	11/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.2 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/08/2022	ND	384	96.0	400	4.08		

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	11/09/2022	ND	208	104	200	0.534	
DRO >C10-C28*	<10.0	10.0	11/09/2022	ND	180	89.9	200	0.0439	
EXT DRO >C28-C36	<10.0	10.0	11/09/2022	ND					

Surrogate: 1-Chlorooctane 100 % 45.3-161

Surrogate: 1-Chlorooctadecane 111 % 46.3-178

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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 "C. D. Keene", written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Celestus Pharms</u>		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager: <u>Christine Lull</u>		City:		Company: <u>Tetra Tech</u>			
Address:		State:		Attn: <u>Christine Lull</u>			
City:		Zip:		Address: <u>by email</u>			
Phone #:		Fax #:		City:			
Project #: <u>202-AD-0385</u>		Project Owner:		State:			
Project Name: <u>500 Radley 21C CTR Release</u>		City:		Zip:			
Project Location: <u>Eddy County, NM</u>		Phone #:					
Sampler Name: <u>Coleen Baker</u>		Fax #:					
FOR LAB USE ONLY							
Lab I.D.		Sample I.D.					
11		AH-10 (1'-2')		(G)RAB OR (C)OMP.			
13		AH-11 (0-1')		# CONTAINERS			
14		AH-12 (0-1')		GROUNDWATER			
15		AH-13 (0-1')		WASTEWATER			
16		AH-14 (0-1')		SOIL			
17		AH-15 (0-1')		OIL			
18		AH-16 (0-1')		SLUDGE			
19		AH-17 (0-1')		OTHER :			
20		AH-18 (0-1')		ACID/BASE:			
		AH-19 (0-1')		ICE / COOL			
		AH-20 (0-1')		OTHER :			
				DATE			
				TIME			
				TPH			
				BTEX			
				Chlorides			

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Relinquished By: <u>Coleen Baker</u>	Date: <u>11/7/22</u>	Received By: <u>Christine Lull</u>	Date: <u>11/7/22</u>
Relinquished By: <u>Christine Lull</u>	Date: <u>11/7/22</u>	Received By: <u>Christine Lull</u>	Date: <u>11/7/22</u>

Delivered By: (Circle One) UPS Observed Temp. °C 23.6 Sample Condition Intact CHECKED BY: SL (Initials)

Sampler - UPS - Bus - Other: Corrected Temp. °C 23.0 Yes No Turnaround Time: Standard Yes No Bacteria (only) Sample Condition Intact Yes No Corrected Temp. °C 23.0

REMARKS: Christine Lull @ tetra.tech.com

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: CasePhiles		P.O. #:		BILL TO		ANALYSIS REQUEST													
Project Manager: Christian Miller				Company: Tetra Tech															
Address:				Attn: Chad Miller															
City:		State:		Address:															
Phone #: (858) 541-1111		Fax #:		City:															
Project #: 2014-MD-02395		Project Owner:		State:															
Project Name: 500 Rodding St CTB Release				Zip:															
Project Location: Edley Landing, MD				Phone #:															
Sampler Name: Carlton Brinkman				Fax #:															
FOR LAB USE ONLY																			
Lab I.D.		Sample I.D.		MATRIX		PRESERV.		SAMPLING											
10350410		AH-21 (0-1')		(G)RAB OR (C)OMP.		ACID/BASE:		DATE											
21		AH-22 (0-1')		# CONTAINERS		ICE / COOL		TIME											
22		AH-23 (0-1')		GROUNDWATER		OTHER :													
23		AH-24 (0-1')		WASTEWATER															
24				SOIL															
				OIL															
				SLUDGE															
				OTHER :															
				TPH															
				BTEX															
				Chlorides															

$$\frac{3}{5}$$

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Relinquished By:	Date:	Received By:	Verbal Result:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Time:	1500	All Results are emailed. Please provide Email address:			
	Date:					
	Time:					
Received By:	REMARKS:					
Delivered By: (Circle One)	Observed Temp. °C	Corrected Temp. °C	Sample Condition	Cool	Intact	CHECKED BY:
Sampler - UPS - Bus - Other:	23.02	23.02	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(Initials)
Turnaround Time:	Standard	<input checked="" type="checkbox"/> Rush	Bacteria (only)	Cool	Intact	Sample Condition
Thermometer ID #113			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Observed Temp. °C
Correction Factor -0.6°C						Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



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

November 15, 2022

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: BOO RADLEY 21C CTB RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 11/10/22 15:25.

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, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/10/2022	Sampling Date:	11/10/2022
Reported:	11/15/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	** (See Notes)
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: AH - 25 (0-1') (H225345-01)

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	11/13/2022	ND	1.98	99.1	2.00	2.46	
Toluene*	<0.050	0.050	11/13/2022	ND	2.17	109	2.00	1.66	
Ethylbenzene*	<0.050	0.050	11/13/2022	ND	2.02	101	2.00	1.68	
Total Xylenes*	<0.150	0.150	11/13/2022	ND	6.06	101	6.00	2.08	
Total BTEX	<0.300	0.300	11/13/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	704	16.0	11/11/2022	ND	432	108	400	3.77	

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	11/11/2022	ND	208	104	200	1.94	
DRO >C10-C28*	<10.0	10.0	11/11/2022	ND	202	101	200	0.260	
EXT DRO >C28-C36	<10.0	10.0	11/11/2022	ND					

Surrogate: 1-Chlorooctane 95.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 110 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/10/2022	Sampling Date:	11/10/2022
Reported:	11/15/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	** (See Notes)
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: AH - 25 (1'-2') (H225345-02)

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	11/13/2022	ND	1.98	99.1	2.00	2.46		
Toluene*	<0.050	0.050	11/13/2022	ND	2.17	109	2.00	1.66		
Ethylbenzene*	<0.050	0.050	11/13/2022	ND	2.02	101	2.00	1.68		
Total Xylenes*	<0.150	0.150	11/13/2022	ND	6.06	101	6.00	2.08		
Total BTEx	<0.300	0.300	11/13/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.5 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	768	16.0	11/11/2022	ND	432	108	400	3.77		

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	11/11/2022	ND	208	104	200	1.94	
DRO >C10-C28*	<10.0	10.0	11/11/2022	ND	202	101	200	0.260	
EXT DRO >C28-C36	<10.0	10.0	11/11/2022	ND					

Surrogate: 1-Chlorooctane 93.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 107 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/10/2022	Sampling Date:	11/10/2022
Reported:	11/15/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	** (See Notes)
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: AH - 26 (0-1') (H225345-03)

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	11/13/2022	ND	1.98	99.1	2.00	2.46		
Toluene*	<0.050	0.050	11/13/2022	ND	2.17	109	2.00	1.66		
Ethylbenzene*	<0.050	0.050	11/13/2022	ND	2.02	101	2.00	1.68		
Total Xylenes*	<0.150	0.150	11/13/2022	ND	6.06	101	6.00	2.08		
Total BTEx	<0.300	0.300	11/13/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.5 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1060	16.0	11/11/2022	ND	432	108	400	3.77		

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	11/11/2022	ND	208	104	200	1.94	
DRO >C10-C28*	<10.0	10.0	11/11/2022	ND	202	101	200	0.260	
EXT DRO >C28-C36	<10.0	10.0	11/11/2022	ND					

Surrogate: 1-Chlorooctane 103 % 45.3-161

Surrogate: 1-Chlorooctadecane 121 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/10/2022	Sampling Date:	11/10/2022
Reported:	11/15/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	** (See Notes)
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: AH - 26 (1'-2') (H225345-04)

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	11/13/2022	ND	1.98	99.1	2.00	2.46		
Toluene*	<0.050	0.050	11/13/2022	ND	2.17	109	2.00	1.66		
Ethylbenzene*	<0.050	0.050	11/13/2022	ND	2.02	101	2.00	1.68		
Total Xylenes*	<0.150	0.150	11/13/2022	ND	6.06	101	6.00	2.08		
Total BTEx	<0.300	0.300	11/13/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	11/11/2022	ND	432	108	400	3.77		

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	11/11/2022	ND	208	104	200	1.94	
DRO >C10-C28*	<10.0	10.0	11/11/2022	ND	202	101	200	0.260	
EXT DRO >C28-C36	<10.0	10.0	11/11/2022	ND					

Surrogate: 1-Chlorooctane 86.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.3 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/10/2022	Sampling Date:	11/10/2022
Reported:	11/15/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	** (See Notes)
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: AH - 27 (0-1') (H225345-05)

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	11/13/2022	ND	1.98	99.1	2.00	2.46		
Toluene*	<0.050	0.050	11/13/2022	ND	2.17	109	2.00	1.66		
Ethylbenzene*	<0.050	0.050	11/13/2022	ND	2.02	101	2.00	1.68		
Total Xylenes*	<0.150	0.150	11/13/2022	ND	6.06	101	6.00	2.08		
Total BTEX	<0.300	0.300	11/13/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	11/11/2022	ND	432	108	400	3.77		

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	11/11/2022	ND	208	104	200	1.94	
DRO >C10-C28*	<10.0	10.0	11/11/2022	ND	202	101	200	0.260	
EXT DRO >C28-C36	<10.0	10.0	11/11/2022	ND					

Surrogate: 1-Chlorooctane 94.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 106 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/10/2022
 Reported: 11/15/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 11/10/2022
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Tamara Oldaker

Sample ID: AH - 27 (4'-5') (H225345-06)

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	11/13/2022	ND	1.98	99.1	2.00	2.46		
Toluene*	<0.050	0.050	11/13/2022	ND	2.17	109	2.00	1.66		
Ethylbenzene*	<0.050	0.050	11/13/2022	ND	2.02	101	2.00	1.68		
Total Xylenes*	<0.150	0.150	11/13/2022	ND	6.06	101	6.00	2.08		
Total BTEX	<0.300	0.300	11/13/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.3 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	560	16.0	11/11/2022	ND	432	108	400	3.77		

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	11/11/2022	ND	208	104	200	1.94	
DRO >C10-C28*	<10.0	10.0	11/11/2022	ND	202	101	200	0.260	
EXT DRO >C28-C36	<10.0	10.0	11/11/2022	ND					

Surrogate: 1-Chlorooctane 94.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 107 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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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 "C. D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

December 02, 2022

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: BOO RADLEY 21C CTB RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 12/01/22 16:38.

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, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 1 (0-6") (H225648-01)

BTX 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	12/02/2022	ND	2.04	102	2.00	0.427	
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324	
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11	
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50	
Total BTX	<0.300	0.300	12/02/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 85.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.6 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 1 (6"-12") (H225648-02)

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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1200	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 93.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 100 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 1 (1-2') (H225648-03)

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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTEX	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 86.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 91.4 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 1 (3-4') (H225648-04)

BTX 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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTX	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

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	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 74.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 78.7 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 1 (5-6') (H225648-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	12/02/2022	ND	400	100	400	7.69		

Sample ID: T - 1 (7-8') (H225648-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	12/02/2022	ND	400	100	400	7.69	

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 2 (0-6") (H225648-07)

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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTEX	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2400	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 85.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 90.9 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 2 (6"-12") (H225648-08)

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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5440	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 89.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 95.5 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 2 (1-2') (H225648-09)

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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 93.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 100 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 2 (3-4') (H225648-10)

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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

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	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 96.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 102 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 2 (5-6') (H225648-11)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	12/02/2022	ND	400	100	400	7.69	

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 3 (0-6") (H225648-12)

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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	624	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	36.5	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 92.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.4 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 3 (6"-12") (H225648-13)

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	12/02/2022	ND	2.04	102	2.00	0.427	
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324	
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11	
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50	
Total BTEx	<0.300	0.300	12/02/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

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	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	60.5	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 90.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 97.5 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 3 (1-2') (H225648-14)

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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTEX	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1120	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 93.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.0 % 46.3-178

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Analytical Results For:

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

Received: 12/01/2022
 Reported: 12/02/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 12/01/2022
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: T - 3 (3-4') (H225648-15)

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	12/02/2022	ND	2.04	102	2.00	0.427	
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324	
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11	
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50	
Total BTEX	<0.300	0.300	12/02/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2440	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 101 % 45.3-161

Surrogate: 1-Chlorooctadecane 109 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 4 (0-6") (H225648-16)

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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	9000	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 93.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.8 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 4 (6"-12") (H225648-17)

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	12/02/2022	ND	2.04	102	2.00	0.427	
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324	
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11	
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50	
Total BTEx	<0.300	0.300	12/02/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1230	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 99.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 106 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 4 (1-2') (H225648-18)

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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 91.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 103 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 4 (3-4') (H225648-19)

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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTEX	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	752	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	27.3	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 95.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 103 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 4 (5-6') (H225648-20)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	12/02/2022	ND	400	100	400	7.69		

Sample ID: T - 4 (7-8') (H225648-21)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	12/02/2022	ND	400	100	400	7.69		

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 9 (0-6") (H225648-22)

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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTEX	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2560	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	184	92.1	200	0.206	
DRO >C10-C28*	479	10.0	12/02/2022	ND	167	83.5	200	6.62	
EXT DRO >C28-C36	90.5	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 87.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 116 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 9 (6"-12") (H225648-23)

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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4200	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	81.9	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	11.7	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 73.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 81.8 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 9 (1-2') (H225648-24)

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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

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	12/02/2022	ND	432	108	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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 71.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 76.8 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 9 (3-4') (H225648-25)

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	12/02/2022	ND	2.04	102	2.00	0.427		
Toluene*	<0.050	0.050	12/02/2022	ND	2.11	106	2.00	0.324		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.09	104	2.00	1.11		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.36	106	6.00	1.50		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 73.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 78.4 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 12 (0-6") (H225648-26)

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	12/02/2022	ND	2.08	104	2.00	1.85		
Toluene*	<0.050	0.050	12/02/2022	ND	2.07	104	2.00	1.87		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.03	102	2.00	1.33		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.22	104	6.00	0.985		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	93.2	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	47.6	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 83.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 93.2 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 12 (6"-12") (H225648-27)

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	12/02/2022	ND	2.08	104	2.00	1.85		
Toluene*	<0.050	0.050	12/02/2022	ND	2.07	104	2.00	1.87		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.03	102	2.00	1.33		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.22	104	6.00	0.985		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	512	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	31.8	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	13.4	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 95.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 103 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 12 (1-2') (H225648-28)

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	12/02/2022	ND	2.08	104	2.00	1.85		
Toluene*	<0.050	0.050	12/02/2022	ND	2.07	104	2.00	1.87		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.03	102	2.00	1.33		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.22	104	6.00	0.985		
Total BTEX	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	12/02/2022	ND	432	108	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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 85.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 90.9 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 12 (3-4') (H225648-29)

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	12/02/2022	ND	2.08	104	2.00	1.85		
Toluene*	<0.050	0.050	12/02/2022	ND	2.07	104	2.00	1.87		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.03	102	2.00	1.33		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.22	104	6.00	0.985		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 69.9-140

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	12/02/2022	ND	432	108	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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 79.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 84.8 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 10 (0-6") (H225648-30)

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	12/02/2022	ND	2.08	104	2.00	1.85		
Toluene*	<0.050	0.050	12/02/2022	ND	2.07	104	2.00	1.87		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.03	102	2.00	1.33		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.22	104	6.00	0.985		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

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	12/02/2022	ND	432	108	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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 114 % 45.3-161

Surrogate: 1-Chlorooctadecane 123 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 10 (6"-12") (H225648-31)

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	12/02/2022	ND	2.08	104	2.00	1.85	
Toluene*	<0.050	0.050	12/02/2022	ND	2.07	104	2.00	1.87	
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.03	102	2.00	1.33	
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.22	104	6.00	0.985	
Total BTEx	<0.300	0.300	12/02/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

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	12/02/2022	ND	432	108	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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 96.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 104 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 11 (0-6") (H225648-32)

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	12/02/2022	ND	2.08	104	2.00	1.85		
Toluene*	<0.050	0.050	12/02/2022	ND	2.07	104	2.00	1.87		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.03	102	2.00	1.33		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.22	104	6.00	0.985		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	640	16.0	12/02/2022	ND	416	104	400	3.77	QR-03	

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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 83.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 88.5 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 11 (6"-12") (H225648-33)

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	12/02/2022	ND	2.08	104	2.00	1.85		
Toluene*	<0.050	0.050	12/02/2022	ND	2.07	104	2.00	1.87		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.03	102	2.00	1.33		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.22	104	6.00	0.985		
Total BTEX	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4000	16.0	12/02/2022	ND	416	104	400	3.77		

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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 80.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 88.9 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 6 (0-6") (H225648-34)

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	12/02/2022	ND	2.08	104	2.00	1.85		
Toluene*	<0.050	0.050	12/02/2022	ND	2.07	104	2.00	1.87		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.03	102	2.00	1.33		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.22	104	6.00	0.985		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

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	12/02/2022	ND	416	104	400	3.77	

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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 80.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 89.1 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 6 (6"-12") (H225648-35)

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	12/02/2022	ND	2.08	104	2.00	1.85		
Toluene*	<0.050	0.050	12/02/2022	ND	2.07	104	2.00	1.87		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.03	102	2.00	1.33		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.22	104	6.00	0.985		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	704	16.0	12/02/2022	ND	416	104	400	3.77		

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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 79.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 88.0 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 13 (0-6") (H225648-36)

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	12/02/2022	ND	2.08	104	2.00	1.85		
Toluene*	<0.050	0.050	12/02/2022	ND	2.07	104	2.00	1.87		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.03	102	2.00	1.33		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.22	104	6.00	0.985		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

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	12/02/2022	ND	416	104	400	3.77		

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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 103 % 45.3-161

Surrogate: 1-Chlorooctadecane 110 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 13 (6"-12") (H225648-37)

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	12/02/2022	ND	2.08	104	2.00	1.85		
Toluene*	<0.050	0.050	12/02/2022	ND	2.07	104	2.00	1.87		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.03	102	2.00	1.33		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.22	104	6.00	0.985		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	12/02/2022	ND	416	104	400	3.77		

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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 83.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.1 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 14 (0-6") (H225648-38)

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	12/02/2022	ND	2.08	104	2.00	1.85		
Toluene*	<0.050	0.050	12/02/2022	ND	2.07	104	2.00	1.87		
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.03	102	2.00	1.33		
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.22	104	6.00	0.985		
Total BTEx	<0.300	0.300	12/02/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	928	16.0	12/02/2022	ND	416	104	400	3.77		

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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 87.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.7 % 46.3-178

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Analytical Results For:

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

Received:	12/01/2022	Sampling Date:	12/01/2022
Reported:	12/02/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 14 (6"-12") (H225648-39)

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	12/02/2022	ND	2.08	104	2.00	1.85	
Toluene*	<0.050	0.050	12/02/2022	ND	2.07	104	2.00	1.87	
Ethylbenzene*	<0.050	0.050	12/02/2022	ND	2.03	102	2.00	1.33	
Total Xylenes*	<0.150	0.150	12/02/2022	ND	6.22	104	6.00	0.985	
Total BTEX	<0.300	0.300	12/02/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1120	16.0	12/02/2022	ND	416	104	400	3.77		

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	12/02/2022	ND	176	88.1	200	6.20	
DRO >C10-C28*	<10.0	10.0	12/02/2022	ND	176	88.0	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	12/02/2022	ND					

Surrogate: 1-Chlorooctane 113 % 45.3-161

Surrogate: 1-Chlorooctadecane 122 % 46.3-178

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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 West Viala St, Suite 100
Midland, Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: COP Site Manager: Christian Lull

Project Name: Boo Radley 21C CTB Release Contact Info: Christian.Lull@tetratech.com

Project Location: (county, state) Eddy County, NM Project #: 212C-MD-02885

Invoice to: Christian Lull

Receiving Laboratory: Cardinal Laboratories Sampler Signature: Miguel Flores

Comments:

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD		# CONTAINERS	FILTERED (Y/N)
		DATE	TIME	WATER	SOIL	HCL	HNO ₃		
		YEAR							

1	T-1 (0-6")	12/1/2022	10:00	X				X	1	
2	T-1 (6"-12")	12/1/2022	10:05	X				X	1	
3	T-1 (1-2')	12/1/2022	10:10	X				X	1	
4	T-1 (3-4')	12/1/2022	10:15	X				X	1	
5	T-1 (5-6')	12/1/2022	10:20	X				X	1	
6	T-1 (7-8')	12/1/2022	10:25	X				X	1	
7	T-2 (0-6")	12/1/2022	10:30	X				X	1	
8	T-2 (6"-12")	12/1/2022	10:35	X				X	1	
9	T-2 (1-2')	12/1/2022	10:40	X				X	1	
10	T-2 (3-4')	12/1/2022	10:45	X				X	1	

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	12-1-22	16:34	Received by:	12-1-22	16:38
Relinquished by:			Received by:		

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B	X
TPH TX1005 (Ext to C35)	X
TPH 8015M (GRO - DRO - ORO)	X
PAH 8270C	X
Total Metals Ag As Ba Cd Cr Pb Se Hg	X
TCLP Metals Ag As Ba Cd Cr Pb Se Hg	X
TCLP Volatiles	X
TCLP Semi Volatiles	X
RCI	X
GC/MS Vol. 8260B / 624	X
GC/MS Semi. Vol. 8270C/625	X
PCB's 8082 / 608	X
NORM	X
PLM (Asbestos)	X
Chloride	X
Chloride Sulfate TDS	X
General Water Chemistry (see attached list)	X
Anion/Cation Balance	X
Asbestos	X
Hold	

LAB USE ONLY

REMARKS:

Sample Temperature
4.8°C
4.0°C
4.2°C #113

☒ Rush: Same Day 24 hr 48 hr 72 hr
☐ Rush Charges Authorized
☐ Special Report Limits or TRRP Report

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Analysis Request of Chain of Custody Record

Page 2 of 4



Tetra Tech, Inc.

 901 West Wall St. Suite 100
 Midland, Texas 79701
 Tel (432) 682-4559
 Fax (432) 682-3946

ANALYSIS REQUEST

(Circle or Specify Method No.)

Client Name: COP		Site Manager: Christian Lull	
Project Name: Boo Radley 21C CTB Release		Contact Info: Christian.Lull@tetratech.com	
Project Location: (county, state) Eddy County, NM		Project #: 212C-MD-02885	
Invoice to: Christian Lull		Sampler Signature: Miguel Flores	
Receiving Laboratory: Cardinal Laboratories		Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD		# CONTAINERS	FILTERED (Y/N)
		DATE	TIME	WATER	SOIL	HCL	HNO ₃		
11	T-2 (5-6")	12/1/2022	10:50	X					1
12	T-3 (0-6")	12/1/2022	10:55	X					1
13	T-3 (6"-12")	12/1/2022	11:00	X					1
14	T-3 (1-2")	12/1/2022	11:05	X					1
15	T-3 (3-4")	12/1/2022	11:10	X					1
16	T-4 (0-6")	12/1/2022	11:15	X					1
17	T-4 (6"-12")	12/1/2022	11:20	X					1
18	T-4 (1-2")	12/1/2022	11:25	X					1
19	T-4 (3-4")	12/1/2022	11:30	X					1
20	T-4 (5-6")	12/1/2022	11:35	X					1

LAB USE ONLY	REMARKS:
Relinquished by: <i>[Signature]</i> Date: 12-1-22 Time: 1640 Relinquished by: <i>[Signature]</i> Date: 12-1-22 Time: 1638	BTEX 8021B TPH TX1005 (Ext to C35) TPH 8015M (GRO - DRO - ORO) 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 Chloride Sulfate TDS General Water Chemistry (see attached list) Anion/Cation Balance Asbestos Hold

ORIGINAL COPY

Sample Temperature 4.8°C 4.0°C 4.2°C	<input checked="" type="checkbox"/> RUSH: Same Day <input type="checkbox"/> Rush Charges Authorized <input type="checkbox"/> Special Report Limits or TRRP Report
---	---

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Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

901 West Wall St. Suite 100
Midland, Texas 79701
Tel (432) 692-4559
Fax (432) 692-3946

ANALYSIS REQUEST
(Circle or Specify Method No.)

Client Name: COP		Site Manager: Christian Lull	
Project Name: Boo Radley 21C CTB Release		Contact Info: Christian.Lull@tetratech.com	
Project Location: (county, state) Eddy County, NM		Project #: 212C-MD-02885	
Invoice to: Christian Lull		Sampler Signature: Miguel Flores	
Receiving Laboratory: Cardinal Laboratories		Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD		# CONTAINERS	FILTERED (Y/N)	
		DATE	TIME	WATER	SOIL	HCL	HNO ₃			ICE
31	T-4 (7-8")	12/1/2022	11:40	X	X	X	X	1		
32	T-9 (0-6")	12/1/2022	11:45	X	X	X	X	1		
33	T-9 (6"-12")	12/1/2022	11:50	X	X	X	X	1		
34	T-9 (1-2")	12/1/2022	11:55	X	X	X	X	1		
35	T-9 (3-4")	12/1/2022	12:00	X	X	X	X	1		
36	T-12 (0-6")	12/1/2022	12:05	X	X	X	X	1		
37	T-12 (6"-12")	12/1/2022	12:10	X	X	X	X	1		
38	T-12 (1-2")	12/1/2022	12:15	X	X	X	X	1		
39	T-12 (3-4")	12/1/2022	12:20	X	X	X	X	1		
30	T-10 (0-6")	12/1/2022	12:25	X	X	X	X	1		

Relinquished by: [Signature]	Date: 12-1-22	Time: 1640	Received by: [Signature]	Date: 12-1-22	Time: 1838
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY	REMARKS:	BTEX 8021B	X
		TPH TX1005 (Ext to C35)	X
LAB USE ONLY	REMARKS:	TPH 8015M (GRO - DRO - ORO)	X
		PAH 8270C	X
LAB USE ONLY	REMARKS:	Total Metals Ag As Ba Cd Cr Pb Se Hg	X
		TCLP Metals Ag As Ba Cd Cr Pb Se Hg	X
LAB USE ONLY	REMARKS:	TCLP Volatiles	X
		TCLP Semi Volatiles	X
LAB USE ONLY	REMARKS:	RCI	X
		GC/MS Vol. 8260B / 624	X
LAB USE ONLY	REMARKS:	GC/MS Semi. Vol. 8270C/625	X
		PCB's 8082 / 608	X
LAB USE ONLY	REMARKS:	NORM	X
		PLM (Asbestos)	X
LAB USE ONLY	REMARKS:	Chloride	X
		Chloride Sulfate TDS	X
LAB USE ONLY	REMARKS:	General Water Chemistry (see attached list)	X
		Anion/Cation Balance	X
LAB USE ONLY	REMARKS:	Asbestos	X

Sample Temperature	41.8°C
Sample Temperature	41.8°C
Sample Temperature	41.8°C

LAB USE ONLY

REMARKS:

☒ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

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Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

 901 West Wall St, Suite 100
 Midland, Texas 79701
 Tel (432) 682-4559
 Fax (432) 682-3946

Page 4 of 4

ANALYSIS REQUEST

(Circle or Specify Method No.)

Page 43 of 43

Client Name: COP		Site Manager: Christian Llull	
Project Name: Boo Radley 21C CTB Release		Contact Info: Christian.Llull@tetratech.com	
Project Location: (county, state) Eddy County, NM		Project #: 212C-MD-02885	
Invoice to: Christian Llull		Sampler Signature: Miguel Flores	
Receiving Laboratory: Cardinal Laboratories		Comments:	

LAB #	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD		# CONTAINERS	FILTERED (Y/N)
		DATE	TIME	WATER	SOIL	HCL	HNO ₃		
31	T-10 (6"-12")	12/1/2022	12:30	X				X	
32	T-11 (0-6")	12/1/2022	12:35		X			X	
33	T-11 (6"-12")	12/1/2022	12:40	X				X	
34	T-6 (0-6")	12/1/2022	12:45	X				X	
35	T-6 (6"-12")	12/1/2022	12:50	X				X	
36	T-13 (0-6")	12/1/2022	12:55		X			X	
37	T-13 (6"-12")	12/1/2022	13:00		X			X	
38	T-14 (0-6")	12/1/2022	13:05		X			X	
39	T-14 (6"-12")	12/1/2022	13:10	X				X	

LAB USE ONLY	REMARKS:
Relinquished by: <i>[Signature]</i> Date: 12-1-22 Time: 16:41	Received by: <i>[Signature]</i> Date: 12-1-22 Time: 14:38
Relinquished by: <i>[Signature]</i> Date: <i>[Blank]</i> Time: <i>[Blank]</i>	Received by: <i>[Signature]</i> Date: <i>[Blank]</i> Time: <i>[Blank]</i>
Relinquished by: <i>[Signature]</i> Date: <i>[Blank]</i> Time: <i>[Blank]</i>	Received by: <i>[Signature]</i> Date: <i>[Blank]</i> Time: <i>[Blank]</i>

LAB USE ONLY	REMARKS:
Sample Temperature: 4.8°C	<input checked="" type="checkbox"/> RUSH: Same Day 24 hr 48 hr 72 hr
4.2°C #118	<input type="checkbox"/> Rush Charges Authorized
	<input type="checkbox"/> Special Report Limits or TRRP Report

LAB USE ONLY	REMARKS:
	BTEX 8021B
	TPH TX1005 (Ext to C35)
	TPH 8015M (GRO - DRO - ORO)
	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
	Chloride Sulfate TDS
	General Water Chemistry (see attached list)
	Anion/Cation Balance
	Asbestos
	Hold

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

December 15, 2022

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: BOO RADLEY 21C CTB RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 12/02/22 16:40.

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

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T - 5 (0-1')	H225666-01	Soil	02-Dec-22 10:00	02-Dec-22 16:40
T - 5 (1-2')	H225666-02	Soil	02-Dec-22 10:05	02-Dec-22 16:40
T - 5 (3-4')	H225666-03	Soil	02-Dec-22 10:10	02-Dec-22 16:40
T - 5 (5-6')	H225666-04	Soil	02-Dec-22 10:15	02-Dec-22 16:40
T - 5 (7-8')	H225666-05	Soil	02-Dec-22 10:20	02-Dec-22 16:40
T - 7 (0-1')	H225666-06	Soil	02-Dec-22 10:25	02-Dec-22 16:40
T - 7 (1-2')	H225666-07	Soil	02-Dec-22 10:30	02-Dec-22 16:40
T - 7 (3-4')	H225666-08	Soil	02-Dec-22 10:35	02-Dec-22 16:40
T - 7 (5-6')	H225666-09	Soil	02-Dec-22 10:40	02-Dec-22 16:40
T - 7 (7-8')	H225666-10	Soil	02-Dec-22 10:45	02-Dec-22 16:40
T - 11 (1-2')	H225666-11	Soil	01-Dec-22 10:50	02-Dec-22 16:40
T - 11 (3-4')	H225666-12	Soil	01-Dec-22 10:55	02-Dec-22 16:40
T - 11 (5-6')	H225666-13	Soil	01-Dec-22 11:00	02-Dec-22 16:40
T - 11 (7-8')	H225666-14	Soil	01-Dec-22 11:05	02-Dec-22 16:40
T - 10 (1-2')	H225666-15	Soil	01-Dec-22 11:10	02-Dec-22 16:40
T - 10 (3-4')	H225666-16	Soil	01-Dec-22 11:15	02-Dec-22 16:40
T - 10 (5-6')	H225666-17	Soil	01-Dec-22 11:20	02-Dec-22 16:40
T - 10 (7-8')	H225666-18	Soil	01-Dec-22 11:25	02-Dec-22 16:40
T - 3 (5-6')	H225666-19	Soil	01-Dec-22 11:30	02-Dec-22 16:40
T - 12 (5-6')	H225666-20	Soil	01-Dec-22 11:35	02-Dec-22 16:40
T - 6 (1-2')	H225666-21	Soil	01-Dec-22 11:40	02-Dec-22 16:40
T - 6 (3-4')	H225666-22	Soil	01-Dec-22 11:45	02-Dec-22 16:40
T - 6 (5-6')	H225666-23	Soil	01-Dec-22 11:50	02-Dec-22 16:40
T - 6 (7-8')	H225666-24	Soil	01-Dec-22 11:55	02-Dec-22 16:40
T - 8 (0-6")	H225666-25	Soil	01-Dec-22 12:00	02-Dec-22 16:40
T - 8 (6"-12")	H225666-26	Soil	01-Dec-22 12:05	02-Dec-22 16:40
T - 8 (1-2')	H225666-27	Soil	01-Dec-22 12:10	02-Dec-22 16:40

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 13 (1-2')	H225666-28	Soil	01-Dec-22 12:15	02-Dec-22 16:40
T - 14 (1-2')	H225666-29	Soil	01-Dec-22 12:20	02-Dec-22 16:40

12/15/22 - Client added BTEX and TPH to sample -04 (see COC). This is the revised report and will replace the one sent on 12/05/22.

12/15/22 - Client added BTEX and TPH to sample -05 (see COC). This is the 2nd revision of the report and will replace the one sent earlier today, 12/15/22.

Cardinal Laboratories

*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 5 (0-1')
H225666-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

Cardinal Laboratories**Inorganic Compounds**

Chloride	2040		16.0	mg/kg	4	2120525	AC	05-Dec-22	4500-Cl-B	
-----------------	-------------	--	------	-------	---	---------	----	-----------	-----------	--

Volatile Organic Compounds by EPA Method 8021**S-04**

Benzene*	0.089		0.050	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Toluene*	1.31		0.050	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Ethylbenzene*	1.31		0.050	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Total Xylenes*	22.8		0.150	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Total BTEX	25.5		0.300	mg/kg	50	2120501	JH	05-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 387 % 69.9-140 2120501 JH 05-Dec-22 8021B

Petroleum Hydrocarbons by GC FID**S-06**

GRO C6-C10*	842		100	mg/kg	10	2120503	MS	05-Dec-22	8015B	
DRO >C10-C28*	17700		100	mg/kg	10	2120503	MS	05-Dec-22	8015B	QM-07
EXT DRO >C28-C36	2860		100	mg/kg	10	2120503	MS	05-Dec-22	8015B	

Surrogate: 1-Chlorooctane 636 % 45.3-161 2120503 MS 05-Dec-22 8015B

Surrogate: 1-Chlorooctadecane 573 % 46.3-178 2120503 MS 05-Dec-22 8015B

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 5 (1-2')
H225666-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	1660		16.0	mg/kg	4	2120525	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2120501	JH	05-Dec-22	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			108 %	69.9-140		2120501	JH	05-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
DRO >C10-C28*	16.1		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	

<i>Surrogate: 1-Chlorooctane</i>			135 %	45.3-161		2120503	MS	05-Dec-22	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			153 %	46.3-178		2120503	MS	05-Dec-22	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 5 (3-4')
H225666-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	320		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2120501	JH	05-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			111 %	69.9-140		2120501	JH	05-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID**S-04**

GRO C6-C10*	19.2		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
DRO >C10-C28*	528		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	53.9		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	

Surrogate: 1-Chlorooctane			140 %	45.3-161		2120503	MS	05-Dec-22	8015B	
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Surrogate: 1-Chlorooctadecane			180 %	46.3-178		2120503	MS	05-Dec-22	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 5 (5-6')
H225666-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	1090		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2121327	JH	14-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2121327	JH	14-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2121327	JH	14-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2121327	JH	14-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2121327	JH	14-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			111 %	69.9-140		2121327	JH	14-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	14.3		10.0	mg/kg	1	2121421	MS	14-Dec-22	8015B	
DRO >C10-C28*	693		10.0	mg/kg	1	2121421	MS	14-Dec-22	8015B	
EXT DRO >C28-C36	61.7		10.0	mg/kg	1	2121421	MS	14-Dec-22	8015B	

Surrogate: 1-Chlorooctane			84.8 %	45.3-161		2121421	MS	14-Dec-22	8015B	
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Surrogate: 1-Chlorooctadecane			104 %	46.3-178		2121421	MS	14-Dec-22	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 5 (7-8')
H225666-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	400		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2121429	JH	15-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2121429	JH	15-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2121429	JH	15-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2121429	JH	15-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2121429	JH	15-Dec-22	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			106 %	69.9-140		2121429	JH	15-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2121432	MS	15-Dec-22	8015B	
DRO >C10-C28*	33.5		10.0	mg/kg	1	2121432	MS	15-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2121432	MS	15-Dec-22	8015B	

<i>Surrogate: 1-Chlorooctane</i>			72.3 %	45.3-161		2121432	MS	15-Dec-22	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			84.1 %	46.3-178		2121432	MS	15-Dec-22	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 7 (0-1')
H225666-06 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	4720		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021**S-04**

Benzene*	<0.200		0.200	mg/kg	200	2120501	JH/	05-Dec-22	8021B	
Toluene*	3.90		0.200	mg/kg	200	2120501	JH/	05-Dec-22	8021B	
Ethylbenzene*	2.09		0.200	mg/kg	200	2120501	JH/	05-Dec-22	8021B	
Total Xylenes*	29.5		0.600	mg/kg	200	2120501	JH/	05-Dec-22	8021B	
Total BTEX	35.6		1.20	mg/kg	200	2120501	JH/	05-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		182 %		69.9-140		2120501	JH/	05-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID**S-06**

GRO C6-C10*	1270		100	mg/kg	10	2120503	MS	05-Dec-22	8015B	
DRO >C10-C28*	19900		100	mg/kg	10	2120503	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	4280		100	mg/kg	10	2120503	MS	05-Dec-22	8015B	

Surrogate: 1-Chlorooctane		560 %		45.3-161		2120503	MS	05-Dec-22	8015B	
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Surrogate: 1-Chlorooctadecane		699 %		46.3-178		2120503	MS	05-Dec-22	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 7 (1-2')
H225666-07 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	960		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Total Xylenes*	0.284		0.150	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Total BTEX	0.334		0.300	mg/kg	50	2120501	JH	05-Dec-22	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			111 %	69.9-140		2120501	JH	05-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
DRO >C10-C28*	29.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	

<i>Surrogate: 1-Chlorooctane</i>			90.9 %	45.3-161		2120503	MS	05-Dec-22	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			99.0 %	46.3-178		2120503	MS	05-Dec-22	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 7 (3-4')
H225666-08 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	80.0		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2120501	JH	05-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2120501	JH	05-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			104 %	69.9-140		2120501	JH	05-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	

Surrogate: 1-Chlorooctane			161 %	45.3-161		2120503	MS	05-Dec-22	8015B	
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Surrogate: 1-Chlorooctadecane			175 %	46.3-178		2120503	MS	05-Dec-22	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 7 (5-6')
H225666-09 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Chloride	400		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 7 (7-8')
H225666-10 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	80.0		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Cardinal Laboratories

*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 11 (1-2')
H225666-11 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	160		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2120502	JH/	05-Dec-22	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			109 %	69.9-140		2120502	JH/	05-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	

<i>Surrogate: 1-Chlorooctane</i>			133 %	45.3-161		2120503	MS	05-Dec-22	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			143 %	46.3-178		2120503	MS	05-Dec-22	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 11 (3-4')
H225666-12 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	176		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2120502	JH/	05-Dec-22	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			115 %	69.9-140		2120502	JH/	05-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	

<i>Surrogate: 1-Chlorooctane</i>			144 %	45.3-161		2120503	MS	05-Dec-22	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			161 %	46.3-178		2120503	MS	05-Dec-22	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 11 (5-6')
H225666-13 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	784		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 11 (7-8")
H225666-14 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	64.0		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 10 (1-2')
H225666-15 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	1300		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2120502	JH/	05-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 108 % 69.9-140 2120502 JH/ 05-Dec-22 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	

Surrogate: 1-Chlorooctane 132 % 45.3-161 2120503 MS 05-Dec-22 8015B

Surrogate: 1-Chlorooctadecane 149 % 46.3-178 2120503 MS 05-Dec-22 8015B

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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 10 (3-4')
H225666-16 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	512		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2120502	JH/	05-Dec-22	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			106 %	69.9-140		2120502	JH/	05-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2120503	MS	05-Dec-22	8015B	

<i>Surrogate: 1-Chlorooctane</i>			142 %	45.3-161		2120503	MS	05-Dec-22	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			157 %	46.3-178		2120503	MS	05-Dec-22	8015B	
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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 10 (5-6')
H225666-17 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	208		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 10 (7-8')
H225666-18 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Chloride	176		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	

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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 3 (5-6')
H225666-19 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	3080		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 12 (5-6')
H225666-20 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	256		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Cardinal Laboratories

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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 6 (1-2')
H225666-21 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	304		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2120502	JH/	05-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			109 %	69.9-140		2120502	JH/	05-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	

Surrogate: 1-Chlorooctane			82.7 %	45.3-161		2120504	MS	05-Dec-22	8015B	
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Surrogate: 1-Chlorooctadecane			87.9 %	46.3-178		2120504	MS	05-Dec-22	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 6 (3-4')
H225666-22 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	80.0		16.0	mg/kg	4	2120526	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2120502	JH/	05-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 108 % 69.9-140 2120502 JH/ 05-Dec-22 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	

Surrogate: 1-Chlorooctane 150 % 45.3-161 2120504 MS 05-Dec-22 8015B

Surrogate: 1-Chlorooctadecane 166 % 46.3-178 2120504 MS 05-Dec-22 8015B

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 6 (5-6')
H225666-23 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	32.0		16.0	mg/kg	4	2120527	AC	05-Dec-22	4500-Cl-B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 6 (7-8')
H225666-24 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	16.0		16.0	mg/kg	4	2120527	AC	05-Dec-22	4500-Cl-B	
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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 8 (0-6")
H225666-25 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	3120		16.0	mg/kg	4	2120527	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2120502	JH/	05-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 113 % 69.9-140 2120502 JH/ 05-Dec-22 8021B

Petroleum Hydrocarbons by GC FID**S-04**

GRO C6-C10*	<10.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	
DRO >C10-C28*	2280		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	714		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	

Surrogate: 1-Chlorooctane 142 % 45.3-161 2120504 MS 05-Dec-22 8015B

Surrogate: 1-Chlorooctadecane 238 % 46.3-178 2120504 MS 05-Dec-22 8015B

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 8 (6'-12")**H225666-26 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	384		16.0	mg/kg	4	2120527	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Toluene*	<0.050	0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	2120502	JH/	05-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	111 %	69.9-140	2120502	JH/	05-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	

Surrogate: 1-Chlorooctane	132 %	45.3-161	2120504	MS	05-Dec-22	8015B	
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Surrogate: 1-Chlorooctadecane	143 %	46.3-178	2120504	MS	05-Dec-22	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 8 (1-2')
H225666-27 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	480		16.0	mg/kg	4	2120527	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2120502	JH/	05-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 112 % 69.9-140 2120502 JH/ 05-Dec-22 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	
DRO >C10-C28*	70.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	

Surrogate: 1-Chlorooctane 132 % 45.3-161 2120504 MS 05-Dec-22 8015B

Surrogate: 1-Chlorooctadecane 152 % 46.3-178 2120504 MS 05-Dec-22 8015B

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 13 (1-2')
H225666-28 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	48.0		16.0	mg/kg	4	2120527	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2120502	JH/	05-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		111 %		69.9-140		2120502	JH/	05-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	

Surrogate: 1-Chlorooctane		120 %		45.3-161		2120504	MS	05-Dec-22	8015B	
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Surrogate: 1-Chlorooctadecane		133 %		46.3-178		2120504	MS	05-Dec-22	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

T - 14 (1-2')
H225666-29 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	112		16.0	mg/kg	4	2120527	AC	05-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2120502	JH/	05-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2120502	JH/	05-Dec-22	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			107 %	69.9-140		2120502	JH/	05-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2120504	MS	05-Dec-22	8015B	

<i>Surrogate: 1-Chlorooctane</i>			141 %	45.3-161		2120504	MS	05-Dec-22	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			163 %	46.3-178		2120504	MS	05-Dec-22	8015B	
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Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

Inorganic Compounds - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2120525 - 1:4 DI Water**Blank (2120525-BLK1)**

Prepared & Analyzed: 05-Dec-22

Chloride	ND	16.0	mg/kg
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LCS (2120525-BS1)

Prepared & Analyzed: 05-Dec-22

Chloride	400	16.0	mg/kg	400	100	80-120
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LCS Dup (2120525-BSD1)

Prepared & Analyzed: 05-Dec-22

Chloride	432	16.0	mg/kg	400	108	80-120	7.69	20
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Batch 2120526 - 1:4 DI Water**Blank (2120526-BLK1)**

Prepared & Analyzed: 05-Dec-22

Chloride	ND	16.0	mg/kg
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LCS (2120526-BS1)

Prepared & Analyzed: 05-Dec-22

Chloride	448	16.0	mg/kg	400	112	80-120
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LCS Dup (2120526-BSD1)

Prepared & Analyzed: 05-Dec-22

Chloride	432	16.0	mg/kg	400	108	80-120	3.64	20
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Batch 2120527 - 1:4 DI Water**Blank (2120527-BLK1)**

Prepared & Analyzed: 05-Dec-22

Chloride	ND	16.0	mg/kg
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LCS (2120527-BS1)

Prepared & Analyzed: 05-Dec-22

Chloride	416	16.0	mg/kg	400	104	80-120
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

Inorganic Compounds - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2120527 - 1:4 DI Water**LCS Dup (2120527-BSD1)**

Prepared & Analyzed: 05-Dec-22

Chloride	432	16.0	mg/kg	400		108	80-120	3.77	20	
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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

Volatile Organic Compounds by EPA Method 8021 - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2120501 - Volatiles**Blank (2120501-BLK1)**

Prepared & Analyzed: 05-Dec-22

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0511		mg/kg	0.0500		102	69.9-140			

LCS (2120501-BS1)

Prepared & Analyzed: 05-Dec-22

Benzene	1.76	0.050	mg/kg	2.00		87.8	83.4-122			
Toluene	1.85	0.050	mg/kg	2.00		92.5	84.2-126			
Ethylbenzene	1.84	0.050	mg/kg	2.00		92.1	84.2-121			
m,p-Xylene	3.88	0.100	mg/kg	4.00		96.9	89.9-126			
o-Xylene	1.82	0.050	mg/kg	2.00		91.0	84.3-123			
Total Xylenes	5.70	0.150	mg/kg	6.00		94.9	89.1-124			
Surrogate: 4-Bromofluorobenzene (PID)	0.0523		mg/kg	0.0500		105	69.9-140			

LCS Dup (2120501-BSD1)

Prepared & Analyzed: 05-Dec-22

Benzene	1.86	0.050	mg/kg	2.00		93.2	83.4-122	5.94	12.6	
Toluene	1.94	0.050	mg/kg	2.00		96.9	84.2-126	4.61	13.3	
Ethylbenzene	1.89	0.050	mg/kg	2.00		94.4	84.2-121	2.39	13.9	
m,p-Xylene	3.94	0.100	mg/kg	4.00		98.6	89.9-126	1.77	13.6	
o-Xylene	1.87	0.050	mg/kg	2.00		93.4	84.3-123	2.54	14.1	
Total Xylenes	5.81	0.150	mg/kg	6.00		96.9	89.1-124	2.01	13.4	
Surrogate: 4-Bromofluorobenzene (PID)	0.0499		mg/kg	0.0500		99.8	69.9-140			

Batch 2120502 - Volatiles**Blank (2120502-BLK1)**

Prepared & Analyzed: 05-Dec-22

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							

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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

Volatile Organic Compounds by EPA Method 8021 - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2120502 - Volatiles**Blank (2120502-BLK1)**

Prepared & Analyzed: 05-Dec-22

Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0540		mg/kg	0.0500		108	69.9-140			
LCS (2120502-BS1)										
Prepared & Analyzed: 05-Dec-22										
Benzene	2.06	0.050	mg/kg	2.00		103	83.4-122			
Toluene	2.07	0.050	mg/kg	2.00		103	84.2-126			
Ethylbenzene	2.02	0.050	mg/kg	2.00		101	84.2-121			
m,p-Xylene	4.23	0.100	mg/kg	4.00		106	89.9-126			
o-Xylene	1.98	0.050	mg/kg	2.00		99.0	84.3-123			
Total Xylenes	6.21	0.150	mg/kg	6.00		103	89.1-124			
Surrogate: 4-Bromofluorobenzene (PID)	0.0529		mg/kg	0.0500		106	69.9-140			

LCS Dup (2120502-BS1)

Prepared & Analyzed: 05-Dec-22

Benzene	1.84	0.050	mg/kg	2.00		92.0	83.4-122	11.4	12.6	
Toluene	1.82	0.050	mg/kg	2.00		90.8	84.2-126	12.9	13.3	
Ethylbenzene	1.72	0.050	mg/kg	2.00		86.1	84.2-121	15.9	13.9	QR-04
m,p-Xylene	3.63	0.100	mg/kg	4.00		90.9	89.9-126	15.1	13.6	QR-04
o-Xylene	1.75	0.050	mg/kg	2.00		87.4	84.3-123	12.5	14.1	
Total Xylenes	5.38	0.150	mg/kg	6.00		89.7	89.1-124	14.2	13.4	QR-04
Surrogate: 4-Bromofluorobenzene (PID)	0.0526		mg/kg	0.0500		105	69.9-140			

Batch 2121327 - Volatiles**Blank (2121327-BLK1)**

Prepared: 13-Dec-22 Analyzed: 14-Dec-22

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0521		mg/kg	0.0500		104	69.9-140			

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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

Volatile Organic Compounds by EPA Method 8021 - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2121327 - Volatiles**LCS (2121327-BS1)**

Prepared: 13-Dec-22 Analyzed: 14-Dec-22

Benzene	2.08	0.050	mg/kg	2.00		104	83.4-122			
Toluene	2.17	0.050	mg/kg	2.00		108	84.2-126			
Ethylbenzene	2.12	0.050	mg/kg	2.00		106	84.2-121			
m,p-Xylene	4.46	0.100	mg/kg	4.00		112	89.9-126			
o-Xylene	2.11	0.050	mg/kg	2.00		106	84.3-123			
Total Xylenes	6.58	0.150	mg/kg	6.00		110	89.1-124			
Surrogate: 4-Bromofluorobenzene (PID)	0.0501		mg/kg	0.0500		100	69.9-140			

LCS Dup (2121327-BS1)

Prepared: 13-Dec-22 Analyzed: 14-Dec-22

Benzene	2.02	0.050	mg/kg	2.00		101	83.4-122	2.76	12.6	
Toluene	2.10	0.050	mg/kg	2.00		105	84.2-126	2.88	13.3	
Ethylbenzene	2.06	0.050	mg/kg	2.00		103	84.2-121	2.73	13.9	
m,p-Xylene	4.33	0.100	mg/kg	4.00		108	89.9-126	3.11	13.6	
o-Xylene	2.03	0.050	mg/kg	2.00		102	84.3-123	3.85	14.1	
Total Xylenes	6.36	0.150	mg/kg	6.00		106	89.1-124	3.35	13.4	
Surrogate: 4-Bromofluorobenzene (PID)	0.0488		mg/kg	0.0500		97.6	69.9-140			

Batch 2121429 - Volatiles**Blank (2121429-BLK1)**

Prepared: 14-Dec-22 Analyzed: 15-Dec-22

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0527		mg/kg	0.0500		105	69.9-140			

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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

Volatile Organic Compounds by EPA Method 8021 - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2121429 - Volatiles**LCS (2121429-BS1)**

Prepared: 14-Dec-22 Analyzed: 15-Dec-22

Benzene	2.07	0.050	mg/kg	2.00		104	83.4-122			
Toluene	2.17	0.050	mg/kg	2.00		108	84.2-126			
Ethylbenzene	2.13	0.050	mg/kg	2.00		106	84.2-121			
m,p-Xylene	4.45	0.100	mg/kg	4.00		111	89.9-126			
o-Xylene	2.11	0.050	mg/kg	2.00		105	84.3-123			
Total Xylenes	6.56	0.150	mg/kg	6.00		109	89.1-124			
Surrogate: 4-Bromofluorobenzene (PID)	0.0488		mg/kg	0.0500		97.5	69.9-140			

LCS Dup (2121429-BS1)

Prepared: 14-Dec-22 Analyzed: 15-Dec-22

Benzene	2.08	0.050	mg/kg	2.00		104	83.4-122	0.341	12.6	
Toluene	2.19	0.050	mg/kg	2.00		109	84.2-126	0.944	13.3	
Ethylbenzene	2.14	0.050	mg/kg	2.00		107	84.2-121	0.451	13.9	
m,p-Xylene	4.45	0.100	mg/kg	4.00		111	89.9-126	0.00651	13.6	
o-Xylene	2.07	0.050	mg/kg	2.00		104	84.3-123	1.69	14.1	
Total Xylenes	6.53	0.150	mg/kg	6.00		109	89.1-124	0.535	13.4	
Surrogate: 4-Bromofluorobenzene (PID)	0.0501		mg/kg	0.0500		100	69.9-140			

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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2120503 - General Prep - Organics**Blank (2120503-BLK1)**

Prepared & Analyzed: 05-Dec-22

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	41.5		mg/kg	50.0		83.0	45.3-161			
Surrogate: 1-Chlorooctadecane	43.6		mg/kg	50.0		87.2	46.3-178			

LCS (2120503-BS1)

Prepared & Analyzed: 05-Dec-22

GRO C6-C10	202	10.0	mg/kg	200		101	76.8-124			
DRO >C10-C28	182	10.0	mg/kg	200		91.2	74.9-127			
Total TPH C6-C28	384	10.0	mg/kg	400		96.1	77.5-124			
Surrogate: 1-Chlorooctane	58.6		mg/kg	50.0		117	45.3-161			
Surrogate: 1-Chlorooctadecane	60.1		mg/kg	50.0		120	46.3-178			

LCS Dup (2120503-BS1)

Prepared & Analyzed: 05-Dec-22

GRO C6-C10	203	10.0	mg/kg	200		101	76.8-124	0.356	17.2	
DRO >C10-C28	181	10.0	mg/kg	200		90.6	74.9-127	0.589	18.6	
Total TPH C6-C28	384	10.0	mg/kg	400		96.0	77.5-124	0.0913	17.6	
Surrogate: 1-Chlorooctane	60.7		mg/kg	50.0		121	45.3-161			
Surrogate: 1-Chlorooctadecane	63.5		mg/kg	50.0		127	46.3-178			

Batch 2120504 - General Prep - Organics**Blank (2120504-BLK1)**

Prepared & Analyzed: 05-Dec-22

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	44.5		mg/kg	50.0		88.9	45.3-161			
Surrogate: 1-Chlorooctadecane	47.3		mg/kg	50.0		94.6	46.3-178			

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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2120504 - General Prep - Organics**LCS (2120504-BS1)**

Prepared & Analyzed: 05-Dec-22

GRO C6-C10	203	10.0	mg/kg	200		101	76.8-124			
DRO >C10-C28	188	10.0	mg/kg	200		94.2	74.9-127			
Total TPH C6-C28	391	10.0	mg/kg	400		97.7	77.5-124			
Surrogate: 1-Chlorooctane	59.3		mg/kg	50.0		119	45.3-161			
Surrogate: 1-Chlorooctadecane	65.6		mg/kg	50.0		131	46.3-178			

LCS Dup (2120504-BS1)

Prepared & Analyzed: 05-Dec-22

GRO C6-C10	186	10.0	mg/kg	200		93.1	76.8-124	8.45	17.2	
DRO >C10-C28	194	10.0	mg/kg	200		96.9	74.9-127	2.88	18.6	
Total TPH C6-C28	380	10.0	mg/kg	400		95.0	77.5-124	2.84	17.6	
Surrogate: 1-Chlorooctane	65.2		mg/kg	50.0		130	45.3-161			
Surrogate: 1-Chlorooctadecane	67.9		mg/kg	50.0		136	46.3-178			

Batch 2121421 - General Prep - Organics**Blank (2121421-BLK1)**

Prepared & Analyzed: 14-Dec-22

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	46.3		mg/kg	50.0		92.5	45.3-161			
Surrogate: 1-Chlorooctadecane	54.2		mg/kg	50.0		108	46.3-178			

LCS (2121421-BS1)

Prepared & Analyzed: 14-Dec-22

GRO C6-C10	203	10.0	mg/kg	200		102	76.8-124			
DRO >C10-C28	201	10.0	mg/kg	200		101	74.9-127			
Total TPH C6-C28	404	10.0	mg/kg	400		101	77.5-124			
Surrogate: 1-Chlorooctane	53.3		mg/kg	50.0		107	45.3-161			
Surrogate: 1-Chlorooctadecane	58.6		mg/kg	50.0		117	46.3-178			

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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: BOO RADLEY 21C CTB RELEASE
Project Number: 212C - MD - 02885
Project Manager: CHRISTIAN LLULL
Fax To: (432) 682-3946

Reported:
15-Dec-22 15:27

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2121421 - General Prep - Organics**LCS Dup (2121421-BSD1)**

Prepared & Analyzed: 14-Dec-22

GRO C6-C10	221	10.0	mg/kg	200		111	76.8-124	8.37	17.2	
DRO >C10-C28	229	10.0	mg/kg	200		115	74.9-127	13.0	18.6	
Total TPH C6-C28	450	10.0	mg/kg	400		113	77.5-124	10.7	17.6	
Surrogate: 1-Chlorooctane	60.1		mg/kg	50.0		120	45.3-161			
Surrogate: 1-Chlorooctadecane	72.2		mg/kg	50.0		144	46.3-178			

Batch 2121432 - General Prep - Organics**Blank (2121432-BLK1)**

Prepared & Analyzed: 14-Dec-22

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	41.7		mg/kg	50.0		83.4	45.3-161			
Surrogate: 1-Chlorooctadecane	45.1		mg/kg	50.0		90.1	46.3-178			

LCS (2121432-BS1)

Prepared & Analyzed: 14-Dec-22

GRO C6-C10	174	10.0	mg/kg	200		87.2	76.8-124			
DRO >C10-C28	184	10.0	mg/kg	200		91.9	74.9-127			
Total TPH C6-C28	358	10.0	mg/kg	400		89.6	77.5-124			
Surrogate: 1-Chlorooctane	40.3		mg/kg	50.0		80.7	45.3-161			
Surrogate: 1-Chlorooctadecane	47.8		mg/kg	50.0		95.6	46.3-178			

LCS Dup (2121432-BSD1)

Prepared & Analyzed: 14-Dec-22

GRO C6-C10	185	10.0	mg/kg	200		92.6	76.8-124	5.93	17.2	
DRO >C10-C28	196	10.0	mg/kg	200		97.9	74.9-127	6.28	18.6	
Total TPH C6-C28	381	10.0	mg/kg	400		95.2	77.5-124	6.11	17.6	
Surrogate: 1-Chlorooctane	44.5		mg/kg	50.0		89.1	45.3-161			
Surrogate: 1-Chlorooctadecane	51.9		mg/kg	50.0		104	46.3-178			

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-04	The RPD for the BS/BSD was outside of historical limits.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

901 West Wall St, Suite 100
Midland, Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

ANALYSIS REQUEST

(Circle or Specify Method No.)

[illegible]

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

901 West Wall St, Suite 100
Midland, Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

ANALYSIS REQUEST

(Circle or Specify Method No.)

Client Name: COP		Site Manager: Christian Lull	
Project Name: Boo Radley 21C CTB Release		Contact Info: Christian.Lull@tetratech.com	
Project Location: (county, state) Eddy County, NM		Project #: 212C-MD-02885	
Invoice to: Christian Lull		Sampler Signature: Gabe Huerta	
Receiving Laboratory: Cardinal Laboratories		Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD		# CONTAINERS	FILTERED (Y/N)	
		DATE	TIME	WATER	SOIL	HCL	HNO ₃			ICE
11	T-11 (1-2)	12/1/2022	10:50	X	X	X	X	X	1	
12	T-11 (3-4)	12/1/2022	10:55	X	X	X	X	X	1	
13	T-11 (5-6)	12/1/2022	11:00	X	X	X	X	X	1	
14	T-11 (7-8)	12/1/2022	11:05	X	X	X	X	X	1	
15	T-10 (1-2)	12/1/2022	11:10	X	X	X	X	X	1	
16	T-10 (3-4)	12/1/2022	11:15	X	X	X	X	X	1	
17	T-10 (5-6)	12/1/2022	11:20	X	X	X	X	X	1	
18	T-10 (7-8)	12/1/2022	11:25	X	X	X	X	X	1	
19	T-3 (5-6)	12/1/2022	11:30	X	X	X	X	X	1	
20	T-12 (5-6)	12/1/2022	11:35	X	X	X	X	X	1	

Relinquished by: <i>Christian Lull</i>	Date: 12-3-22	Time: 1640	Received by: <i>Gabe Huerta</i>	Date: 12-3-22	Time: 1640
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY	REMARKS:
Sample Temperature: 3.1°C	<input checked="" type="checkbox"/> RUSH: Same Day 24 hr 48 hr 72 hr
2.0.6°C	<input type="checkbox"/> Rush Charges Authorized
2.5°C #1/3	<input type="checkbox"/> Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Analysis Request of Custody Record



Tetra Tech, Inc.

 901 West Wall St, Suite 100
 Midland, Texas 79701
 Tel (432) 682-4559
 Fax (432) 682-3946

Page 3 of 3

ANALYSIS REQUEST

(Circle or Specify Method No.)

Client Name:

COP

Site Manager:

Christian Lull

Project Name:

Boo Radley 21C CTB Release

Contact Info:

Christian.Lull@tetratech.com

Project Location: (county, state)

Eddy County, NM

Project #:

212C-MD-02885

Invoice to:

Christian Lull

Receiving Laboratory:

Cardinal Laboratories

Sampler Signature:

Gabe Huerta

Comments:

SAMPLE IDENTIFICATION

LAB #

LAB USE ONLY

T-6 (1-2')

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T-6 (5-6')

T-6 (7-8')

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

December 07, 2022

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: BOO RADLEY 21C CTB RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 12/06/22 11:14.

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 "Mike Snyder". The signature is fluid and cursive, with the first name "Mike" and last name "Snyder" clearly distinguishable.

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 16 (0-1') (H225705-01)

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	12/06/2022	ND	2.18	109	2.00	11.9	
Toluene*	<0.050	0.050	12/06/2022	ND	2.30	115	2.00	12.9	
Ethylbenzene*	<0.050	0.050	12/06/2022	ND	2.22	111	2.00	12.8	
Total Xylenes*	<0.150	0.150	12/06/2022	ND	6.81	114	6.00	12.1	
Total BTEX	<0.300	0.300	12/06/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1020	16.0	12/07/2022	ND	448	112	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	12/06/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	<10.0	10.0	12/06/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/06/2022	ND					

Surrogate: 1-Chlorooctane 73.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 81.6 % 46.3-178

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 16 (1-2') (H225705-02)

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	12/06/2022	ND	2.18	109	2.00	11.9		
Toluene*	<0.050	0.050	12/06/2022	ND	2.30	115	2.00	12.9		
Ethylbenzene*	<0.050	0.050	12/06/2022	ND	2.22	111	2.00	12.8		
Total Xylenes*	<0.150	0.150	12/06/2022	ND	6.81	114	6.00	12.1		
Total BTEX	<0.300	0.300	12/06/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	12/07/2022	ND	448	112	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	12/06/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	<10.0	10.0	12/06/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/06/2022	ND					

Surrogate: 1-Chlorooctane 51.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 55.5 % 46.3-178

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 16 (3-4') (H225705-03)

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	12/06/2022	ND	2.18	109	2.00	11.9		
Toluene*	<0.050	0.050	12/06/2022	ND	2.30	115	2.00	12.9		
Ethylbenzene*	<0.050	0.050	12/06/2022	ND	2.22	111	2.00	12.8		
Total Xylenes*	<0.150	0.150	12/06/2022	ND	6.81	114	6.00	12.1		
Total BTEx	<0.300	0.300	12/06/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	12/07/2022	ND	448	112	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	12/07/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	<10.0	10.0	12/07/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/07/2022	ND					

Surrogate: 1-Chlorooctane 72.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 80.4 % 46.3-178

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 16 (5-6') (H225705-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	12/07/2022	ND	448	112	400	0.00	

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Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 15 (0-1') (H225705-05)

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	12/06/2022	ND	2.18	109	2.00	11.9		
Toluene*	<0.050	0.050	12/06/2022	ND	2.30	115	2.00	12.9		
Ethylbenzene*	<0.050	0.050	12/06/2022	ND	2.22	111	2.00	12.8		
Total Xylenes*	<0.150	0.150	12/06/2022	ND	6.81	114	6.00	12.1		
Total BTEx	<0.300	0.300	12/06/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	928	16.0	12/07/2022	ND	448	112	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	12/07/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	<10.0	10.0	12/07/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/07/2022	ND					

Surrogate: 1-Chlorooctane 68.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 75.6 % 46.3-178

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Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 15 (1-2') (H225705-06)

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	12/06/2022	ND	2.18	109	2.00	11.9		
Toluene*	<0.050	0.050	12/06/2022	ND	2.30	115	2.00	12.9		
Ethylbenzene*	<0.050	0.050	12/06/2022	ND	2.22	111	2.00	12.8		
Total Xylenes*	<0.150	0.150	12/06/2022	ND	6.81	114	6.00	12.1		
Total BTEx	<0.300	0.300	12/06/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3560	16.0	12/07/2022	ND	448	112	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	12/07/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	<10.0	10.0	12/07/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/07/2022	ND					

Surrogate: 1-Chlorooctane 73.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 80.3 % 46.3-178

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Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 15 (3-4') (H225705-07)

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	12/06/2022	ND	2.18	109	2.00	11.9		
Toluene*	<0.050	0.050	12/06/2022	ND	2.30	115	2.00	12.9		
Ethylbenzene*	<0.050	0.050	12/06/2022	ND	2.22	111	2.00	12.8		
Total Xylenes*	<0.150	0.150	12/06/2022	ND	6.81	114	6.00	12.1		
Total BTEx	<0.300	0.300	12/06/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	12/07/2022	ND	448	112	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	12/07/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	<10.0	10.0	12/07/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/07/2022	ND					

Surrogate: 1-Chlorooctane 89.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 98.7 % 46.3-178

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Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 3A (0-6") (H225705-08)

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	12/06/2022	ND	2.18	109	2.00	11.9		
Toluene*	<0.050	0.050	12/06/2022	ND	2.30	115	2.00	12.9		
Ethylbenzene*	<0.050	0.050	12/06/2022	ND	2.22	111	2.00	12.8		
Total Xylenes*	<0.150	0.150	12/06/2022	ND	6.81	114	6.00	12.1		
Total BTEX	<0.300	0.300	12/06/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1400	16.0	12/07/2022	ND	448	112	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	12/07/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	<10.0	10.0	12/07/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/07/2022	ND					

Surrogate: 1-Chlorooctane 66.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 74.1 % 46.3-178

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Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 3A (6"-12") (H225705-09)

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	12/06/2022	ND	2.18	109	2.00	11.9	
Toluene*	<0.050	0.050	12/06/2022	ND	2.30	115	2.00	12.9	
Ethylbenzene*	<0.050	0.050	12/06/2022	ND	2.22	111	2.00	12.8	
Total Xylenes*	<0.150	0.150	12/06/2022	ND	6.81	114	6.00	12.1	
Total BTEX	<0.300	0.300	12/06/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1250	16.0	12/07/2022	ND	ND				

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	12/07/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	<10.0	10.0	12/07/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/07/2022	ND					

Surrogate: 1-Chlorooctane 59.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 66.1 % 46.3-178

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Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 3A (1-2') (H225705-10)

BTX 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	12/06/2022	ND	2.18	109	2.00	11.9	
Toluene*	<0.050	0.050	12/06/2022	ND	2.30	115	2.00	12.9	
Ethylbenzene*	<0.050	0.050	12/06/2022	ND	2.22	111	2.00	12.8	
Total Xylenes*	<0.150	0.150	12/06/2022	ND	6.81	114	6.00	12.1	
Total BTX	<0.300	0.300	12/06/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	12/07/2022	ND	448	112	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	12/07/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	<10.0	10.0	12/07/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/07/2022	ND					

Surrogate: 1-Chlorooctane 59.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 66.4 % 46.3-178

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Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: T - 3A (3-4') (H225705-11)

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	12/07/2022	ND	2.18	109	2.00	11.9	
Toluene*	<0.050	0.050	12/07/2022	ND	2.30	115	2.00	12.9	
Ethylbenzene*	<0.050	0.050	12/07/2022	ND	2.22	111	2.00	12.8	
Total Xylenes*	<0.150	0.150	12/07/2022	ND	6.81	114	6.00	12.1	
Total BTEx	<0.300	0.300	12/07/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	12/07/2022	ND	448	112	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	12/07/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	<10.0	10.0	12/07/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/07/2022	ND					

Surrogate: 1-Chlorooctane 64.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 68.8 % 46.3-178

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

Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: AH - 28 (0-1') (H225705-12)

BTX 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	12/07/2022	ND	2.18	109	2.00	11.9	
Toluene*	<0.050	0.050	12/07/2022	ND	2.30	115	2.00	12.9	
Ethylbenzene*	<0.050	0.050	12/07/2022	ND	2.22	111	2.00	12.8	
Total Xylenes*	<0.150	0.150	12/07/2022	ND	6.81	114	6.00	12.1	
Total BTX	<0.300	0.300	12/07/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	12/07/2022	ND	448	112	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	12/07/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	<10.0	10.0	12/07/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/07/2022	ND					

Surrogate: 1-Chlorooctane 67.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 73.5 % 46.3-178

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Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: AH - 29 (0-1') (H225705-13)

BTX 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	12/07/2022	ND	2.18	109	2.00	11.9	
Toluene*	<0.050	0.050	12/07/2022	ND	2.30	115	2.00	12.9	
Ethylbenzene*	<0.050	0.050	12/07/2022	ND	2.22	111	2.00	12.8	
Total Xylenes*	<0.150	0.150	12/07/2022	ND	6.81	114	6.00	12.1	
Total BTX	<0.300	0.300	12/07/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	12/07/2022	ND	448	112	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	12/07/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	<10.0	10.0	12/07/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/07/2022	ND					

Surrogate: 1-Chlorooctane 72.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 77.8 % 46.3-178

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: AH - 30 (0-1') (H225705-14)

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	12/07/2022	ND	2.18	109	2.00	11.9		
Toluene*	<0.050	0.050	12/07/2022	ND	2.30	115	2.00	12.9		
Ethylbenzene*	<0.050	0.050	12/07/2022	ND	2.22	111	2.00	12.8		
Total Xylenes*	<0.150	0.150	12/07/2022	ND	6.81	114	6.00	12.1		
Total BTEx	<0.300	0.300	12/07/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/07/2022	ND	416	104	400	3.77		

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	12/07/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	<10.0	10.0	12/07/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/07/2022	ND					

Surrogate: 1-Chlorooctane 69.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 76.2 % 46.3-178

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: AH - 31 (0-1') (H225705-15)

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	12/07/2022	ND	2.18	109	2.00	11.9	
Toluene*	<0.050	0.050	12/07/2022	ND	2.30	115	2.00	12.9	
Ethylbenzene*	<0.050	0.050	12/07/2022	ND	2.22	111	2.00	12.8	
Total Xylenes*	<0.150	0.150	12/07/2022	ND	6.81	114	6.00	12.1	
Total BTEx	<0.300	0.300	12/07/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/07/2022	ND	416	104	400	3.77		

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	12/07/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	38.1	10.0	12/07/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/07/2022	ND					

Surrogate: 1-Chlorooctane 64.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 69.9 % 46.3-178

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 12/06/2022
 Reported: 12/07/2022
 Project Name: BOO RADLEY 21C CTB RELEASE
 Project Number: 212C - MD - 02885
 Project Location: COP - EDDY COUNTY, NM

Sampling Date: 12/05/2022
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: AH - 32 (0-1') (H225705-16)

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	12/07/2022	ND	2.18	109	2.00	11.9	
Toluene*	<0.050	0.050	12/07/2022	ND	2.30	115	2.00	12.9	
Ethylbenzene*	<0.050	0.050	12/07/2022	ND	2.22	111	2.00	12.8	
Total Xylenes*	<0.150	0.150	12/07/2022	ND	6.81	114	6.00	12.1	
Total BTEX	<0.300	0.300	12/07/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	12/07/2022	ND	416	104	400	3.77		

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	12/07/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	<10.0	10.0	12/07/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/07/2022	ND					

Surrogate: 1-Chlorooctane 69.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 74.4 % 46.3-178

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: AH - 33 (0-1') (H225705-17)

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	12/07/2022	ND	2.18	109	2.00	11.9		
Toluene*	<0.050	0.050	12/07/2022	ND	2.30	115	2.00	12.9		
Ethylbenzene*	<0.050	0.050	12/07/2022	ND	2.22	111	2.00	12.8		
Total Xylenes*	<0.150	0.150	12/07/2022	ND	6.81	114	6.00	12.1		
Total BTEx	<0.300	0.300	12/07/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	12/07/2022	ND	416	104	400	3.77		

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	12/07/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	29.5	10.0	12/07/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/07/2022	ND					

Surrogate: 1-Chlorooctane 64.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 70.7 % 46.3-178

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: AH - 34 (0-1') (H225705-18)

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	12/07/2022	ND	2.18	109	2.00	11.9		
Toluene*	<0.050	0.050	12/07/2022	ND	2.30	115	2.00	12.9		
Ethylbenzene*	<0.050	0.050	12/07/2022	ND	2.22	111	2.00	12.8		
Total Xylenes*	<0.150	0.150	12/07/2022	ND	6.81	114	6.00	12.1		
Total BTEx	<0.300	0.300	12/07/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	12/07/2022	ND	416	104	400	3.77		

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	12/07/2022	ND	181	90.5	200	7.81	
DRO >C10-C28*	<10.0	10.0	12/07/2022	ND	191	95.6	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	12/07/2022	ND					

Surrogate: 1-Chlorooctane 86.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 95.4 % 46.3-178

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: BG - 1 (0-1') (H225705-19)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/07/2022	ND	416	104	400	3.77		

Sample ID: BG - 1 (1-2') (H225705-20)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/07/2022	ND	416	104	400	3.77		

Sample ID: BG - 1 (3-4') (H225705-21)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/07/2022	ND	416	104	400	3.77		

Sample ID: BG - 1 (5-6') (H225705-22)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/07/2022	ND	416	104	400	3.77		

Sample ID: BG - 2 (0-1') (H225705-23)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/07/2022	ND	416	104	400	3.77		

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Analytical Results For:

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

Received:	12/06/2022	Sampling Date:	12/05/2022
Reported:	12/07/2022	Sampling Type:	Soil
Project Name:	BOO RADLEY 21C CTB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02885	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY COUNTY, NM		

Sample ID: BG - 2 (1-2') (H225705-24)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/07/2022	ND	416	104	400	3.77		

Sample ID: BG - 2 (3-4') (H225705-25)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/07/2022	ND	416	104	400	3.77		

Sample ID: BG - 2 (5-6') (H225705-26)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/07/2022	ND	416	104	400	3.77		

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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

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

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

A handwritten signature in black ink, appearing to read "Mike Snyder", is written over a horizontal line.

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Page 1 of 3



Tetra Tech, Inc.

 901 West Wall St. Suite 100
 Midland, Texas 79701
 Tel (432) 682-4559
 Fax (432) 682-3946

Client Name:	COP		Site Manager:	Christian Llull	
Project Name:	Boo Radley 21C CTB Release		Contact Info:	Christian.Llull@tetratech.com	
Project Location:	(county, state) Eddy County, NM	Project #:	212C-MD-02885		
Invoice to:	Christian Llull				
Receiving Laboratory:	Cardinal Laboratories	Sampler Signature:	Gabe Huerta		
Comments:					

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD		# CONTAINERS	FILTERED (Y/N)	
		DATE	TIME	WATER	SOIL	HCL	HNO ₃			ICE
		YEAR								
1	T-16 (0-1')	12/5/2022	11:00	X				X	1	
2	T-16 (1-2')	12/5/2022	11:05	X				X	1	
3	T-16 (3-4')	12/5/2022	11:10	X				X	1	
4	T-16 (5-6')	12/5/2022	11:15	X				X	1	
5	T-15 (0-1')	12/5/2022	11:20	X				X	1	
6	T-15 (1-2')	12/5/2022	11:25	X				X	1	
7	T-15 (3-4')	12/5/2022	11:30	X				X	1	
8	T-3A (0-6")	12/5/2022	11:35	X				X	1	
9	T-3A (6'-12")	12/5/2022	11:40	X				X	1	
10	T-3A (1-2')	12/5/2022	11:45	X				X	1	

LAB USE ONLY	REMARKS:
Sample Temperature 0.2°C -0.4°C #13	RUSH: Same Day 24 hr 48 hr 72 hr <input type="checkbox"/> Rush Charges Authorized <input type="checkbox"/> Special Report Limits or TRRP Report

 ANALYSIS REQUEST
 (Circle or Specify Method No.)

BTEX 8021B	
TPH TX1005 (Ext to C35)	
TPH 8015M (GRO - DRO - ORO)	
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	
Chloride Sulfate TDS	
General Water Chemistry (see attached list)	
Anion/Cation Balance	
Asbestos	
Hold	

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Analysis Request of Chain of Custody Record

Page 2 of 3



Tetra Tech, Inc.

 901 West Wall St, Suite 100
 Midland, Texas 79701
 Tel (432) 682-4559
 Fax (432) 682-3946

Client Name: COP Site Manager: Christian Llull

 Project Name: Boo Radley 21C CTB Release Contact Info: Christian.Llull@tetratech.com

Project Location: (county, state) Eddy County, NM Project #: 212C-MD-02885

Invoice to: Christian Llull

Receiving Laboratory: Cardinal Laboratories Sampler Signature: Gabe Huerta

Comments:

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX				PRESERVATIVE METHOD		# CONTAINERS	FILTERED (Y/N)
		YEAR	DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE		

11	T-3A (3-4')	12/5/2022	12:30		X					1	
12	AH-28 (0-1')	12/5/2022	12:35		X			X		1	
13	AH-29 (0-1')	12/5/2022	12:40		X			X		1	
14	AH-30 (0-1')	12/5/2022	12:45		X			X		1	
15	AH-31 (0-1')	12/5/2022	12:50		X			X		1	
16	AH-32 (0-1')	12/5/2022	12:55		X			X		1	
17	AH-33 (0-1')	12/5/2022	13:00		X			X		1	
18	AH-34 (0-1')	12/5/2022	13:05		X			X		1	
19											

Relinquished by: <i>See file</i>	Date: 12/16/22	Time: 1114	Received by: <i>Christian Llull</i>	Date: 12/16/22	Time: 1114
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

ANALYSIS REQUEST

(Circle or Specify Method No.)

<input checked="" type="checkbox"/>	BTEX 8021B
<input checked="" type="checkbox"/>	TPH TX1005 (Ext to C35)
<input checked="" type="checkbox"/>	TPH 8015M (GRO - DRO - ORO)
<input checked="" type="checkbox"/>	PAH 8270C
<input checked="" type="checkbox"/>	Total Metals Ag As Ba Cd Cr Pb Se Hg
<input checked="" type="checkbox"/>	TCLP Metals Ag As Ba Cd Cr Pb Se Hg
<input checked="" type="checkbox"/>	TCLP Volatiles
<input checked="" type="checkbox"/>	TCLP Semi Volatiles
<input checked="" type="checkbox"/>	RCI
<input checked="" type="checkbox"/>	GC/MS Vol. 8260B / 624
<input checked="" type="checkbox"/>	GC/MS Semi. Vol. 8270C/625
<input checked="" type="checkbox"/>	PCB's 8082 / 608
<input checked="" type="checkbox"/>	NORM
<input checked="" type="checkbox"/>	PLM (Asbestos)
<input checked="" type="checkbox"/>	Chloride
<input checked="" type="checkbox"/>	Chloride Sulfate TDS
<input checked="" type="checkbox"/>	General Water Chemistry (see attached list)
<input checked="" type="checkbox"/>	Anion/Cation Balance
<input checked="" type="checkbox"/>	Asbestos
<input checked="" type="checkbox"/>	Hold

REMARKS:

LAB USE ONLY

Sample Temperature

0.2°C

-0.4°C #113

- ☒ RUSH: Same Day 24 hr 48 hr 72 hr
☐ Rush Charges Authorized
☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

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Analysis Request of Chain of Custody Record

Page 3 of 3



Tetra Tech, Inc.

 901 West Wall St, Suite 100
 Midland, Texas 79701
 Tel (432) 682-4559
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Client Name:

COP

Site Manager:

Christian Lull

Project Name:

Boo Radley 21C CTB Release

Contact Info:

Christian.Lull@tetratech.com
Project Location: (county, state)
Eddy County, NM

Project #:

212C-MD-02885

Invoice to:

Christian Lull

Receiving Laboratory:

Cardinal Laboratories

Sampler Signature:

Gabe Huerta

Comments:

SAMPLE IDENTIFICATION

 4225705
 LAB #
 (LAB USE ONLY)

		SAMPLING		MATRIX		PRESERVATIVE METHOD		# CONTAINERS	FILTERED (Y/N)
		DATE	TIME	WATER	SOIL	HCL	HNO ₃		
19	BG-1 (0-1)	12/5/2022	13:30	X				1	
20	BG-1 (1-2)	12/5/2022	13:35	X				1	
21	BG-1 (3-4)	12/5/2022	13:40	X				1	
22	BG-1 (5-6)	12/5/2022	13:45	X				1	
23	BG-2 (0-1)	12/5/2022	13:50	X				1	
24	BG-2 (1-2)	12/5/2022	13:55	X				1	
25	BG-2 (3-4)	12/5/2022	14:00	X				1	
26	BG-2 (5-6)	12/5/2022	14:05	X				1	
		12/5/2022							

ANALYSIS REQUEST

(Circle or Specify Method No.)

BTEX 8021B	
TPH TX1005 (Ext to C35)	
TPH 8015M (GRO - DRO - ORO)	
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	
Chloride Sulfate TDS	
General Water Chemistry (see attached list)	
Anion/Cation Balance	
Asbestos	
Hold	

REMARKS:

LAB USE ONLY

☒ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

Sample Temperature

 -0.4°C
 41/3

(Circle) HAND DELIVERED FEDEX UPS Tracking #

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APPENDIX F

NMSLO Seed Mixture Details



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

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

Custom Soil Resource Report for Eddy Area, New Mexico

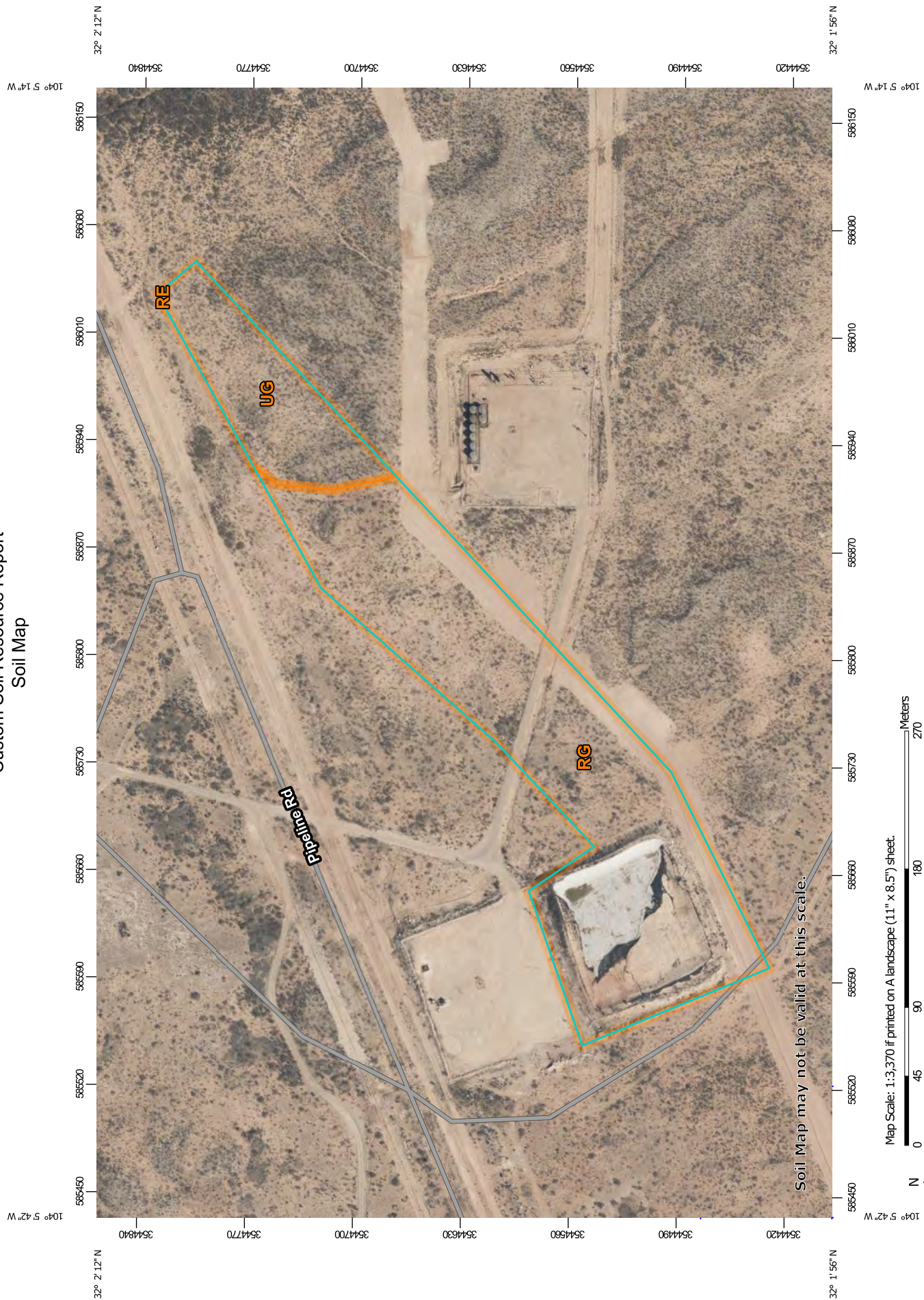


December 13, 2022

Soil Map

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

Custom Soil Resource Report
Soil Map



Custom Soil Resource Report

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
RE	Reagan-Upton association, 0 to 9 percent slopes	0.0	0.1%
RG	Reeves-Gypsum land complex, 0 to 3 percent slopes	9.2	80.6%
UG	Upton gravelly loam, 0 to 9 percent slopes	2.2	19.3%
Totals for Area of Interest		11.4	100.0%

Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

Custom Soil Resource Report

Eddy Area, New Mexico**RE—Reagan-Upton association, 0 to 9 percent slopes****Map Unit Setting***National map unit symbol: 1w5d**Elevation: 1,100 to 5,400 feet**Mean annual precipitation: 6 to 14 inches**Mean annual air temperature: 60 to 64 degrees F**Frost-free period: 180 to 240 days**Farmland classification: Farmland of statewide importance***Map Unit Composition***Reagan and similar soils: 70 percent**Upton and similar soils: 25 percent**Minor components: 5 percent**Estimates are based on observations, descriptions, and transects of the mapunit.***Description of Reagan****Setting***Landform: Fan remnants, alluvial fans**Landform position (three-dimensional): Rise**Down-slope shape: Convex, linear**Across-slope shape: Linear**Parent material: Alluvium and/or eolian deposits***Typical profile***H1 - 0 to 8 inches: loam**H2 - 8 to 60 inches: loam***Properties and qualities***Slope: 0 to 3 percent**Depth to restrictive feature: More than 80 inches**Drainage class: Well drained**Runoff class: Low**Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)**Depth to water table: More than 80 inches**Frequency of flooding: None**Frequency of ponding: None**Calcium carbonate, maximum content: 40 percent**Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)**Sodium adsorption ratio, maximum: 1.0**Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)***Interpretive groups***Land capability classification (irrigated): 2e**Land capability classification (nonirrigated): 6e**Hydrologic Soil Group: B**Ecological site: R042CY153NM - Loamy**Hydric soil rating: No*

Custom Soil Resource Report

Description of Upton**Setting**

Landform: Ridges, fans

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

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Residuum weathered from limestone

Typical profile

H1 - 0 to 9 inches: gravelly loam

H2 - 9 to 13 inches: gravelly loam

H3 - 13 to 21 inches: cemented

H4 - 21 to 60 inches: very gravelly loam

Properties and qualities

Slope: 0 to 9 percent

Depth to restrictive feature: 7 to 20 inches to petrocalcic

Drainage class: Well drained

Runoff class: High

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

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 75 percent

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

Sodium adsorption ratio, maximum: 1.0

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

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Ecological site: R042CY159NM - Shallow Loamy

Hydric soil rating: No

Minor Components**Atoka**

Percent of map unit: 3 percent

Ecological site: R070BC007NM - Loamy

Hydric soil rating: No

Pima

Percent of map unit: 2 percent

Ecological site: R070BC017NM - Bottomland

Hydric soil rating: No

Custom Soil Resource Report

RG—Reeves-Gypsum land complex, 0 to 3 percent slopes**Map Unit Setting**

National map unit symbol: 1w5f
Elevation: 1,250 to 5,000 feet
Mean annual precipitation: 10 to 25 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 190 to 235 days
Farmland classification: Not prime farmland

Map Unit Composition

Reeves and similar soils: 55 percent
Gypsum land: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Reeves**Setting**

Landform: Ridges, plains, hills
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Side slope, head slope, nose slope, crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from gypsum

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 32 inches: clay loam
H3 - 32 to 60 inches: gypsiferous material

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Gypsum, maximum content: 80 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): 3s

Custom Soil Resource Report

Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Description of Gypsum Land**Setting**

Landform: Ridges, plains, hills
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Side slope, head slope, nose slope, crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from gypsum

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Minor Components**Largo**

Percent of map unit: 5 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Reagan

Percent of map unit: 5 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Cottonwood

Percent of map unit: 5 percent
Ecological site: R070BC033NM - Salty Bottomland
Hydric soil rating: No

UG—Upton gravelly loam, 0 to 9 percent slopes**Map Unit Setting**

National map unit symbol: 1w64
Elevation: 1,100 to 4,400 feet
Mean annual precipitation: 7 to 15 inches
Mean annual air temperature: 60 to 70 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Upton and similar soils: 96 percent
Minor components: 4 percent

Custom Soil Resource Report

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

Description of Upton**Setting**

Landform: Ridges, fans

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

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Residuum weathered from limestone

Typical profile

H1 - 0 to 9 inches: gravelly loam

H2 - 9 to 13 inches: gravelly loam

H3 - 13 to 21 inches: cemented

H4 - 21 to 60 inches: very gravelly loam

Properties and qualities

Slope: 0 to 9 percent

Depth to restrictive feature: 7 to 20 inches to petrocalcic

Drainage class: Well drained

Runoff class: High

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

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 75 percent

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

Sodium adsorption ratio, maximum: 1.0

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

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Ecological site: R070BC025NM - Shallow

Hydric soil rating: No

Minor Components**Reagan**

Percent of map unit: 1 percent

Ecological site: R070BC007NM - Loamy

Hydric soil rating: No

Atoka

Percent of map unit: 1 percent

Ecological site: R070BC007NM - Loamy

Hydric soil rating: No

Atoka

Percent of map unit: 1 percent

Ecological site: R070BC007NM - Loamy

Hydric soil rating: No

Upton

Percent of map unit: 1 percent

Custom Soil Resource Report

Ecological site: R070BC025NM - Shallow

Hydric soil rating: No

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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

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

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United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

NMSLO Seed Mix**Loamy (L)****LOAMY (L) SITES SEED MIXTURE:**

COMMON NAME	VARIETY	APPLICATION RATE (PLS/Acre)	DRILL BOX
Grasses:			
Black grama	VNS, Southern	1.0	D
Blue grama	Lovington	1.0	D
Sideoats grama	Vaughn, El Reno	4.0	F
Sand dropseed	VNS, Southern	2.0	S
Alkali sacaton	VNS, Southern	1.0	
Little bluestem	Cimarron, Pastura	1.5	F
Forbs:			
Firewheel (<i>Gaillardia</i>)	VNS, Southern	1.0	D
Shrubs:			
Fourwing saltbush	Marana, Santa Rita	1.0	D
Common winterfat	VNS, Southern	0.5	F
Total PLS/acre		18.0	

S = Small seed drill box, D = Standard seed drill box, F = Fluffy seed drill box

VNS = Variety Not Stated, PLS = Pure Live Seed

- Seed mixes should be provided in bags separating seed types into the three categories: small (S), standard (D) and fluffy (F).
- VNS, Southern – Seed should be from a southern latitude collection of this species.
- Double seed application rate for broadcast or hydroseeding.
- If one species is not available, contact the SLO for an approved substitute; alternatively the SLO may require other species proportionately increased.
- Additional information on these seed species can be found on the USDA Plants Database website at <http://plants.usda.gov>.



Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan


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

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

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

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: _____ Title: _____
Signature:  _____ Date: _____
email: _____ Telephone: _____

OCD Only

Received by: Jocelyn Harimon Date: 12/21/2022

☐ Approved ☒ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Robert Hamlet Date: 2/2/2023

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 169450

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 169450
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	The Remediation Plan is Conditionally Approved. Sidewall/floor samples need to comply with the strictest closure criteria limits 600 mg/kg for Chlorides and 100 mg/kg TPH. A variance for sidewall/floor confirmation samples every 600 ft2 on-pad and 400 ft2 off-pad is approved. Samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. If rock refusal interferes with the remediation process, use a back-hoe/track-hoe to remove the rock. If the rock is immovable and target depth cannot be reached, use a hydrovac to clean the contaminated soil off the rock surface and outline specific locations and steps taken on the Closure Report. Back-fill with clean material. The work will need to occur in 90 days after the work plan has been approved.	2/2/2023