SITE INFORMATION

Report Type: Work Plan 1RP-5296

General Site Information:						
Site:	**Britt B-21 Flowline Release**					
Company:	**ConocoPhillips**					
Section, Township and Range	**Unit Letter O**	**Sec. 10**	**T 20S**	**R 37E**		
Lease Number:	**Associated API No. 30-025-20649**					
County:	**Lea**					
GPS:	**32.582014°**			**-103.238916**		
Surface Owner:	**Private**					
Mineral Owner:	**Federal**					
Directions:	Depart from Hobbs (US Hwy 62/NM 18). Head south on NM18 for 7.25 miles. Turn right onto Billy Walker Rd. Head west for 6.3 miles. Continue west on dirt road for 0.75 miles. Turn left on dirt road. Head south on dirt road for 1.3 miles. Turn left on dirt road. Head east for 0.5 mile. Arrive at location. Site is on the right and left side of the road.					

Release Data:		
Date Released:	12/1/2018	
Type Release:	Produced Water/Oil	
Source of Contamination:	Flow Line	
Fluid Released:	18 bbl	
Fluids Recovered:	4 bbl	

Official Communication:			
Name:	Marvin Soriwei		Christian M. Llull
Company:	Conoco Phillips - RMR		Tetra Tech
Address:	935 N. Eldridge Pkwy.		8911 North Capital of Texas Highway
			Building 2, Suite 2310
City:	Houston, Texas 77079		Austin, Texas
Phone number:	(832) 486-2730		(512) 338-2861
Fax:			
Email:	marvin.soriwei@conocophillips.com		christian.llull@tetratech.com

Site Characterization	
Shallowest Depth to Groundwater:	*44' below surface*
Impact to groundwater or surface water:	*No*
Extents within 300 feet of a watercourse:	*No*
Extents within 200 feet of lakebed, sinkhole, or playa la	*No*
Extents within 300 feet of an occupied structure:	*No*
Extents within 500 horizontal feet of a private water wel	*No*
Extents within 1000 feet of any water well or spring:	*No*
Extents within incorporated municipal well field:	*No*
Extents within 300 feet of a wetland:	*No*
Extents overlying a subsurface mine:	*No*
Karst Potential:	*Low*
Extents within a 100-year floodplain:	*No*
Impact to areas not on a production site:	*No*

Recommended Remedial Action Levels (RRALs)				
Benzene	***Total BTEX***	***TPH (GRO+DRO)***	***TPH (GRO+DRO+MRO)***	***Chlorides***
10 mg/kg	*50 mg/kg*	*--*	*100 mg/kg*	*600 mg/kg*

March 26, 2020

Rick Rickman
District Supervisor
Oil Conservation Division, District 1
1625 N. French Dr.
Hobbs, NM 88240

Re: Release Characterization and Remediation Work Plan
ConocoPhillips
Britt B-21 Flowline Release
Unit Letter O, Section 10, Township 20 South, Range 37 East
Lea County, New Mexico
1RP-5296
Tracking Number NCH1836256201

Dear Mr. Rickman:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips (COP) to assess a release that occurred from the Britt B-21 Flowline, Unit Letter O, Section 10, Township 20 South, Range 37 East, Lea County, New Mexico (Site). The release site coordinates are 32.582014°, -103.238916°. The Site location is shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico C-141 Initial Report (Appendix A), a release occurred on December 1, 2018. Per the initial C-141, the site name is listed as the Britt B-24. This is a clerical error, recognized by NMOCD upon receipt. After conversation and research with COP personnel, the release was determined to have originated from the Britt B-21 flowline, approximately ¾ miles to the southwest of the Britt B-24 well pad location. The C-141 states that approximately 5 barrels (bbls) of oil and 13 bbls of produced water were released and approximately 2 bbls of oil and 2 bbls of produced water were recovered.

According to the initial C-141, the cause of the release was a flow line leak that resulted in a 18 bbl release that ran off the pad ran and affected a 12' X 435' X 1" area. However, after conversation and research with COP personnel, the release was determined to have originated from the Britt B-21 flowline at the lease road crossing located at approximately 32.582014°, -103.238916°. The volumes released are accurate, however the dimensions are inaccurate. The actual release was approximately 5' X 235' X 1". The release flowed west along the lease road toward a topographical low, where it pooled in two low lying areas on each side of the lease road. The southern footprint is approximately 25' X 50' and the northern footprint is approximately 15 X 25'. Figure 3 depicts the footprint and extent of the original release.

The initial C-141 was submitted and that version was modified by NMOCD (Christina Hernandez) upon receipt (red pdf boxes) and appeared in the administrative order database online. Based on conversations with NMOCD Compliance Officer Ramona Lopez Marcus, that C-141 for 1RP-5296 was revised and corrected with text edits and callout boxes reflecting corrections. This revised C-141 was submitted via the fee portal and this version was accepted by the NMOCD in an email dated March 10, 2020.

SITE CHARACTERIZATION

A site characterization was performed and no watercourses, lakebeds, sinkholes, playa lakes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances and the site is in a low karst potential area.

No water wells are listed in Section 10 on the New Mexico Office of the State Engineer (NMOSE) database. There are 55 water wells located in Township 20S and Range 37E. The average depth to groundwater in the area is 44 feet. The NMOSE groundwater data is included as Appendix B.

REGULATORY FRAMEWORK

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills, and Releases, updated August 14, 2018. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil.

Based upon the Site characterization and average depth to groundwater, the proposed RRALs for soil are:

- Benzene: 10 milligrams per kilogram (mg/kg);
- Total BTEX (sum of benzene, toluene, ethylbenzene, and xylene): 50 mg/kg;
- TPH (GRO + DRO + ORO): 100 mg/kg;
- Chloride: 600 mg/kg

INITIAL RESPONSE

In accordance with 19.15.29.8. B. (4) NMAC that states “the responsible party may commence remediation immediately after discovery of a release”, ConocoPhillips elected to begin remediation of the impacted area in February 2019. The footprint of the release in the lease road extending from the flow line west to the low-lying areas was scraped to approximately six inches below ground surface (Figure 3). The release area south of the lease road, shown in Figure 3, was excavated to a depth of 2-3.5 feet below grade to remove the impacted soils. Impacted soil was disposed of in a permitted landfill facility.

INITIAL SITE ASSESSMENT

Following initial response excavation activities, COP personnel were onsite to assess and sample the release area in February 2019. Four (4) borings (SP-1 through SP-4) were installed to a total depth of 5 feet below ground surface to evaluate the vertical extents of the release. A total of eight soil samples were collected from these boring locations on February 19, 2019 (Figure 4). In addition to the borings, eight (8) sidewall samples (WALL 1 – WALL 8) were collected from the excavated area south of the lease road. The samples were submitted to an analytical laboratory for Total Petroleum Hydrocarbons (TPH), benzene, toluene, ethylbenzene and xylenes (BTEX) and chlorides (SM4500Cl-B) analysis. A copy of the analytical report and chain-of-custody documentation are included in Appendix C.

ADDITIONAL SITE ASSESSMENT

In order to more fully characterize the vertical and horizontal extent of the release area, Tetra Tech personnel were onsite to further delineate and sample the release area in September 2019. Seven (7) borings (BH-1 – BH-7) were installed using an air rotary drilling rig to various depths. A total of two (2) additional soil samples were collected (ESW-1 and WSW-1) from the east and west sidewalls north of the lease road. ESW-1 and WSW-2 were collected from the edges of the low-lying area north of the lease road. Samples were submitted to an analytical laboratory for TPH, BTEX, and chlorides (Method 300.0). Copies of analytical reports and chain-of-custody documentation are included in Appendix C. Boring logs, included

as Appendix D, present soil descriptions, sample depths and field screening data from the additional site assessment.

SUMMARY OF SAMPLING RESULTS

The results of the initial sampling events in February 2019 are summarized in Table 1. The sample locations are shown on Figure 4. The analytical results associated with SP-1 through SP-4 had RRAL exceedances for either TPH or chloride to a depth of 5 feet. The analytical results associated with sidewall sample WALL 3 had a chloride concentration that exceeded the RRAL. All other sidewall sample results were below RRAL for BTEX, TPH and chloride.

The results of the additional sampling event in September 2019 are summarized in Table 2. The sample locations are shown in Figure 4. The analytical results associated with borings BH-1 and BH-3 had chloride concentrations above the RRAL of 600 mg/kg within the 4 to 5-foot interval. The BH-6 analytical results had RRAL exceedances for chloride in the 0 to 3-foot interval. The analytical results for BH-5, located at the downgradient extent of the release, had a TPH concentration at the surface that slightly exceeded the RRAL. All other sample results were below the RRAL for BTEX, TPH and chloride.

REMEDIATION WORK PLAN

Based on the soil sample results, ConocoPhillips proposes to remove the impacted material exceeding RRALs shown in Tables 1 and 2 and as depicted in Figure 5. Excavation in the area will be performed using heavy equipment (backhoes and track hoes) to a maximum depth of 6 feet below ground surface within the release area. Photographic documentation of the Site release area is included as Appendix E.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. Confirmation floor and sidewall samples will be collected for verification of remedial activities, and analyzed for TPH, BTEX and chloride. Once the sample results are received, NMOCD will be notified and the excavation will then be backfilled with clean material to surface grade. The estimated volume of material to be remediated is 300 cubic yards.

ALTERNATIVE CONFIRMATION SAMPLING PLAN

In accordance with 19.15.29.12(D)(1)(b) NMAC, ConocoPhillips proposes the following alternative confirmation sampling plan to adhere with NMOCD requirements. The proposed confirmation sample locations are depicted in Figure 6. Six (6) confirmation floor samples. and fourteen (14) confirmation sidewall samples are proposed for verification of remedial activities. The proposed excavation encompasses an area of approximately 2,200 square feet.

These confirmation sidewall and floor samples will be representative of no more than approximately 500 square feet of excavated area. Confirmation samples will be sent to Pace Laboratories for analysis of TPH, BTEX and chloride. The new sidewall confirmation samples will be used in conjunction with the previously collected sidewall samples to verify impacted soils were removed.

REVEGETATION PLAN

The backfilled areas north and south of the lease road will be seeded in Spring 2020 (first favorable growing season) to aid in revegetation. Based on the soil types present at the site, the New Mexico State Land Office (NMSLO) Shallow (SH) 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 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 PLS 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

ConocoPhillips proposes to complete remediation activities at the Site within 90 days of the date of NMOCD approval of this submittal. 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. If you have any questions concerning the soil assessment or the proposed remediation activities for the Site, please call me at (512) 338-2861 or Greg at (432) 682-4559.

Sincerely,
Tetra Tech, Inc.

Christian M. Llull, P.G.
Project Manager

Greg W. Pope, P.G.
Program Manager

cc:
Mr. Marvin Soriwei, RMR – ConocoPhillips
Mr. Charles Beauvais, GPBU - ConocoPhillips
Mr. Gustavo Fejervary-Morena, ConocoPhillips
Ms. Jim Amos, BLM

List of Attachments

Figures:

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

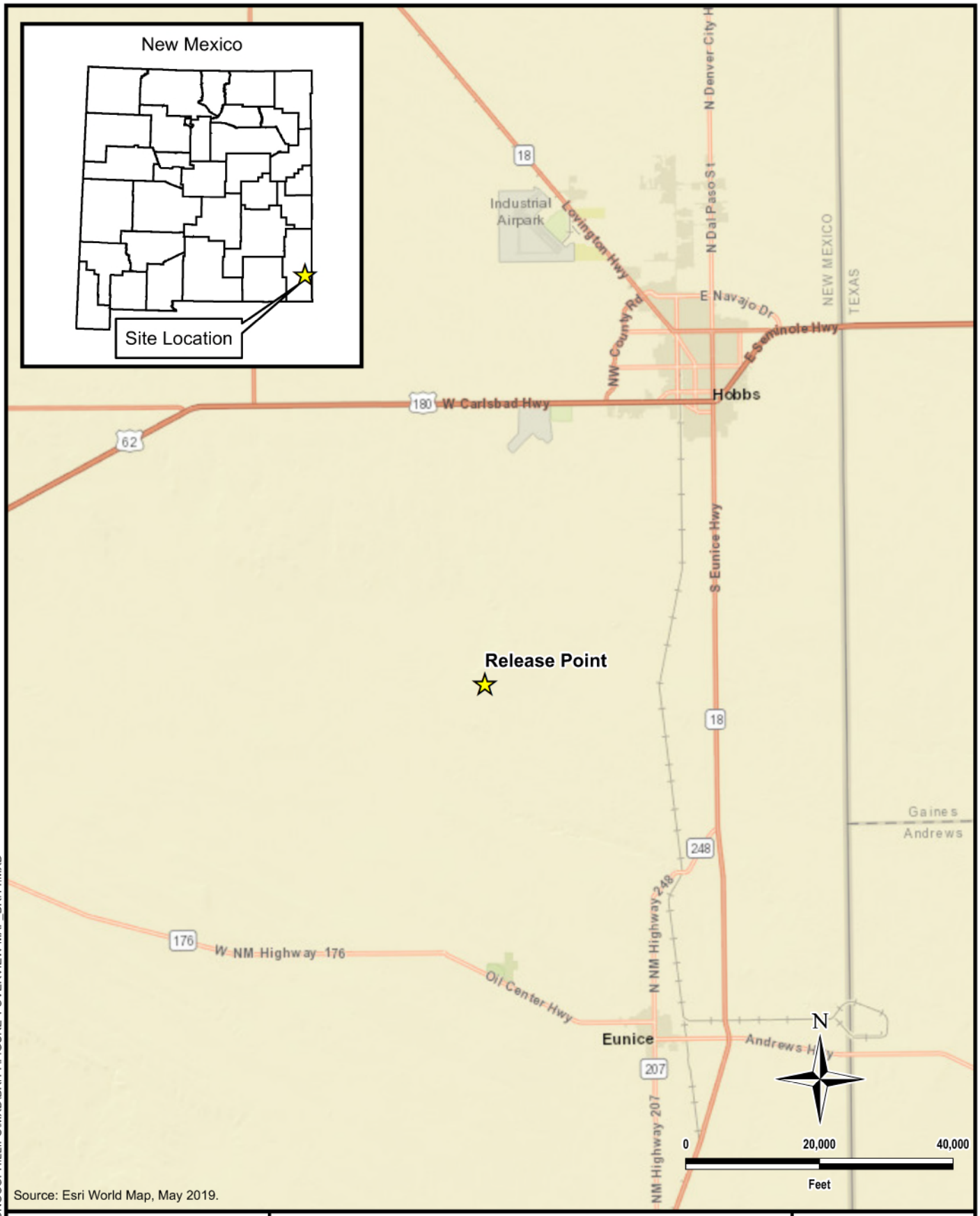
Tables:

- Table 1 – Summary of Analytical Results – Initial Soil Assessment
- Table 2 – Summary of Analytical Results – Additional Soil Assessment

Appendices:

- Appendix A – C-141 Form
- Appendix B – NMOSE Groundwater Data/Karst Potential Map
- Appendix C – Laboratory Analytical Data
- Appendix D – Soil Boring Logs
- Appendix E – Photographic Documentation
- Appendix F – NMSLO Seed Mixture Details

FIGURES



Source: Esri World Map, May 2019.

DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\BRITT\FIGURE 1 OVERVIEW MAP_BRITT.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

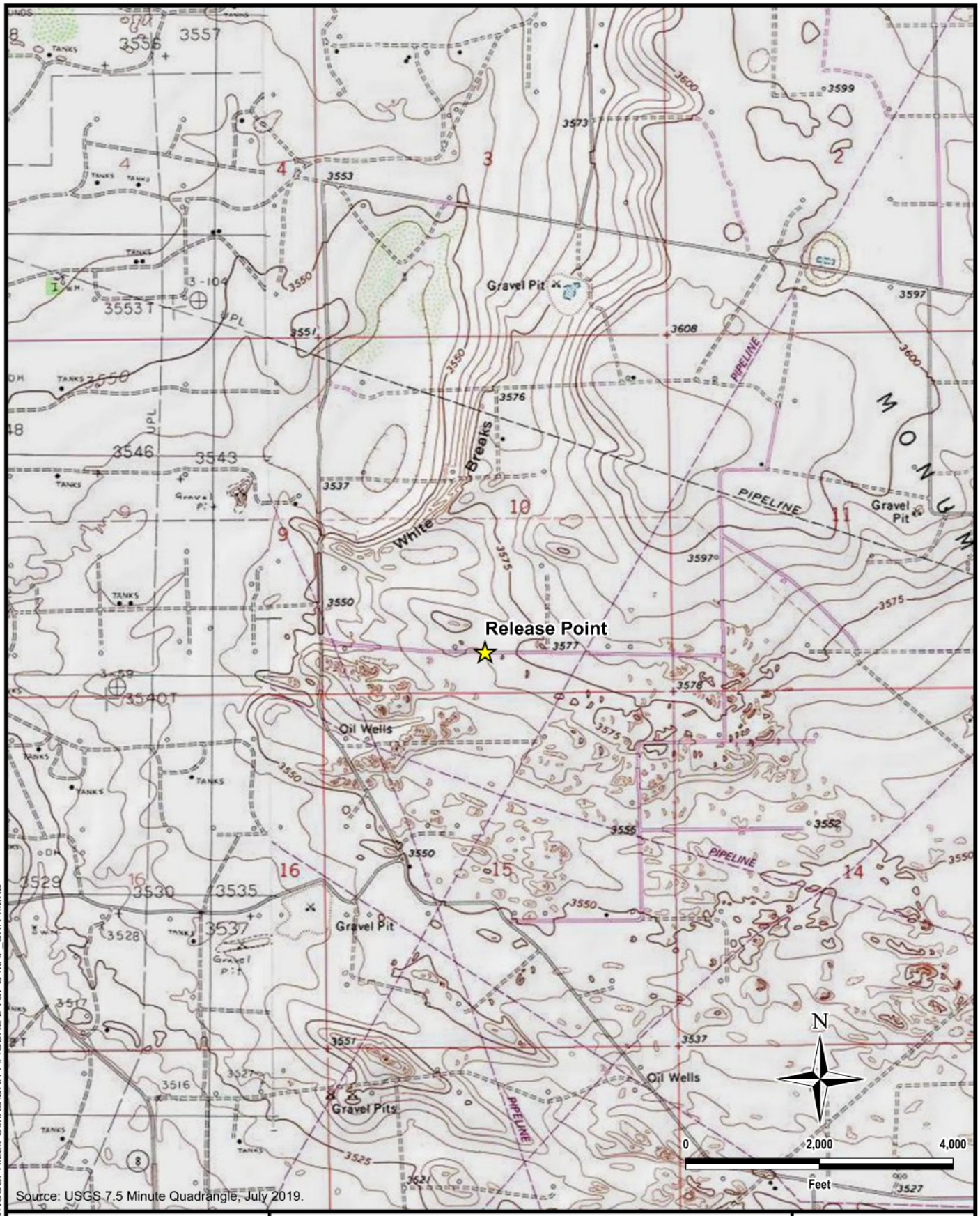
CONOCOPHILLIPS

(32.58198° , -103.239962°)
LEA COUNTY, NEW MEXICO

BRITT B-21 FLOWLINE RELEASE
OVERVIEW MAP

PROJECT NO.:	212C-MD-01852
DATE:	NOVEMBER 25, 2019
DESIGNED BY:	AAM

Figure No.
1



Source: USGS 7.5 Minute Quadrangle, July 2019.

DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\BRITT\FIGURE 2 TOPO MAP_BRITT.MXD

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www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

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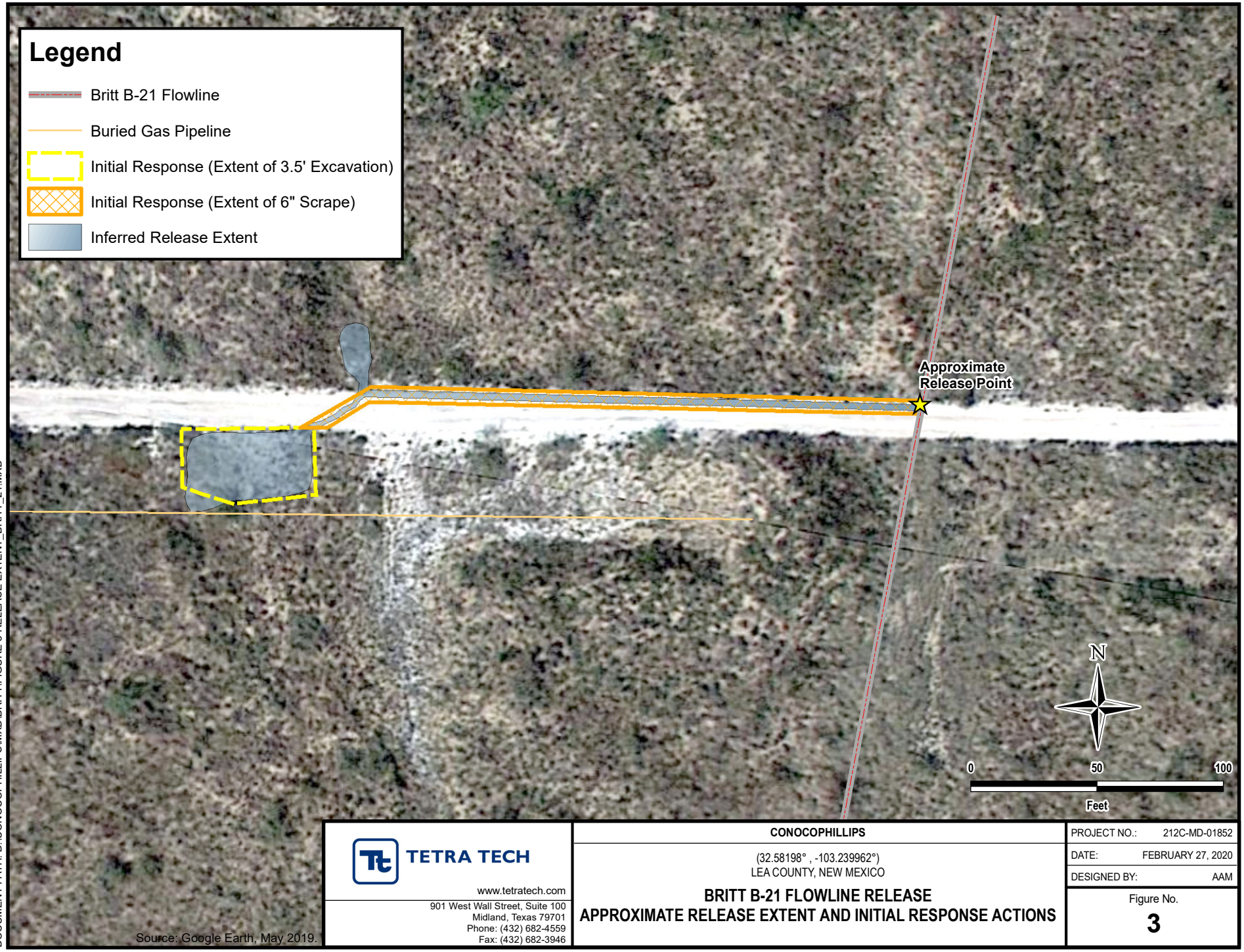
LEA COUNTY, NEW MEXICO

BRITT B-21 FLOWLINE RELEASE
TOPOGRAPHIC MAP

PROJECT NO.:	212C-MD-01852
DATE:	NOVEMBER 25, 2019
DESIGNED BY:	AAM

Figure No.
2



Source: Google Earth, May 2019.

DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\BRITT\FIGURE 3 RELEASE EXTENT_BRITT_21.MXD

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www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

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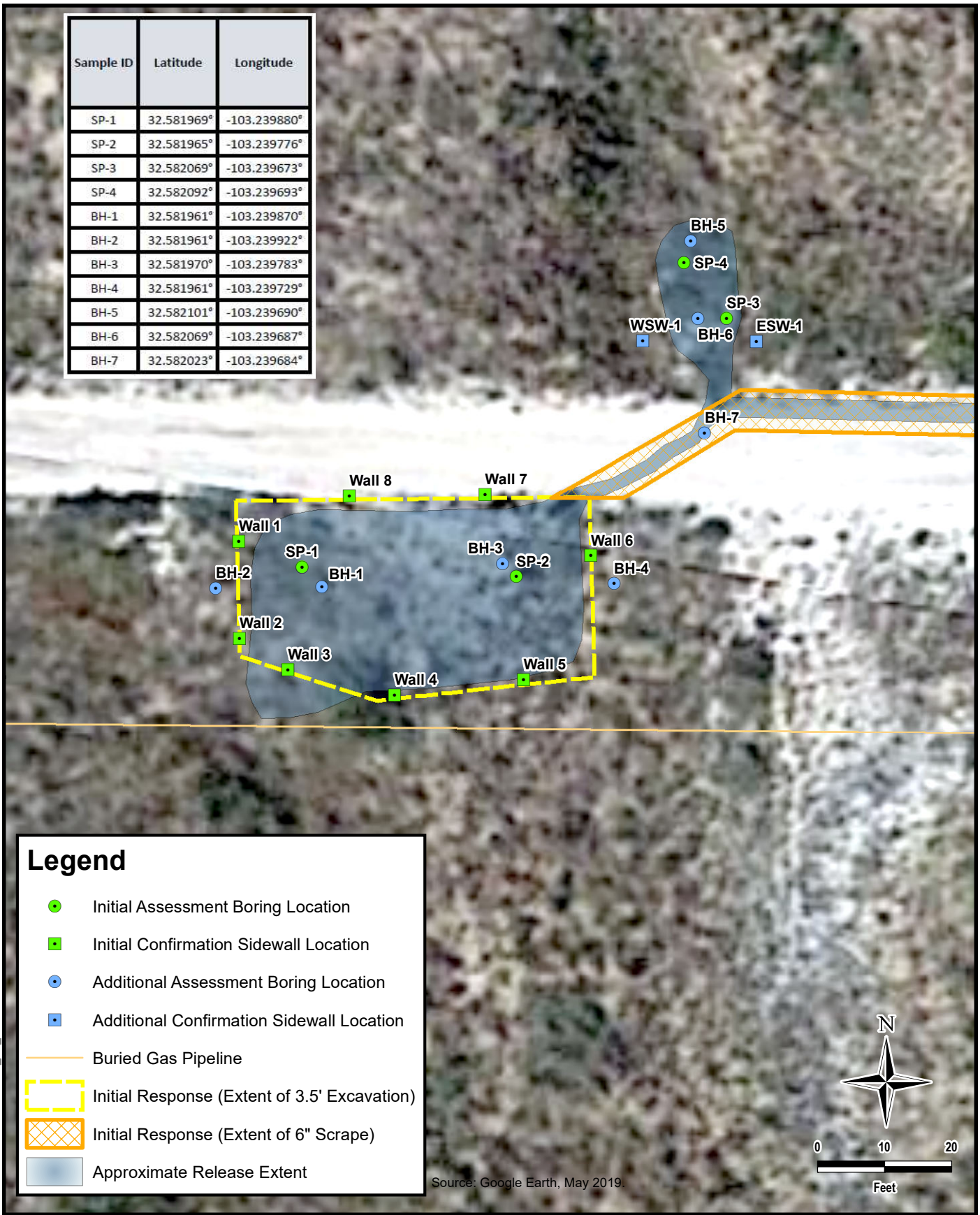
LEA COUNTY, NEW MEXICO

BRITT B-21 FLOWLINE RELEASE
APPROXIMATE RELEASE EXTENT AND INITIAL RESPONSE ACTIONS

PROJECT NO.:	212C-MD-01852
DATE:	FEBRUARY 27, 2020
DESIGNED BY:	AAM

Figure No.
3

Sample ID	Latitude	Longitude
SP-1	32.581969°	-103.239880°
SP-2	32.581965°	-103.239776°
SP-3	32.582069°	-103.239673°
SP-4	32.582092°	-103.239693°
BH-1	32.581961°	-103.239870°
BH-2	32.581961°	-103.239922°
BH-3	32.581970°	-103.239783°
BH-4	32.581961°	-103.239729°
BH-5	32.582101°	-103.239690°
BH-6	32.582069°	-103.239687°
BH-7	32.582023°	-103.239684°



Legend

- Initial Assessment Boring Location
- Initial Confirmation Sidewall Location
- Additional Assessment Boring Location
- Additional Confirmation Sidewall Location
- Buried Gas Pipeline
- Initial Response (Extent of 3.5' Excavation)
- Initial Response (Extent of 6" Scrape)
- Approximate Release Extent

Source: Google Earth, May 2019.

\\TTS134FS1\SUP-GIS\ARCPRJ2\INERT\MXD\FIGURE1_TS_LOCATION.MXD

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www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

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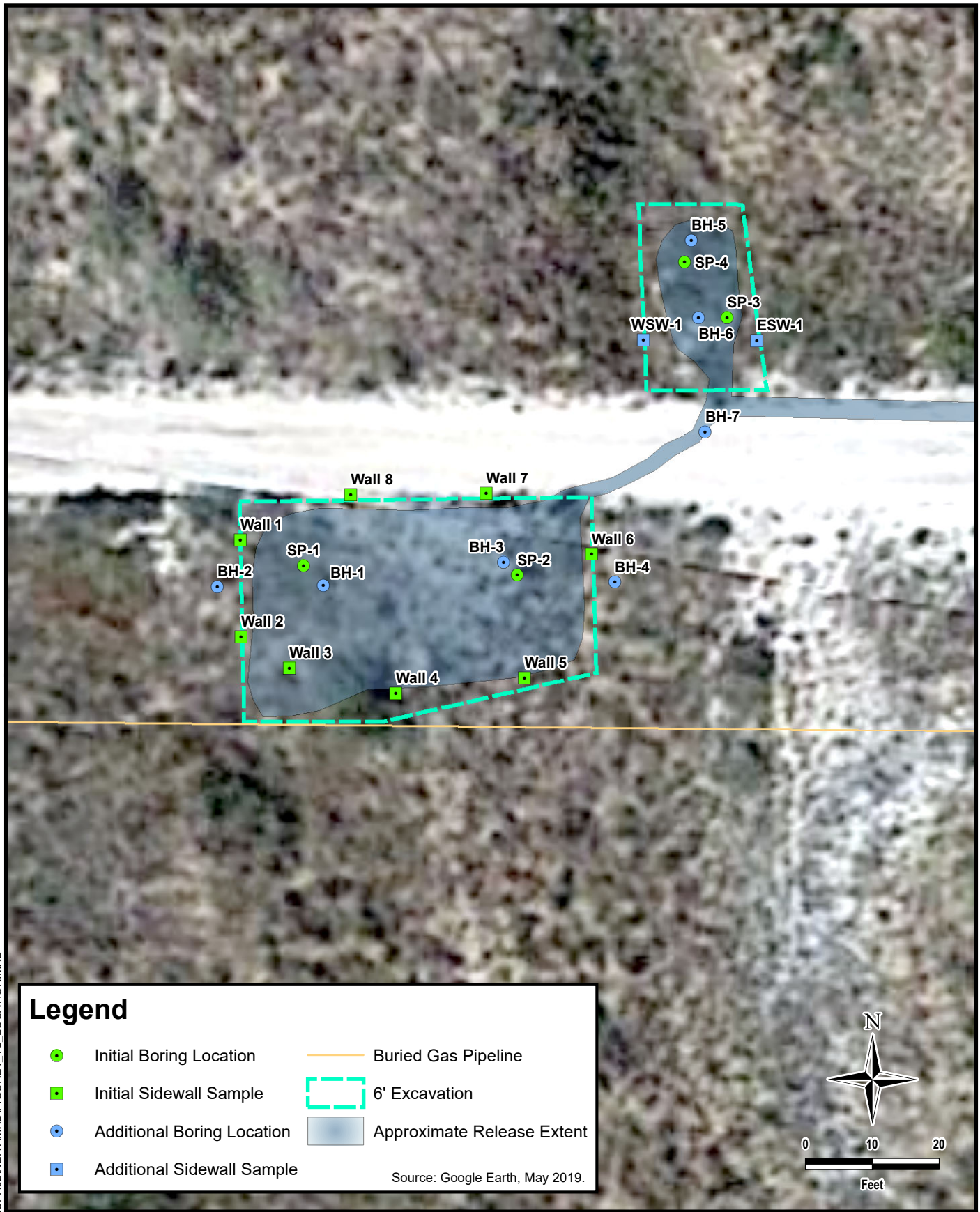
LEA COUNTY, NEW MEXICO

BRITT B-21 FLOWLINE RELEASE
RELEASE ASSESSMENT MAP

PROJECT NO.:	212C-MD-01852
DATE:	FEBRUARY 27, 2020
DESIGNED BY:	AAM

Figure No.
4



\\TTS134FS1\SUP-GIS\ARCPRJ2\INERT\MXD\FIGURE1_TS_LOCATION.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

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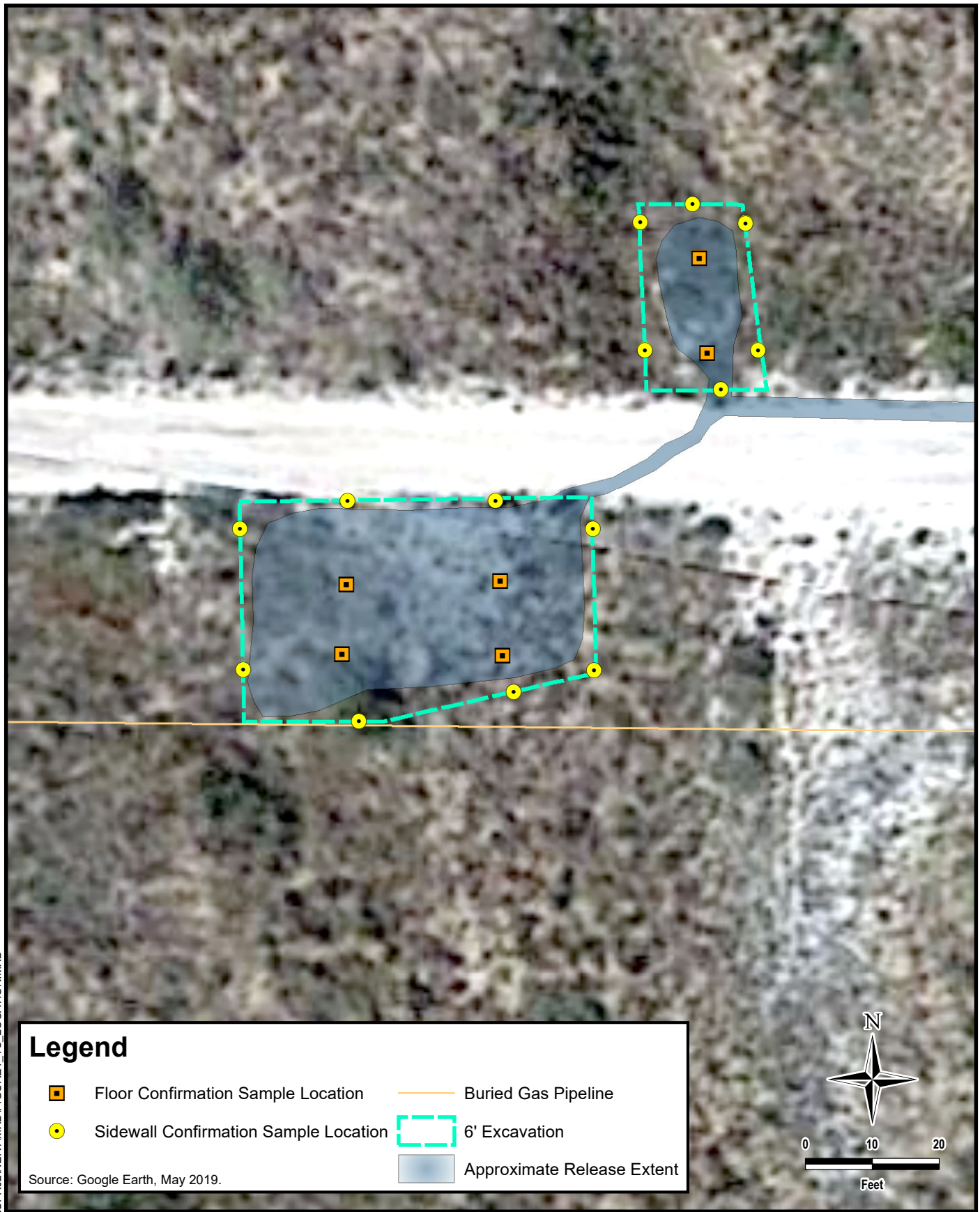
LEA COUNTY, NEW MEXICO

BRITT B-21 FLOWLINE RELEASE
PROPOSED REMEDIATION AREAS

PROJECT NO.:	212C-MD-01852
DATE:	FEBRUARY 27, 2020
DESIGNED BY:	AAM

Figure No.
5



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TETRA TECH

www.tetratech.com

901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

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LEA COUNTY, NEW MEXICO

BRITT B-21 FLOWLINE RELEASE
ALTERNATIVE CONFIRMATION SAMPLING PLAN

PROJECT NO.:	212C-MD-01852
DATE:	FEBRUARY 27, 2020
DESIGNED BY:	AAM

Figure No.
6

TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
INITIAL SOIL ASSESSMENT
1RP-5296
BRITT B-21 FLOWLINE RELEASE
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Interval	Chloride[1]	BTEX[2]										TPH[3]							
				Benzene		Toluene		Ethylbenzene		Xylene		Total BTEX		GRO		DRO		EXT DRO		Total TPH (C_6 - C_{36})	
														C_6 - C_{10}		>C_{10} - C_{28}		>C_{28} - C_{36}			
		ft. bgs	mg/kg	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	
SP-1	02/19/19	3-4	***46400***	<0.050		<0.050		<0.050		<0.150		<0.300		<0.10		<0.10		<0.10		<0.10	
		4-5	***752***	<0.050		<0.050		<0.050		<0.150		<0.300		<0.10		<0.10		<0.10		<0.10	
SP-2	02/19/19	3-4	***8660***	<0.050		<0.050		<0.050		<0.150		<0.300		<0.10		<0.10		<0.10		<0.10	
		4-5	***3600***	<0.050		<0.050		<0.050		<0.150		<0.300		<0.10		<0.10		<0.10		<0.10	
SP-3	02/19/19	2-3	***1040***	<0.050		<0.050		0.051		<0.150		<0.300		75.7		3200		1040		***4315.7***	
		4-5	48	<0.050		<0.050		<0.050		<0.150		<0.300		<0.10		218		87.5		***305.5***	
SP-4	02/19/19	2-3	***752***	<0.050		<0.050		<0.050		<0.150		<0.300		<0.10		1050		232		***1282***	
		4-5	***4000***	<0.050		<0.050		<0.050		<0.150		<0.300		<0.10		22.6		22.7		45.3	
WALL	02/19/19	WALL 1	32	<0.050		<0.050		<0.050		<0.150		<0.300		<0.10		<0.10		<0.10		<0.10	
		WALL 2	32	<0.050		<0.050		<0.050		<0.150		<0.300		<0.10		<0.10		<0.10		<0.10	
WALL	02/19/19	WALL 3	1570	<0.050		<0.050		<0.050		<0.150		<0.300		<0.10		<0.10		<0.10		<0.10	
		WALL 4	336	<0.050		<0.050		<0.050		<0.150		<0.300		<0.10		<0.10		<0.10		<0.10	
WALL	02/19/19	WALL 5	384	<0.050		<0.050		<0.050		<0.150		<0.300		<0.10		21.9		<0.10		21.9	
		WALL 6	48	<0.050		<0.050		<0.050		<0.150		<0.300		<0.10		<0.10		<0.10		<0.10	
WALL	02/19/19	WALL 7	80	<0.050		<0.050		<0.050		<0.150		<0.300		<0.10		<0.10		<0.10		<0.10	
		WALL 8	48	<0.050		<0.050		<0.050		<0.150		<0.300		<0.10		<0.10		<0.10		<0.10	

NOTES:

ft.	Feet
bgs	Below ground surface
mg/kg	Milligrams per kilogram
ppm	Parts per million
TPH	Total Petroleum Hydrocarbons
*	Field screening measurement
1	Method 300.0
2	Method 8260B
3	Method 8015M
DRO	Diesel Range Organics
GRO	Gasoline Range Organics
ORO	Oil Range Organics

Bold values exceed the proposed RRALs for the Site.

Shaded rows indicate depth intervals proposed for excavation and remediation.

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make accurate determination; spike is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.
U	Not detected at the Sample Detection Limit (SDL).

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
ADDITIONAL SOIL ASSESSMENT
1RP-5296
BRITT B-21 FLOWLINE RELEASE
LEA COUNTY, NM

Sample ID	Sample Date	Sample Interval	Field Screening Results	Chloride[1]		BTEX[2]										TPH[3]							
						Benzene		Toluene		Ethylbenzene		Xylene		Total BTEX		GRO (C_3 - C_{10})[4]		DRO (C_{10} - C_{28})		ORO (C_{28} - C_{40})		Total TPH (C_3 - C_{40})	
		ft bgs	Chlorides																				
			ppm	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg		mg/kg	Q	mg/kg	Q	mg/kg		mg/kg	Q	mg/kg	
BH-1	09/17/19	4-5		***3740***		< 0.00117		< 0.00585		< 0.00293		< 0.00761		-		< 0.117		5.05		5.34		10.39	
		6-7		432		< 0.00107		< 0.00536		< 0.00268		< 0.00697		-		< 0.107		12.1		13.8		25.9	
		9-10		125		< 0.00117		< 0.00586		< 0.00293		< 0.00762		-		< 0.117		< 4.69		< 4.69		-	
BH-2	09/17/19	0-1		213		< 0.00110		< 0.00550		< 0.00275		< 0.00715		-		< 0.110		35.0		45.5		80.5	
		2-3		25.7	B	< 0.00101		< 0.00527		< 0.00253		< 0.00659		-		< 0.101		5.00		10.7		15.7	
		4-5		8.22	B J	< 0.00107		< 0.00534		< 0.00267		< 0.00694		-		< 0.107		< 4.27		< 4.27		-	
		6-7		13.1	B	< 0.00110		< 0.00548		< 0.00274		< 0.00713		-		< 0.110		< 4..39		< 4.39		-	
BH-3	09/17/19	4-5		***1630***		< 0.00117		< 0.00583		< 0.00291		< 0.00758		-		< 0.117		8.52		24.7		33.22	
		6-7		158		< 0.00115		< 0.00574		< 0.00287		< 0.00747		-		< 0.115		3.11	J	6.82		9.93	
		9-10		324		< 0.00118		< 0.00591		< 0.00296		< 0.00768		-		< 0.118		4.00	J J3 J6	4.78		8.78	
BH-4	09/17/19	0-1		55.3		< 0.00107		< 0.00533		< 0.00266		< 0.00693		-		< 0.107		8.93		32.8		41.73	
		2-3		29.1	B	< 0.00101		< 0.00506		< 0.00253		< 0.00658		-		< 0.101		3.58	J	9.88		13.46	
		4-5		80.7		< 0.00107		< 0.00533		< 0.00267		< 0.00693		-		< 0.107		3.74	J	13.2		16.94	
		6-7		83.6		< 0.00109		< 0.00544		< 0.00272		< 0.00707		-		< 0.109		< 4.35		0.97	J	0.97	
BH-5	09/17/19	0-1		53.9		< 0.00108		< 0.00540		< 0.00270		< 0.00702		-		< 0.108		32.6		74.9		***107.5***	
		2-3		74.5		< 0.00107		< 0.00535		< 0.00267		< 0.00695		-		< 0.107		11.7		36.8		48.5	
		4-5		25.9	B	< 0.00111		< 0.00553		< 0.00276		< 0.00719		-		< 0.111		2.99	J	1.02	J	4.01	
BH-6	09/17/19	0-1		***2660***		< 0.00116		< 0.00582		< 0.00291		< 0.00757		-		< 0.116		19.8		37.3		57.1	
		2-3		***681***		< 0.00115		< 0.00575		< 0.00288		< 0.00748		-		< 0.115		19.1		28.3		47.4	
		4-5		51.0		< 0.00119		< 0.00597		< 0.00298		< 0.00760		-		< 0.119		< 4.77		< 4.77		-	
BH-7	09/17/19	0-1		25.9		< 0.00105		< 0.00527		< 0.00263		< 0.00685		-		< 0.105		2.22	J	12.1		14.32	
		2-3		50.9		< 0.00105		< 0.00523		< 0.00261		< 0.00679		-		< 0.105		1.79	J	3.86	J	5.65	
		4-5		562		< 0.00108		< 0.00540		< 0.00270		< 0.00702		-		< 0.108		< 4.32		0.797	J	0.797	
ESW-1	09/17/19	-		18.7	B	< 0.00110		< 0.00551		< 0.00275		< 0.00716		-		< 0.110		2.64	J	32.8		35.44	
WSW-1	09/17/19	-		18.6	B	< 0.00113		< 0.00565		< 0.00283		< 0.00735		-		< 0.030	B J	< 4.52		7.27		7.27	

NOTES:

ft.	Feet
bgs	Below ground surface
mg/kg	Milligrams per kilogram
ppm	Parts per million
TPH	Total Petroleum Hydrocarbons
*	Field screening measurement
1	Method 300.0
2	Method 8260B
3	Method 8015M
DRO	Diesel Range Organics
GRO	Gasoline Range Organics
ORO	Oil Range Organics

Bold values exceed the proposed RRALs for the Site.

Shaded rows indicate depth intervals proposed for excavation and remediation.

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make accurate determination; spike is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.
U	Not detected at the Sample Detection Limit (SDL).

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	NCH1836256201
District RP	1RP-5296
Facility ID	
Application ID	pCH1836256467

Release Notification

Responsible Party

Responsible Party ConocoPhillips	OGRID 217817
Contact Name Justin Wright	Contact Telephone +1-575-631-9092
Contact email Justin.Wright@conocophillips.com	Incident # NCH1836256201 BRITT B 24 @ 30-025-21223 ← Britt B-21 ← 30-025-20649
Contact mailing address 29 Vacuum Complex Lane, Lovington	

Incorrect GPS Coordinates

Location of Release Source

Latitude ~~32°32'08.80" N~~ ← 32.582014°

Longitude ~~103°13'37.92~~ ← -103.238916°

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Britt B ~~24~~ ← 21	Site Type: ~~Producing well~~ Flowline release
Date Release Discovered: Dec. 1, 2018	API# *(if applicable)* ~~30-025-21223~~ ← 30-025-20649

Unit Letter	Section	Township	Range	County
~~L~~ ← O	~~11~~ ← 10	20S	37E	Lea

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☒ X Private (*Name:* _____)

Federal minerals

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 5	Volume Recovered (bbls) 2
☒ Produced Water	Volume Released (bbls) 13	Volume Recovered (bbls) 2
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release – Flow line leak resulted in a 18 BBL release that ran ~~off the pad~~ down the lease road to the west.

Dimensions – ~~12' x 435' x 1"~~ 5' X 235' X 1"

State of New Mexico
Oil Conservation Division

Incident ID	NCH1836256201
District RP	1RP-5296
Facility ID	
Application ID	pCH183625646

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ 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

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not 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: Cullen Rosine Title: HSE Specialist

Signature: Cullen Rosine Date: 12-5-2018

email: Cullen.j.rosine@conocophillips.com Telephone: 973-727-4779

C-141 resubmitted with additional corrections via the payment portal on 3/10/2020 . cml.

OCD Only

Received by: RECEIVED By CHernandez at 3:46 pm, Dec 28, 2018

State of New Mexico
Oil Conservation Division

Incident ID	NCH1836256201
District RP	1RP-5296
Facility ID	
Application ID	pCH1836256467

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

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and 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

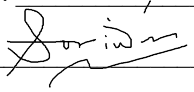
If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, 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.

State of New Mexico
Oil Conservation Division

Incident ID	NCH1836256201
District RP	1RP-5296
Facility ID	
Application ID	pCH1836256467

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: Marvin Soriwei Title: Program Manager, Risk Management & Remediation.

Signature:  Date: 3/20/2020

email: marvin.soriwei@conocophillips.com Telephone: 823-486-2730

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

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.***

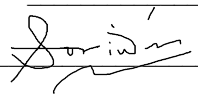
☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ 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: Marvin Soriwei Title: Program Manager, Risk Management & Remediation.

Signature:  Date: 3/20/2020

email: marvin.soriwei@conocophillips.com Telephone: 832-486-2730

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☐ Description of remediation activities

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

APPENDIX B
NMOSE Groundwater Data/Karst Potential Map

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

No records found.

PLSS Search:

Section(s): 10 **Township:** 20S **Range:** 37E

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-basin	Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 01145 POD1	L		LE	4	1	4	06	20S	37E	660695	3608182*	75	35	40
L 01253	L		LE	1	3	2	08	20S	37E	662125	3607195*	81	45	36
L 01450	L		LE		3	1	05	20S	37E	661393	3608698*	80	20	60
L 01572 POD1	L		LE	1	3	3	05	20S	37E	661305	3607991*	70		
L 02102	L		LE		4	3	05	20S	37E	661809	3607897*	70	46	24
L 02139	L		LE	2	2	2	08	20S	37E	662721	3607604*	80	38	42
L 02274	L		LE		3	1	08	20S	37E	661420	3607085*	70	38	32
L 02278	L		LE		3	4	05	20S	37E	662212	3607902*	65	37	28
L 02402	L		LE	1	4	1	28	20S	37E	663415	3602377*	60	40	20
L 02450	L		LE		2	2	19	20S	37E	661063	3604259*	70	35	35
L 02451	L		LE		1	1	19	20S	37E	659864	3604241*	70	35	35
L 02460	L		LE		1	2	07	20S	37E	660609	3607477*	82	38	44
L 02463	L		LE	1	2	3	08	20S	37E	661729	3606787*	86	30	56
L 02483	L		LE	4	4	1	08	20S	37E	661922	3606990*	84	34	50
L 02488	L		LE		3	2	05	20S	37E	662199	3608709*	63	32	31
L 02497	L		LE	3	3	3	05	20S	37E	661305	3607791*	75	35	40
L 02533	L		LE		3	2	07	20S	37E	660616	3607074*	82	34	48
L 02553	L		LE	4	3	4	06	20S	37E	660701	3607779*	85	40	45
L 03810	L		LE	4	4	1	06	20S	37E	660286	3608580*	86	37	49
L 04410	L		LE		4	2	19	20S	37E	661070	3603856*	84	35	49
L 04410 S	L		LE	4	1	2	19	20S	37E	660760	3604152*	100	35	65
L 04412	L		LE	4	2	2	13	20S	37E	669181	3605894*	140	85	55
L 04412 S	L		LE	4	4	2	13	20S	37E	669189	3605491*	155	84	71
L 04619	L		LE	3	2	4	06	20S	37E	660897	3608188*	86	36	50
L 04690	L		LE		1	3	07	20S	37E	659826	3606659*	50	28	22
L 05350	L		LE		2	1	13	20S	37E	668279	3605980*	100		

***UTM location was derived from PLSS - see Help**

(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	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 05351		L	LE		2	2	13	20S	37E	669082	3605995*	115		
L 05447		L	LE		2	2	05	20S	37E	662594	3609117*	50	28	22
L 05980		L	LE	1	4	3	04	20S	37E	663319	3608017*	95		
L 07355		L	LE	2	2	1	33	20S	37E	663636	3601169*	120		
L 07619		L	LE	2	2	4	08	20S	37E	662734	3606797*	70	30	40
L 07620		L	LE	4	4	2	08	20S	37E	662728	3607000*	70	27	43
L 07620 S		L	LE	4	4	2	08	20S	37E	662728	3607000*	75	35	40
L 08157		L	LE	2	2	1	33	20S	37E	663636	3601169*	395	275	120
L 09590		L	LE			4	08	20S	37E	662440	3606491*	70	35	35
L 09590	R	L	LE			4	08	20S	37E	662440	3606491*	70	35	35
L 09590 POD2		L	LE			4	08	20S	37E	662440	3606491*	66	30	36
L 09594		L	LE		2	4	08	20S	37E	662635	3606698*	80		
L 09779		L	LE	2	2	2	05	20S	37E	662693	3609216*	50	40	10
L 10069		L	LE			1	04	20S	37E	663205	3608920*	39	22	17
L 10117		L	LE	1	1	2	13	20S	37E	668580	3606086*	130	70	60
L 10150		L	LE		1	4	09	20S	37E	663842	3606715*	46	30	16
L 13393 POD1		L	LE	1	3	2	31	20S	37E	660519	3600663	95	80	15
L 13393 POD2		L	LE	1	3	2	31	20S	37E	660522	3600635	95	80	15
L 13394 POD1		L	LE	3	1	4	31	20S	37E	660566	3600165	100	85	15
L 13490 POD1		L	LE	3	1	3	21	20S	37E	663365	3603321	30		
L 14330 POD1		L	LE	1	1	4	20	20S	37E	662184	3603500	30	23	7
L 14330 POD2		L	LE	1	1	4	20	20S	37E	662187	3603507	35	24	11
L 14330 POD3		L	LE	1	1	4	20	20S	37E	662205	3603494	35	24	11
L 14330 POD4		L	LE	1	1	4	20	20S	37E	662187	3603492	35	24	11
L 14330 POD5		L	LE	1	1	4	20	20S	37E	662173	3603503	35	24	11
L 14330 POD6		L	LE	1	1	4	20	20S	37E	662181	3603504	45	24	21
L 14330 POD7		L	LE	1	1	4	20	20S	37E	662187	3603497	45	24	21
L 14583 POD1		L	LE	1	3	1	27	20S	37E	664656	3602312	65	57	8
L 14583 POD2		L	LE	1	3	1	27	20S	37E	664663	3602307	50		

***UTM location was derived from PLSS - see Help**

(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)

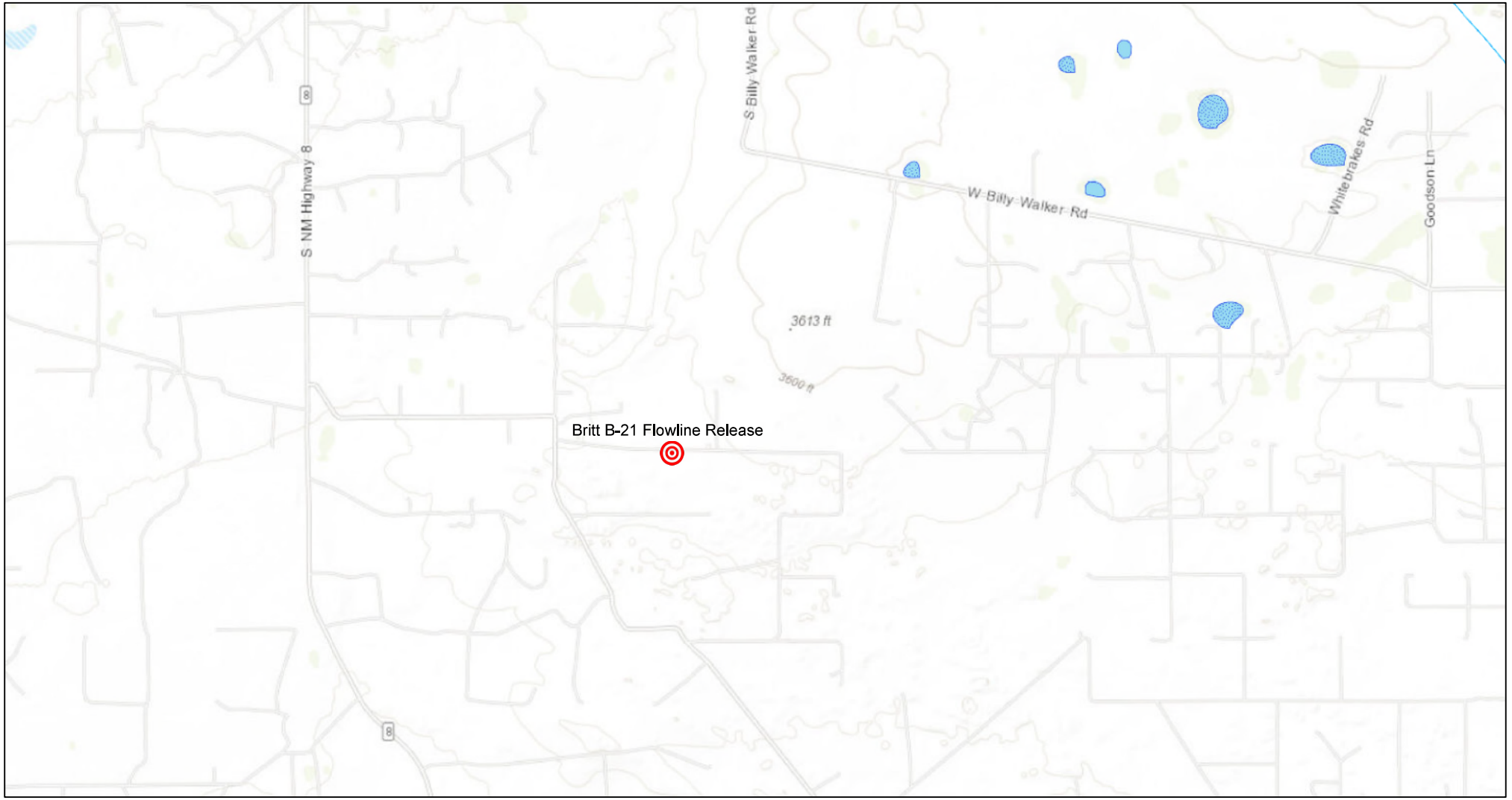
POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
												Average Depth to Water:		**44 feet**
												Minimum Depth:		**20 feet**
												Maximum Depth:		**275 feet**

Record Count: 55

PLSS Search:

Township: 20S **Range:** 37E

OCD Well Locations



11/6/2019 4:44:34 PM

- Override 1
- OSE Water-bodies
- PLJV Probable Playas
- OSE Streams

1:28,616

0 0.3 0.6 1.2 mi

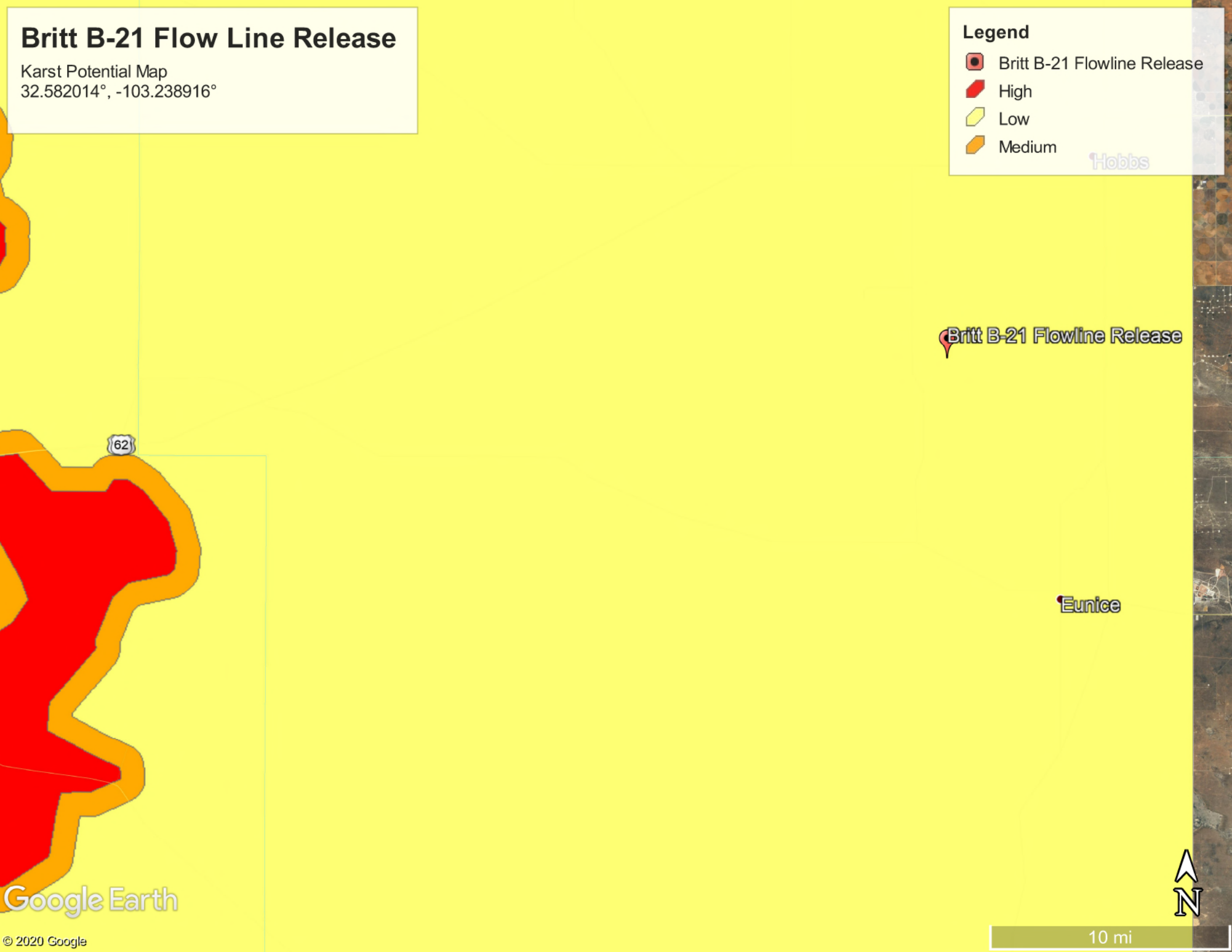
0 0.5 1 2 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

New Mexico Oil Conservation Division
NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/: New Mexico Oil Conservation Division

Britt B-21 Flow Line Release

Karst Potential Map
32.582014°, -103.238916°



APPENDIX C
Laboratory Analytical Data

CARDINAL Laboratories

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

February 27, 2019

JUSTIN WRIGHT

Conoco Phillips - Hobbs

P. O. BOX 325

Hobbs, NM 88240

RE: BRITT B #21

Enclosed are the results of analyses for samples received by the laboratory on 02/20/19 11:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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 accreditated through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP #1 - 4' (H900657-01)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	<0.050	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**46400**	16.0	02/22/2019	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	02/23/2019	ND	208	104	200	2.47	
DRO >C10-C28*	<10.0	10.0	02/23/2019	ND	231	115	200	7.19	
EXT DRO >C28-C36	<10.0	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *99.6 %* *41-142*

Surrogate: 1-Chlorooctadecane *100 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP #1 - 5' (H900657-02)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	<0.050	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

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	02/22/2019	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	02/23/2019	ND	208	104	200	2.47	
DRO >C10-C28*	<10.0	10.0	02/23/2019	ND	231	115	200	7.19	
EXT DRO >C28-C36	<10.0	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *94.5 %* *41-142*

Surrogate: 1-Chlorooctadecane *93.6 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP #2 - 4' (H900657-03)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	<0.050	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**8660**	16.0	02/22/2019	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	02/23/2019	ND	208	104	200	2.47	
DRO >C10-C28*	<10.0	10.0	02/23/2019	ND	231	115	200	7.19	
EXT DRO >C28-C36	<10.0	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *96.9 %* *41-142*

Surrogate: 1-Chlorooctadecane *96.6 %* *37.6-147*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP #2 - 5' (H900657-04)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	<0.050	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3600**	16.0	02/22/2019	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	02/23/2019	ND	208	104	200	2.47	
DRO >C10-C28*	<10.0	10.0	02/23/2019	ND	231	115	200	7.19	
EXT DRO >C28-C36	<10.0	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *97.0 %* *41-142*

Surrogate: 1-Chlorooctadecane *97.3 %* *37.6-147*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP #3 - 3' (H900657-05)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	**0.051**	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1040**	16.0	02/22/2019	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**75.7**	10.0	02/23/2019	ND	208	104	200	2.47	
DRO >C10-C28*	**3200**	10.0	02/23/2019	ND	231	115	200	7.19	
EXT DRO >C28-C36	**1040**	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *124 %* *41-142*

Surrogate: 1-Chlorooctadecane *378 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP #3 - 5' (H900657-06)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	<0.050	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	02/22/2019	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	02/23/2019	ND	208	104	200	2.47	
DRO >C10-C28*	**218**	10.0	02/23/2019	ND	231	115	200	7.19	
EXT DRO >C28-C36	**87.5**	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *84.3 %* *41-142*

Surrogate: 1-Chlorooctadecane *91.7 %* *37.6-147*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP #4 - 3' (H900657-07)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	<0.050	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.9 %* *73.3-129*

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	02/22/2019	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS **S-04**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/23/2019	ND	208	104	200	2.47	
DRO >C10-C28*	**1050**	10.0	02/23/2019	ND	231	115	200	7.19	
EXT DRO >C28-C36	**232**	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *107 %* *41-142*

Surrogate: 1-Chlorooctadecane *162 %* *37.6-147*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP #4 - 5' (H900657-08)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	<0.050	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *73.3-129*

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	02/22/2019	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	02/23/2019	ND	208	104	200	2.47	
DRO >C10-C28*	**22.6**	10.0	02/23/2019	ND	231	115	200	7.19	
EXT DRO >C28-C36	**22.7**	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *89.6 %* *41-142*

Surrogate: 1-Chlorooctadecane *91.8 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: WALL #1 (H900657-09)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	<0.050	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *73.3-129*

Chloride, SM4500Cl-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	02/22/2019	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	02/23/2019	ND	208	104	200	2.47	
DRO >C10-C28*	<10.0	10.0	02/23/2019	ND	231	115	200	7.19	
EXT DRO >C28-C36	<10.0	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *102 %* *41-142*

Surrogate: 1-Chlorooctadecane *105 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: WALL #2 (H900657-10)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	<0.050	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *73.3-129*

Chloride, SM4500Cl-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	02/22/2019	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	02/23/2019	ND	208	104	200	2.47	
DRO >C10-C28*	<10.0	10.0	02/23/2019	ND	231	115	200	7.19	
EXT DRO >C28-C36	<10.0	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *96.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *101 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: WALL #3 (H900657-11)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	<0.050	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.6 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1570**	16.0	02/22/2019	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	02/23/2019	ND	208	104	200	2.47	
DRO >C10-C28*	<10.0	10.0	02/23/2019	ND	231	115	200	7.19	
EXT DRO >C28-C36	<10.0	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *101 %* *41-142*

Surrogate: 1-Chlorooctadecane *103 %* *37.6-147*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: WALL #4 (H900657-12)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	<0.050	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.8 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**336**	16.0	02/22/2019	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	02/23/2019	ND	208	104	200	2.47	
DRO >C10-C28*	<10.0	10.0	02/23/2019	ND	231	115	200	7.19	
EXT DRO >C28-C36	<10.0	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *101 %* *41-142*

Surrogate: 1-Chlorooctadecane *103 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: WALL #5 (H900657-13)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	<0.050	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.8 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**384**	16.0	02/22/2019	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	02/23/2019	ND	218	109	200	2.18	
DRO >C10-C28*	**21.9**	10.0	02/23/2019	ND	246	123	200	10.4	
EXT DRO >C28-C36	<10.0	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *99.4 %* *41-142*

Surrogate: 1-Chlorooctadecane *108 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: WALL #6 (H900657-14)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	<0.050	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	02/22/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/23/2019	ND	218	109	200	2.18	
DRO >C10-C28*	<10.0	10.0	02/23/2019	ND	246	123	200	10.4	
EXT DRO >C28-C36	<10.0	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *101 %* *41-142*

Surrogate: 1-Chlorooctadecane *107 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: WALL #7 (H900657-15)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	<0.050	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

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	02/22/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/23/2019	ND	218	109	200	2.18	
DRO >C10-C28*	**28.6**	10.0	02/23/2019	ND	246	123	200	10.4	
EXT DRO >C28-C36	<10.0	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *103 %* *41-142*

Surrogate: 1-Chlorooctadecane *111 %* *37.6-147*

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CARDINAL Laboratories

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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/20/2019	Sampling Date:	02/19/2019
Reported:	02/27/2019	Sampling Type:	Soil
Project Name:	BRITT B #21	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: WALL #8 (H900657-16)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2019	ND	2.11	106	2.00	0.366	
Toluene*	<0.050	0.050	02/25/2019	ND	1.99	99.4	2.00	1.19	
Ethylbenzene*	<0.050	0.050	02/25/2019	ND	2.06	103	2.00	1.93	
Total Xylenes*	<0.150	0.150	02/25/2019	ND	6.38	106	6.00	1.61	
Total BTEX	<0.300	0.300	02/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	02/22/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/23/2019	ND	218	109	200	2.18	
DRO >C10-C28*	<10.0	10.0	02/23/2019	ND	246	123	200	10.4	
EXT DRO >C28-C36	<10.0	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane *103 %* *41-142*

Surrogate: 1-Chlorooctadecane *107 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Notes and Definitions

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240
(575) 393-2326 Fax (575) 393-2476

Page_____ of _____

Company Name:	ConocoPhillips	**BILL TO**	
Project Manager:	Justin Wright	P.O. #:	
Address:		Company:	ConocoPhillips
City:	Hobbs	State: NM Zip:	Attn:
Phone #:	575-631-9092	Fax #:	Address:
Project #:		Project Owner: COP	City:
Project Name:	Britt B 21		State: Zip:
Project Location:	Lea County, NM		Phone #:
Sampler Name:	Justin Wright		Fax #:

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST											
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides	TPH	BTEX	TPH Extended								
H900657																										
1	SP#1-4'	G				✓					✓		2-19	8:45	✓	✓	✓	✓								
2	SP#1-5'	G				✓					✓		2-19-19	8:53	✓	✓	✓	✓								
3	SP#2-4'	G				✓					✓		2-19	8:58	✓	✓	✓	✓								
4	SP#2-5'	G				✓					✓		2-19	9:04	✓	✓	✓	✓								
5	SP#3-3'	G				✓					✓		2-19	9:09	✓	✓	✓	✓								
6	SP#3-5'	G				✓					✓		2-19	9:14	✓	✓	✓	✓								
7	SP#4-3'	G				✓					✓		2-19	9:18	✓	✓	✓	✓								
8	SP#4-5'	G				✓					✓		2-19	9:24	✓	✓	✓	✓								

Sampler Relinquished:	Date: 2-20-19	Received By:	Phone Result: ☐	No	Add'l Phone #:
Relinquished By:	Time: 11:55	Received By:	Fax Result: ☐	No	Add'l Fax #:
	Date:		REMARKS:		
	Time:				

Delivered By: (Circle One) Sampler - UPS - Bus - Other: -3.1°C / #97 Temp.

Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No

CHECKED BY: (Initials)

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

CARDINAL LABORATORIES

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

Page_____ of _____

Company Name:	ConocoPhillips
Project Manager:	Justin Wright
Address:	
City:	Hobbs
State:	NM
Zip:	
Phone #:	575-631-9092
Fax #:	
Project #:	
Project Owner:	COPC
Project Name:	Britt B 21
Project Location:	Lea County
Sampler Name:	Justin Wright

BILL TO

P.O. #:	
Company:	COPC
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Chlorides	TPH	BTEX	TPH - Extended
H900657																		
9	Wall #1	G				✓					✓		2-19	9:30	✓	✓	✓	✓
10	Wall #2	G				✓					✓		2-19	9:32	✓	✓	✓	✓
11	Wall #3	G				✓					✓		2-19	9:35	✓	✓	✓	✓
12	Wall #4	G				✓					✓		2-19	9:40	✓	✓	✓	✓
13	Wall #5	G				✓					✓		2-19	9:43	✓	✓	✓	✓
14	Wall #6	G				✓					✓		2-19	9:46	✓	✓	✓	✓
15	Wall #7	G				✓					✓		2-19	9:49	✓	✓	✓	✓
16	Wall #8	G				✓					✓		2-19	9:53	✓	✓	✓	✓
		G																
		G																

Sampler Relinquished:	Date: 2-20-19	Received By: Jodi Henson	
	Time: 11:55		
Relinquished By:	Date:	Received By:	
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Temp. -3.1°C / #97	Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials)

Phone Result:	☐	No	Add'l Phone #:
Fax Result:	☐	No	Add'l Fax #:
REMARKS:			

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

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

October 03, 2019

ConocoPhillips - Tetra Tech

Sample Delivery Group:	L1142087
Samples Received:	09/21/2019
Project Number:	212C-MD-01852
Description:	COP Britt B-21

Report To: Christian Llull
901 West Wall
Suite 100
Midland, TX 79701

Entire Report Reviewed By:

Chris McCord
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

BH-1 (4-5') L1142087-01 Solid

Collected by | Collected date/time: 09/17/19 10:00 | Received date/time: 09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353383	1	09/30/19 07:49	09/30/19 07:58	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	10	09/24/19 17:30	09/24/19 20:39	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1353697	1	09/25/19 13:16	09/28/19 08:31	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352625	1	09/25/19 13:16	09/27/19 00:28	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352422	1	09/26/19 06:43	09/26/19 22:44	CLG	Mt. Juliet, TN

BH-1 (6-7') L1142087-02 Solid

Collected by | Collected date/time: 09/17/19 10:10 | Received date/time: 09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353383	1	09/30/19 07:49	09/30/19 07:58	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	1	09/24/19 17:30	09/24/19 20:48	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1353697	1	09/25/19 13:16	09/28/19 08:52	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352625	1	09/25/19 13:16	09/27/19 00:49	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352422	1	09/26/19 06:43	09/26/19 23:22	CLG	Mt. Juliet, TN

BH-1 (9-10') L1142087-03 Solid

Collected by | Collected date/time: 09/17/19 10:20 | Received date/time: 09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353383	1	09/30/19 07:49	09/30/19 07:58	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	1	09/24/19 17:30	09/24/19 20:58	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1353697	1	09/25/19 13:16	09/28/19 09:12	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352625	1	09/25/19 13:16	09/27/19 01:09	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352422	1	09/26/19 06:43	09/26/19 22:19	CLG	Mt. Juliet, TN

BH-2 (0-1') L1142087-04 Solid

Collected by | Collected date/time: 09/17/19 10:30 | Received date/time: 09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353383	1	09/30/19 07:49	09/30/19 07:58	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	1	09/24/19 17:30	09/24/19 21:26	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1353697	1	09/25/19 13:16	09/28/19 09:33	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352625	1	09/25/19 13:16	09/27/19 01:29	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352422	1	09/26/19 06:43	09/27/19 00:50	CLG	Mt. Juliet, TN

BH-2 (2-3') L1142087-05 Solid

Collected by | Collected date/time: 09/17/19 10:35 | Received date/time: 09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353383	1	09/30/19 07:49	09/30/19 07:58	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	1	09/24/19 17:30	09/24/19 21:36	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1353697	1	09/25/19 13:16	09/28/19 09:53	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352625	1	09/25/19 13:16	09/27/19 01:50	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352422	1	09/26/19 06:43	09/26/19 22:32	CLG	Mt. Juliet, TN

BH-2 (4-5') L1142087-06 Solid

Collected by | Collected date/time 09/17/19 10:40 | Received date/time 09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353383	1	09/30/19 07:49	09/30/19 07:58	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	1	09/24/19 17:30	09/24/19 22:04	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1353697	1	09/25/19 13:16	09/28/19 10:14	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352625	1	09/25/19 13:16	09/27/19 02:10	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352422	1	09/26/19 06:43	09/26/19 23:10	CLG	Mt. Juliet, TN

BH-2 (6-7') L1142087-07 Solid

Collected by | Collected date/time 09/17/19 10:50 | Received date/time 09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353383	1	09/30/19 07:49	09/30/19 07:58	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	1	09/24/19 17:30	09/24/19 22:14	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1353697	1	09/25/19 13:16	09/28/19 10:34	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352625	1	09/25/19 13:16	09/27/19 02:31	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 14:32	CLG	Mt. Juliet, TN

BH-3 (4-5') L1142087-08 Solid

Collected by | Collected date/time 09/17/19 11:00 | Received date/time 09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353383	1	09/30/19 07:49	09/30/19 07:58	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	5	09/24/19 17:30	09/24/19 22:23	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354293	1	09/25/19 13:16	09/29/19 23:40	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352625	1	09/25/19 13:16	09/27/19 02:51	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 19:35	CLG	Mt. Juliet, TN

BH-3 (6-7') L1142087-09 Solid

Collected by | Collected date/time 09/17/19 11:10 | Received date/time 09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353384	1	09/30/19 07:36	09/30/19 07:46	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	1	09/24/19 17:30	09/24/19 22:33	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354293	1	09/25/19 13:16	09/30/19 00:04	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352625	1	09/25/19 13:16	09/27/19 03:11	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 14:44	CLG	Mt. Juliet, TN

BH-3 (9-10') L1142087-10 Solid

Collected by | Collected date/time 09/17/19 11:20 | Received date/time 09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353384	1	09/30/19 07:36	09/30/19 07:46	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	1	09/24/19 17:30	09/24/19 22:42	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354293	1	09/25/19 13:16	09/30/19 00:28	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:16	09/27/19 11:59	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 15:22	CLG	Mt. Juliet, TN

BH-4 (0-1') L1142087-11 Solid

Collected by | Collected date/time 09/17/19 11:40 | Received date/time 09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353384	1	09/30/19 07:36	09/30/19 07:46	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	1	09/24/19 17:30	09/24/19 22:52	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354293	1	09/25/19 13:16	09/30/19 00:51	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:20	09/27/19 12:20	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 20:00	CLG	Mt. Juliet, TN

BH-4 (2-3') L1142087-12 Solid

Collected by | Collected date/time 09/17/19 11:45 | Received date/time 09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353384	1	09/30/19 07:36	09/30/19 07:46	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	1	09/24/19 17:30	09/24/19 23:21	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354293	1	09/25/19 13:16	09/30/19 01:15	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:16	09/27/19 12:41	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 16:51	CLG	Mt. Juliet, TN

BH-4 (4-5') L1142087-13 Solid

Collected by | Collected date/time 09/17/19 11:50 | Received date/time 09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353384	1	09/30/19 07:36	09/30/19 07:46	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	1	09/24/19 17:30	09/24/19 23:30	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354293	1	09/25/19 13:16	09/30/19 01:39	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:16	09/27/19 13:02	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 17:04	CLG	Mt. Juliet, TN

BH-4 (6-7') L1142087-14 Solid

Collected by | Collected date/time 09/17/19 12:00 | Received date/time 09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353384	1	09/30/19 07:36	09/30/19 07:46	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	1	09/24/19 17:30	09/24/19 23:40	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354293	1	09/25/19 13:16	09/30/19 02:03	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:16	09/27/19 13:23	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 16:00	CLG	Mt. Juliet, TN

BH-5 (0-1') L1142087-15 Solid

Collected by | Collected date/time 09/17/19 12:15 | Received date/time 09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353384	1	09/30/19 07:36	09/30/19 07:46	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	1	09/24/19 17:30	09/24/19 23:49	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354847	1	09/25/19 13:16	10/01/19 14:47	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:16	09/27/19 13:43	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 19:10	CLG	Mt. Juliet, TN

BH-5 (2-3') L1142087-16 Solid

Collected by	Collected date/time	Received date/time
	09/17/19 12:20	09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353384	1	09/30/19 07:36	09/30/19 07:46	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350714	1	09/24/19 17:30	09/24/19 23:59	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354293	1	09/25/19 13:16	09/30/19 02:50	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:16	09/27/19 14:04	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 18:45	CLG	Mt. Juliet, TN

BH-5 (4-5') L1142087-17 Solid

Collected by	Collected date/time	Received date/time
	09/17/19 12:30	09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353384	1	09/30/19 07:36	09/30/19 07:46	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350996	1	09/24/19 11:30	09/24/19 14:32	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354293	1	09/25/19 13:16	09/30/19 03:14	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:16	09/27/19 14:25	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 18:32	CLG	Mt. Juliet, TN

BH-6 (0-1') L1142087-18 Solid

Collected by	Collected date/time	Received date/time
	09/17/19 12:45	09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353384	1	09/30/19 07:36	09/30/19 07:46	KBC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350996	5	09/24/19 11:30	09/24/19 14:48	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354293	1	09/25/19 13:16	09/30/19 03:38	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:16	09/27/19 14:46	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 19:48	CLG	Mt. Juliet, TN

BH-6 (2-3') L1142087-19 Solid

Collected by	Collected date/time	Received date/time
	09/17/19 12:50	09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353492	1	09/27/19 17:58	09/27/19 18:11	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350996	1	09/24/19 11:30	09/24/19 15:05	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354293	1	09/25/19 13:16	09/30/19 04:02	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:16	09/27/19 15:07	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 18:57	CLG	Mt. Juliet, TN

BH-6 (4-5') L1142087-20 Solid

Collected by	Collected date/time	Received date/time
	09/17/19 13:00	09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353492	1	09/27/19 17:58	09/27/19 18:11	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350996	1	09/24/19 11:30	09/24/19 15:21	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354293	1	09/25/19 13:16	09/30/19 04:25	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:16	09/27/19 15:27	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 15:10	CLG	Mt. Juliet, TN

BH-7 (0-1') L1142087-21 Solid

Collected by	Collected date/time	Received date/time
	09/17/19 14:00	09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353492	1	09/27/19 17:58	09/27/19 18:11	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350996	1	09/24/19 11:30	09/24/19 15:38	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354293	1	09/25/19 13:16	09/30/19 04:49	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:16	09/27/19 15:48	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 19:23	CLG	Mt. Juliet, TN

BH-7 (2-3') L1142087-22 Solid

Collected by	Collected date/time	Received date/time
	09/17/19 14:10	09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353492	1	09/27/19 17:58	09/27/19 18:11	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350996	1	09/24/19 11:30	09/24/19 15:54	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354293	1	09/25/19 13:16	09/30/19 05:13	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:16	09/27/19 16:09	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 16:26	CLG	Mt. Juliet, TN

BH-7 (4-5') L1142087-23 Solid

Collected by	Collected date/time	Received date/time
	09/17/19 14:20	09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353492	1	09/27/19 17:58	09/27/19 18:11	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350996	1	09/24/19 11:30	09/24/19 16:27	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354044	1	09/25/19 13:16	09/28/19 18:00	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:16	09/27/19 16:30	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 16:13	CLG	Mt. Juliet, TN

ESW-1 L1142087-24 Solid

Collected by	Collected date/time	Received date/time
	09/17/19 14:50	09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353492	1	09/27/19 17:58	09/27/19 18:11	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350996	1	09/24/19 11:30	09/24/19 17:16	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354044	1	09/25/19 13:16	09/28/19 18:21	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:16	09/27/19 16:51	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 20:13	CLG	Mt. Juliet, TN

WSW-1 L1142087-25 Solid

Collected by	Collected date/time	Received date/time
	09/17/19 15:00	09/21/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1353492	1	09/27/19 17:58	09/27/19 18:11	KDW	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG1350996	1	09/24/19 11:30	09/24/19 18:06	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1354044	1	09/25/19 13:16	09/28/19 18:41	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353348	1	09/25/19 13:16	09/27/19 17:11	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1352423	1	09/26/19 06:54	09/26/19 16:38	CLG	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	85.4		1	09/30/2019 07:58	WG1353383

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	3740		9.31	10.0	117	10	09/24/2019 20:39	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0254	0.100	0.117	1	09/28/2019 08:31	WG1353697
(S) a,a,a-Trifluorotoluene(FID)	*103*				*77.0-120*		*09/28/2019 08:31*	WG1353697

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000468	0.00100	0.00117	1	09/27/2019 00:28	WG1352625
Toluene	U		0.00146	0.00500	0.00585	1	09/27/2019 00:28	WG1352625
Ethylbenzene	U		0.000620	0.00250	0.00293	1	09/27/2019 00:28	WG1352625
Total Xylenes	U		0.00560	0.00650	0.00761	1	09/27/2019 00:28	WG1352625
(S) Toluene-d8	*117*				*75.0-131*		*09/27/2019 00:28*	WG1352625
(S) 4-Bromofluorobenzene	*107*				*67.0-138*		*09/27/2019 00:28*	WG1352625
(S) 1,2-Dichloroethane-d4	*112*				*70.0-130*		*09/27/2019 00:28*	WG1352625

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	5.05		1.88	4.00	4.68	1	09/26/2019 22:44	WG1352422
C28-C40 Oil Range	5.34		0.321	4.00	4.68	1	09/26/2019 22:44	WG1352422
(S) o-Terphenyl	*43.0*				*18.0-148*		*09/26/2019 22:44*	WG1352422

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.3		1	09/30/2019 07:58	WG1353383

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	432		0.853	10.0	10.7	1	09/24/2019 20:48	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0233	0.100	0.107	1	09/28/2019 08:52	WG1353697
(S) a,a,a-Trifluorotoluene(FID)	*101*				*77.0-120*		*09/28/2019 08:52*	WG1353697

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000429	0.00100	0.00107	1	09/27/2019 00:49	WG1352625
Toluene	U		0.00134	0.00500	0.00536	1	09/27/2019 00:49	WG1352625
Ethylbenzene	U		0.000568	0.00250	0.00268	1	09/27/2019 00:49	WG1352625
Total Xylenes	U		0.00513	0.00650	0.00697	1	09/27/2019 00:49	WG1352625
(S) Toluene-d8	*110*				*75.0-131*		*09/27/2019 00:49*	WG1352625
(S) 4-Bromofluorobenzene	*108*				*67.0-138*		*09/27/2019 00:49*	WG1352625
(S) 1,2-Dichloroethane-d4	*119*				*70.0-130*		*09/27/2019 00:49*	WG1352625

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	12.1		1.73	4.00	4.29	1	09/26/2019 23:22	WG1352422
C28-C40 Oil Range	13.8		0.294	4.00	4.29	1	09/26/2019 23:22	WG1352422
(S) o-Terphenyl	*49.1*				*18.0-148*		*09/26/2019 23:22*	WG1352422

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	85.3		1	09/30/2019 07:58	WG1353383

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	125		0.932	10.0	11.7	1	09/24/2019 20:58	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0254	0.100	0.117	1	09/28/2019 09:12	WG1353697
(S) a,a,a-Trifluorotoluene(FID)	*101*				*77.0-120*		*09/28/2019 09:12*	WG1353697

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000469	0.00100	0.00117	1	09/27/2019 01:09	WG1352625
Toluene	U		0.00147	0.00500	0.00586	1	09/27/2019 01:09	WG1352625
Ethylbenzene	U		0.000621	0.00250	0.00293	1	09/27/2019 01:09	WG1352625
Total Xylenes	U		0.00560	0.00650	0.00762	1	09/27/2019 01:09	WG1352625
(S) Toluene-d8	*113*				*75.0-131*		*09/27/2019 01:09*	WG1352625
(S) 4-Bromofluorobenzene	*108*				*67.0-138*		*09/27/2019 01:09*	WG1352625
(S) 1,2-Dichloroethane-d4	*112*				*70.0-130*		*09/27/2019 01:09*	WG1352625

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.89	4.00	4.69	1	09/26/2019 22:19	WG1352422
C28-C40 Oil Range	U		0.321	4.00	4.69	1	09/26/2019 22:19	WG1352422
(S) o-Terphenyl	*60.2*				*18.0-148*		*09/26/2019 22:19*	WG1352422

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.0		1	09/30/2019 07:58	WG1353383

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	213		0.874	10.0	11.0	1	09/24/2019 21:26	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0239	0.100	0.110	1	09/28/2019 09:33	WG1353697
(S) a,a,a-Trifluorotoluene(FID)	*102*				*77.0-120*		*09/28/2019 09:33*	WG1353697

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000440	0.00100	0.00110	1	09/27/2019 01:29	WG1352625
Toluene	U		0.00137	0.00500	0.00550	1	09/27/2019 01:29	WG1352625
Ethylbenzene	U		0.000583	0.00250	0.00275	1	09/27/2019 01:29	WG1352625
Total Xylenes	U		0.00525	0.00650	0.00715	1	09/27/2019 01:29	WG1352625
(S) Toluene-d8	*114*				*75.0-131*		*09/27/2019 01:29*	WG1352625
(S) 4-Bromofluorobenzene	*108*				*67.0-138*		*09/27/2019 01:29*	WG1352625
(S) 1,2-Dichloroethane-d4	*112*				*70.0-130*		*09/27/2019 01:29*	WG1352625

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	35.0		1.77	4.00	4.40	1	09/27/2019 00:50	WG1352422
C28-C40 Oil Range	45.5		0.301	4.00	4.40	1	09/27/2019 00:50	WG1352422
(S) o-Terphenyl	*47.7*				*18.0-148*		*09/27/2019 00:50*	WG1352422

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.7		1	09/30/2019 07:58	WG1353383

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	25.7	B	0.806	10.0	10.1	1	09/24/2019 21:36	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0220	0.100	0.101	1	09/28/2019 09:53	WG1353697
(S) a,a,a-Trifluorotoluene(FID)	*101*				*77.0-120*		*09/28/2019 09:53*	WG1353697

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000405	0.00100	0.00101	1	09/27/2019 01:50	WG1352625
Toluene	U		0.00127	0.00500	0.00507	1	09/27/2019 01:50	WG1352625
Ethylbenzene	U		0.000537	0.00250	0.00253	1	09/27/2019 01:50	WG1352625
Total Xylenes	U		0.00484	0.00650	0.00659	1	09/27/2019 01:50	WG1352625
(S) Toluene-d8	*112*				*75.0-131*		*09/27/2019 01:50*	WG1352625
(S) 4-Bromofluorobenzene	*107*				*67.0-138*		*09/27/2019 01:50*	WG1352625
(S) 1,2-Dichloroethane-d4	*112*				*70.0-130*		*09/27/2019 01:50*	WG1352625

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	5.00		1.63	4.00	4.05	1	09/26/2019 22:32	WG1352422
C28-C40 Oil Range	10.7		0.278	4.00	4.05	1	09/26/2019 22:32	WG1352422
(S) o-Terphenyl	*81.8*				*18.0-148*		*09/26/2019 22:32*	WG1352422

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.6		1	09/30/2019 07:58	WG1353383

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	8.22	B J	0.849	10.0	10.7	1	09/24/2019 22:04	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0232	0.100	0.107	1	09/28/2019 10:14	WG1353697
(S) a,a,a-Trifluorotoluene(FID)	*101*				*77.0-120*		*09/28/2019 10:14*	WG1353697

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000427	0.00100	0.00107	1	09/27/2019 02:10	WG1352625
Toluene	U		0.00134	0.00500	0.00534	1	09/27/2019 02:10	WG1352625
Ethylbenzene	U		0.000566	0.00250	0.00267	1	09/27/2019 02:10	WG1352625
Total Xylenes	U		0.00511	0.00650	0.00694	1	09/27/2019 02:10	WG1352625
(S) Toluene-d8	*113*				*75.0-131*		*09/27/2019 02:10*	WG1352625
(S) 4-Bromofluorobenzene	*104*				*67.0-138*		*09/27/2019 02:10*	WG1352625
(S) 1,2-Dichloroethane-d4	*110*				*70.0-130*		*09/27/2019 02:10*	WG1352625

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.72	4.00	4.27	1	09/26/2019 23:10	WG1352422
C28-C40 Oil Range	U		0.293	4.00	4.27	1	09/26/2019 23:10	WG1352422
(S) o-Terphenyl	*59.6*				*18.0-148*		*09/26/2019 23:10*	WG1352422

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.2		1	09/30/2019 07:58	WG1353383

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	13.1	B	0.872	10.0	11.0	1	09/24/2019 22:14	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0238	0.100	0.110	1	09/28/2019 10:34	WG1353697
(S) a,a,a-Trifluorotoluene(FID)	*101*				*77.0-120*		*09/28/2019 10:34*	WG1353697

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000439	0.00100	0.00110	1	09/27/2019 02:31	WG1352625
Toluene	U		0.00137	0.00500	0.00548	1	09/27/2019 02:31	WG1352625
Ethylbenzene	U		0.000581	0.00250	0.00274	1	09/27/2019 02:31	WG1352625
Total Xylenes	U		0.00524	0.00650	0.00713	1	09/27/2019 02:31	WG1352625
(S) Toluene-d8	*115*				*75.0-131*		*09/27/2019 02:31*	WG1352625
(S) 4-Bromofluorobenzene	*105*				*67.0-138*		*09/27/2019 02:31*	WG1352625
(S) 1,2-Dichloroethane-d4	*118*				*70.0-130*		*09/27/2019 02:31*	WG1352625

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.77	4.00	4.39	1	09/26/2019 14:32	WG1352423
C28-C40 Oil Range	U		0.300	4.00	4.39	1	09/26/2019 14:32	WG1352423
(S) o-Terphenyl	*65.0*				*18.0-148*		*09/26/2019 14:32*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	85.8		1	09/30/2019 07:58	WG1353383

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	1630		4.63	10.0	58.3	5	09/24/2019 22:23	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0253	0.100	0.117	1	09/29/2019 23:40	WG1354293
(S) a,a,a-Trifluorotoluene(FID)	*95.5*				*77.0-120*		*09/29/2019 23:40*	WG1354293

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000466	0.00100	0.00117	1	09/27/2019 02:51	WG1352625
Toluene	U		0.00146	0.00500	0.00583	1	09/27/2019 02:51	WG1352625
Ethylbenzene	U		0.000618	0.00250	0.00291	1	09/27/2019 02:51	WG1352625
Total Xylenes	U		0.00557	0.00650	0.00758	1	09/27/2019 02:51	WG1352625
(S) Toluene-d8	*111*				*75.0-131*		*09/27/2019 02:51*	WG1352625
(S) 4-Bromofluorobenzene	*106*				*67.0-138*		*09/27/2019 02:51*	WG1352625
(S) 1,2-Dichloroethane-d4	*114*				*70.0-130*		*09/27/2019 02:51*	WG1352625

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	8.52		1.88	4.00	4.66	1	09/26/2019 19:35	WG1352423
C28-C40 Oil Range	24.7		0.319	4.00	4.66	1	09/26/2019 19:35	WG1352423
(S) o-Terphenyl	*62.8*				*18.0-148*		*09/26/2019 19:35*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	87.1		1	09/30/2019 07:46	WG1353384

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	158		0.913	10.0	11.5	1	09/24/2019 22:33	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0249	0.100	0.115	1	09/30/2019 00:04	WG1354293
(S) a,a,a-Trifluorotoluene(FID)	*95.7*				*77.0-120*		*09/30/2019 00:04*	WG1354293

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000459	0.00100	0.00115	1	09/27/2019 03:11	WG1352625
Toluene	U		0.00144	0.00500	0.00574	1	09/27/2019 03:11	WG1352625
Ethylbenzene	U		0.000609	0.00250	0.00287	1	09/27/2019 03:11	WG1352625
Total Xylenes	U		0.00549	0.00650	0.00747	1	09/27/2019 03:11	WG1352625
(S) Toluene-d8	*112*				*75.0-131*		*09/27/2019 03:11*	WG1352625
(S) 4-Bromofluorobenzene	*105*				*67.0-138*		*09/27/2019 03:11*	WG1352625
(S) 1,2-Dichloroethane-d4	*109*				*70.0-130*		*09/27/2019 03:11*	WG1352625

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	3.11	J	1.85	4.00	4.59	1	09/26/2019 14:44	WG1352423
C28-C40 Oil Range	6.82		0.315	4.00	4.59	1	09/26/2019 14:44	WG1352423
(S) o-Terphenyl	*77.2*				*18.0-148*		*09/26/2019 14:44*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	84.6		1	09/30/2019 07:46	WG1353384

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	324		0.940	10.0	11.8	1	09/24/2019 22:42	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0257	0.100	0.118	1	09/30/2019 00:28	WG1354293
(S) a,a,a-Trifluorotoluene(FID)	*94.7*				*77.0-120*		*09/30/2019 00:28*	WG1354293

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000473	0.00100	0.00118	1	09/27/2019 11:59	WG1353348
Toluene	U		0.00148	0.00500	0.00591	1	09/27/2019 11:59	WG1353348
Ethylbenzene	U		0.000627	0.00250	0.00296	1	09/27/2019 11:59	WG1353348
Total Xylenes	U		0.00565	0.00650	0.00768	1	09/27/2019 11:59	WG1353348
(S) Toluene-d8	*112*				*75.0-131*		*09/27/2019 11:59*	WG1353348
(S) 4-Bromofluorobenzene	*111*				*67.0-138*		*09/27/2019 11:59*	WG1353348
(S) 1,2-Dichloroethane-d4	*99.9*				*70.0-130*		*09/27/2019 11:59*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	4.00	J J3 J6	1.90	4.00	4.73	1	09/26/2019 15:22	WG1352423
C28-C40 Oil Range	4.78		0.324	4.00	4.73	1	09/26/2019 15:22	WG1352423
(S) o-Terphenyl	*69.0*				*18.0-148*		*09/26/2019 15:22*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.8		1	09/30/2019 07:46	WG1353384

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	55.3		0.848	10.0	10.7	1	09/24/2019 22:52	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0231	0.100	0.107	1	09/30/2019 00:51	WG1354293
(S) a,a,a-Trifluorotoluene(FID)	*94.4*				*77.0-120*		*09/30/2019 00:51*	WG1354293

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000426	0.00100	0.00107	1	09/27/2019 12:20	WG1353348
Toluene	U		0.00133	0.00500	0.00533	1	09/27/2019 12:20	WG1353348
Ethylbenzene	U		0.000565	0.00250	0.00266	1	09/27/2019 12:20	WG1353348
Total Xylenes	U		0.00510	0.00650	0.00693	1	09/27/2019 12:20	WG1353348
(S) Toluene-d8	*112*				*75.0-131*		*09/27/2019 12:20*	WG1353348
(S) 4-Bromofluorobenzene	*108*				*67.0-138*		*09/27/2019 12:20*	WG1353348
(S) 1,2-Dichloroethane-d4	*101*				*70.0-130*		*09/27/2019 12:20*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	8.93		1.72	4.00	4.26	1	09/26/2019 20:00	WG1352423
C28-C40 Oil Range	32.8		0.292	4.00	4.26	1	09/26/2019 20:00	WG1352423
(S) o-Terphenyl	*62.7*				*18.0-148*		*09/26/2019 20:00*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.8		1	09/30/2019 07:46	WG1353384

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	29.1	B	0.805	10.0	10.1	1	09/24/2019 23:21	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0220	0.100	0.101	1	09/30/2019 01:15	WG1354293
(S) a,a,a-Trifluorotoluene(FID)	*95.5*				*77.0-120*		*09/30/2019 01:15*	WG1354293

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000405	0.00100	0.00101	1	09/27/2019 12:41	WG1353348
Toluene	U		0.00126	0.00500	0.00506	1	09/27/2019 12:41	WG1353348
Ethylbenzene	U		0.000536	0.00250	0.00253	1	09/27/2019 12:41	WG1353348
Total Xylenes	U		0.00484	0.00650	0.00658	1	09/27/2019 12:41	WG1353348
(S) Toluene-d8	*110*				*75.0-131*		*09/27/2019 12:41*	WG1353348
(S) 4-Bromofluorobenzene	*105*				*67.0-138*		*09/27/2019 12:41*	WG1353348
(S) 1,2-Dichloroethane-d4	*106*				*70.0-130*		*09/27/2019 12:41*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	3.58	J	1.63	4.00	4.05	1	09/26/2019 16:51	WG1352423
C28-C40 Oil Range	9.88		0.277	4.00	4.05	1	09/26/2019 16:51	WG1352423
(S) o-Terphenyl	*75.7*				*18.0-148*		*09/26/2019 16:51*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.7		1	09/30/2019 07:46	WG1353384

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	80.7		0.848	10.0	10.7	1	09/24/2019 23:30	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0232	0.100	0.107	1	09/30/2019 01:39	WG1354293
(S) a,a,a-Trifluorotoluene(FID)	*94.5*				*77.0-120*		*09/30/2019 01:39*	WG1354293

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000427	0.00100	0.00107	1	09/27/2019 13:02	WG1353348
Toluene	U		0.00133	0.00500	0.00533	1	09/27/2019 13:02	WG1353348
Ethylbenzene	U		0.000565	0.00250	0.00267	1	09/27/2019 13:02	WG1353348
Total Xylenes	U		0.00510	0.00650	0.00693	1	09/27/2019 13:02	WG1353348
(S) Toluene-d8	*113*				*75.0-131*		*09/27/2019 13:02*	WG1353348
(S) 4-Bromofluorobenzene	*108*				*67.0-138*		*09/27/2019 13:02*	WG1353348
(S) 1,2-Dichloroethane-d4	*101*				*70.0-130*		*09/27/2019 13:02*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	3.74	J	1.72	4.00	4.27	1	09/26/2019 17:04	WG1352423
C28-C40 Oil Range	13.2		0.292	4.00	4.27	1	09/26/2019 17:04	WG1352423
(S) o-Terphenyl	*62.5*				*18.0-148*		*09/26/2019 17:04*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.9		1	09/30/2019 07:46	WG1353384

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	83.6		0.865	10.0	10.9	1	09/24/2019 23:40	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0236	0.100	0.109	1	09/30/2019 02:03	WG1354293
(S) a,a,a-Trifluorotoluene(FID)	*95.0*				*77.0-120*		*09/30/2019 02:03*	WG1354293

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000435	0.00100	0.00109	1	09/27/2019 13:23	WG1353348
Toluene	U		0.00136	0.00500	0.00544	1	09/27/2019 13:23	WG1353348
Ethylbenzene	U		0.000577	0.00250	0.00272	1	09/27/2019 13:23	WG1353348
Total Xylenes	U		0.00520	0.00650	0.00707	1	09/27/2019 13:23	WG1353348
(S) Toluene-d8	*117*				*75.0-131*		*09/27/2019 13:23*	WG1353348
(S) 4-Bromofluorobenzene	*106*				*67.0-138*		*09/27/2019 13:23*	WG1353348
(S) 1,2-Dichloroethane-d4	*99.6*				*70.0-130*		*09/27/2019 13:23*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.75	4.00	4.35	1	09/26/2019 16:00	WG1352423
C28-C40 Oil Range	0.974	J	0.298	4.00	4.35	1	09/26/2019 16:00	WG1352423
(S) o-Terphenyl	*75.2*				*18.0-148*		*09/26/2019 16:00*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.6		1	09/30/2019 07:46	WG1353384

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	53.9		0.859	10.0	10.8	1	09/24/2019 23:49	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0234	0.100	0.108	1	10/01/2019 14:47	WG1354847
(S) a,a,a-Trifluorotoluene(FID)	*92.9*				*77.0-120*		*10/01/2019 14:47*	WG1354847

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000432	0.00100	0.00108	1	09/27/2019 13:43	WG1353348
Toluene	U		0.00135	0.00500	0.00540	1	09/27/2019 13:43	WG1353348
Ethylbenzene	U		0.000572	0.00250	0.00270	1	09/27/2019 13:43	WG1353348
Total Xylenes	U		0.00516	0.00650	0.00702	1	09/27/2019 13:43	WG1353348
(S) Toluene-d8	*116*				*75.0-131*		*09/27/2019 13:43*	WG1353348
(S) 4-Bromofluorobenzene	*99.0*				*67.0-138*		*09/27/2019 13:43*	WG1353348
(S) 1,2-Dichloroethane-d4	*102*				*70.0-130*		*09/27/2019 13:43*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	32.6		1.74	4.00	4.32	1	09/26/2019 19:10	WG1352423
C28-C40 Oil Range	74.9		0.296	4.00	4.32	1	09/26/2019 19:10	WG1352423
(S) o-Terphenyl	*58.1*				*18.0-148*		*09/26/2019 19:10*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.5		1	09/30/2019 07:46	WG1353384

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	74.5		0.850	10.0	10.7	1	09/24/2019 23:59	WG1350714

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0232	0.100	0.107	1	09/30/2019 02:50	WG1354293
(S) a,a,a-Trifluorotoluene(FID)	*94.8*				*77.0-120*		*09/30/2019 02:50*	WG1354293

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000428	0.00100	0.00107	1	09/27/2019 14:04	WG1353348
Toluene	U		0.00134	0.00500	0.00535	1	09/27/2019 14:04	WG1353348
Ethylbenzene	U		0.000567	0.00250	0.00267	1	09/27/2019 14:04	WG1353348
Total Xylenes	U		0.00511	0.00650	0.00695	1	09/27/2019 14:04	WG1353348
(S) Toluene-d8	*114*				*75.0-131*		*09/27/2019 14:04*	WG1353348
(S) 4-Bromofluorobenzene	*108*				*67.0-138*		*09/27/2019 14:04*	WG1353348
(S) 1,2-Dichloroethane-d4	*104*				*70.0-130*		*09/27/2019 14:04*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	11.7		1.72	4.00	4.28	1	09/26/2019 18:45	WG1352423
C28-C40 Oil Range	36.8		0.293	4.00	4.28	1	09/26/2019 18:45	WG1352423
(S) o-Terphenyl	*58.7*				*18.0-148*		*09/26/2019 18:45*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.4		1	09/30/2019 07:46	WG1353384

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	25.9	B	0.879	10.0	11.1	1	09/24/2019 14:32	WG1350996

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0240	0.100	0.111	1	09/30/2019 03:14	WG1354293
(S) a,a,a-Trifluorotoluene(FID)	*96.3*				*77.0-120*		*09/30/2019 03:14*	WG1354293

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000442	0.00100	0.00111	1	09/27/2019 14:25	WG1353348
Toluene	U		0.00138	0.00500	0.00553	1	09/27/2019 14:25	WG1353348
Ethylbenzene	U		0.000586	0.00250	0.00276	1	09/27/2019 14:25	WG1353348
Total Xylenes	U		0.00529	0.00650	0.00719	1	09/27/2019 14:25	WG1353348
(S) Toluene-d8	*114*				*75.0-131*		*09/27/2019 14:25*	WG1353348
(S) 4-Bromofluorobenzene	*105*				*67.0-138*		*09/27/2019 14:25*	WG1353348
(S) 1,2-Dichloroethane-d4	*104*				*70.0-130*		*09/27/2019 14:25*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.99	J	1.78	4.00	4.42	1	09/26/2019 18:32	WG1352423
C28-C40 Oil Range	1.02	J	0.303	4.00	4.42	1	09/26/2019 18:32	WG1352423
(S) o-Terphenyl	*84.7*				*18.0-148*		*09/26/2019 18:32*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	85.9		1	09/30/2019 07:46	WG1353384

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	2660		4.63	10.0	58.2	5	09/24/2019 14:48	WG1350996

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0253	0.100	0.116	1	09/30/2019 03:38	WG1354293
(S) a,a,a-Trifluorotoluene(FID)	*95.2*				*77.0-120*		*09/30/2019 03:38*	WG1354293

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000466	0.00100	0.00116	1	09/27/2019 14:46	WG1353348
Toluene	U		0.00146	0.00500	0.00582	1	09/27/2019 14:46	WG1353348
Ethylbenzene	U		0.000617	0.00250	0.00291	1	09/27/2019 14:46	WG1353348
Total Xylenes	U		0.00557	0.00650	0.00757	1	09/27/2019 14:46	WG1353348
(S) Toluene-d8	*115*				*75.0-131*		*09/27/2019 14:46*	WG1353348
(S) 4-Bromofluorobenzene	*108*				*67.0-138*		*09/27/2019 14:46*	WG1353348
(S) 1,2-Dichloroethane-d4	*106*				*70.0-130*		*09/27/2019 14:46*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	19.8		1.87	4.00	4.66	1	09/26/2019 19:48	WG1352423
C28-C40 Oil Range	37.3		0.319	4.00	4.66	1	09/26/2019 19:48	WG1352423
(S) o-Terphenyl	*42.2*				*18.0-148*		*09/26/2019 19:48*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	86.9		1	09/27/2019 18:11	WG1353492

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	681		0.915	10.0	11.5	1	09/24/2019 15:05	WG1350996

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0250	0.100	0.115	1	09/30/2019 04:02	WG1354293
(S) a,a,a-Trifluorotoluene(FID)	*94.7*				*77.0-120*		*09/30/2019 04:02*	WG1354293

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000460	0.00100	0.00115	1	09/27/2019 15:07	WG1353348
Toluene	U		0.00144	0.00500	0.00575	1	09/27/2019 15:07	WG1353348
Ethylbenzene	U		0.000610	0.00250	0.00288	1	09/27/2019 15:07	WG1353348
Total Xylenes	U		0.00550	0.00650	0.00748	1	09/27/2019 15:07	WG1353348
(S) Toluene-d8	*110*				*75.0-131*		*09/27/2019 15:07*	WG1353348
(S) 4-Bromofluorobenzene	*103*				*67.0-138*		*09/27/2019 15:07*	WG1353348
(S) 1,2-Dichloroethane-d4	*107*				*70.0-130*		*09/27/2019 15:07*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	19.1		1.85	4.00	4.60	1	09/26/2019 18:57	WG1352423
C28-C40 Oil Range	28.3		0.315	4.00	4.60	1	09/26/2019 18:57	WG1352423
(S) o-Terphenyl	*55.8*				*18.0-148*		*09/26/2019 18:57*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	83.8		1	09/27/2019 18:11	WG1353492

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	51.0		0.949	10.0	11.9	1	09/24/2019 15:21	WG1350996

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0259	0.100	0.119	1	09/30/2019 04:25	WG1354293
(S) a,a,a-Trifluorotoluene(FID)	*96.2*				*77.0-120*		*09/30/2019 04:25*	WG1354293

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000477	0.00100	0.00119	1	09/27/2019 15:27	WG1353348
Toluene	U		0.00149	0.00500	0.00597	1	09/27/2019 15:27	WG1353348
Ethylbenzene	U		0.000633	0.00250	0.00298	1	09/27/2019 15:27	WG1353348
Total Xylenes	U		0.00571	0.00650	0.00776	1	09/27/2019 15:27	WG1353348
(S) Toluene-d8	*113*				*75.0-131*		*09/27/2019 15:27*	WG1353348
(S) 4-Bromofluorobenzene	*104*				*67.0-138*		*09/27/2019 15:27*	WG1353348
(S) 1,2-Dichloroethane-d4	*105*				*70.0-130*		*09/27/2019 15:27*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.92	4.00	4.77	1	09/26/2019 15:10	WG1352423
C28-C40 Oil Range	U		0.327	4.00	4.77	1	09/26/2019 15:10	WG1352423
(S) o-Terphenyl	*61.9*				*18.0-148*		*09/26/2019 15:10*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.9		1	09/27/2019 18:11	WG1353492

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	25.9		0.838	10.0	10.5	1	09/24/2019 15:38	WG1350996

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0229	0.100	0.105	1	09/30/2019 04:49	WG1354293
(S) a,a,a-Trifluorotoluene(FID)	*94.7*				*77.0-120*		*09/30/2019 04:49*	WG1354293

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000421	0.00100	0.00105	1	09/27/2019 15:48	WG1353348
Toluene	U		0.00132	0.00500	0.00527	1	09/27/2019 15:48	WG1353348
Ethylbenzene	U		0.000558	0.00250	0.00263	1	09/27/2019 15:48	WG1353348
Total Xylenes	U		0.00504	0.00650	0.00685	1	09/27/2019 15:48	WG1353348
(S) Toluene-d8	*112*				*75.0-131*		*09/27/2019 15:48*	WG1353348
(S) 4-Bromofluorobenzene	*106*				*67.0-138*		*09/27/2019 15:48*	WG1353348
(S) 1,2-Dichloroethane-d4	*112*				*70.0-130*		*09/27/2019 15:48*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.22	J	1.70	4.00	4.21	1	09/26/2019 19:23	WG1352423
C28-C40 Oil Range	12.1		0.289	4.00	4.21	1	09/26/2019 19:23	WG1352423
(S) o-Terphenyl	*66.1*				*18.0-148*		*09/26/2019 19:23*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.7		1	09/27/2019 18:11	WG1353492

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	50.9		0.831	10.0	10.5	1	09/24/2019 15:54	WG1350996

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0227	0.100	0.105	1	09/30/2019 05:13	WG1354293
(S) a,a,a-Trifluorotoluene(FID)	*95.2*				*77.0-120*		*09/30/2019 05:13*	WG1354293

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000418	0.00100	0.00105	1	09/27/2019 16:09	WG1353348
Toluene	U		0.00131	0.00500	0.00523	1	09/27/2019 16:09	WG1353348
Ethylbenzene	U		0.000554	0.00250	0.00261	1	09/27/2019 16:09	WG1353348
Total Xylenes	U		0.00500	0.00650	0.00679	1	09/27/2019 16:09	WG1353348
(S) Toluene-d8	*113*				*75.0-131*		*09/27/2019 16:09*	WG1353348
(S) 4-Bromofluorobenzene	*108*				*67.0-138*		*09/27/2019 16:09*	WG1353348
(S) 1,2-Dichloroethane-d4	*104*				*70.0-130*		*09/27/2019 16:09*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	1.79	J	1.68	4.00	4.18	1	09/26/2019 16:26	WG1352423
C28-C40 Oil Range	3.86	J	0.286	4.00	4.18	1	09/26/2019 16:26	WG1352423
(S) o-Terphenyl	*70.6*				*18.0-148*		*09/26/2019 16:26*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.6		1	09/27/2019 18:11	WG1353492

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	562		0.859	10.0	10.8	1	09/24/2019 16:27	WG1350996

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0234	0.100	0.108	1	09/28/2019 18:00	WG1354044
(S) a,a,a-Trifluorotoluene(FID)	*94.9*				*77.0-120*		*09/28/2019 18:00*	WG1354044

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000432	0.00100	0.00108	1	09/27/2019 16:30	WG1353348
Toluene	U		0.00135	0.00500	0.00540	1	09/27/2019 16:30	WG1353348
Ethylbenzene	U		0.000572	0.00250	0.00270	1	09/27/2019 16:30	WG1353348
Total Xylenes	U		0.00516	0.00650	0.00702	1	09/27/2019 16:30	WG1353348
(S) Toluene-d8	*111*				*75.0-131*		*09/27/2019 16:30*	WG1353348
(S) 4-Bromofluorobenzene	*105*				*67.0-138*		*09/27/2019 16:30*	WG1353348
(S) 1,2-Dichloroethane-d4	*105*				*70.0-130*		*09/27/2019 16:30*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.74	4.00	4.32	1	09/26/2019 16:13	WG1352423
C28-C40 Oil Range	0.797	J	0.296	4.00	4.32	1	09/26/2019 16:13	WG1352423
(S) o-Terphenyl	*77.4*				*18.0-148*		*09/26/2019 16:13*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.8		1	09/27/2019 18:11	WG1353492

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	18.7	B	0.876	10.0	11.0	1	09/24/2019 17:16	WG1350996

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.0239	0.100	0.110	1	09/28/2019 18:21	WG1354044
(S) a,a,a-Trifluorotoluene(FID)	*94.7*				*77.0-120*		*09/28/2019 18:21*	WG1354044

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000441	0.00100	0.00110	1	09/27/2019 16:51	WG1353348
Toluene	U		0.00138	0.00500	0.00551	1	09/27/2019 16:51	WG1353348
Ethylbenzene	U		0.000584	0.00250	0.00275	1	09/27/2019 16:51	WG1353348
Total Xylenes	U		0.00527	0.00650	0.00716	1	09/27/2019 16:51	WG1353348
(S) Toluene-d8	*111*				*75.0-131*		*09/27/2019 16:51*	WG1353348
(S) 4-Bromofluorobenzene	*108*				*67.0-138*		*09/27/2019 16:51*	WG1353348
(S) 1,2-Dichloroethane-d4	*109*				*70.0-130*		*09/27/2019 16:51*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.64	J	1.77	4.00	4.41	1	09/26/2019 20:13	WG1352423
C28-C40 Oil Range	32.8		0.302	4.00	4.41	1	09/26/2019 20:13	WG1352423
(S) o-Terphenyl	*88.6*				*18.0-148*		*09/26/2019 20:13*	WG1352423

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	88.5		1	09/27/2019 18:11	WG1353492

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Chloride	18.6	B	0.899	10.0	11.3	1	09/24/2019 18:06	WG1350996

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0304	B J	0.0245	0.100	0.113	1	09/28/2019 18:41	WG1354044
(S) a,a,a-Trifluorotoluene(FID)	*95.0*				*77.0-120*		*09/28/2019 18:41*	WG1354044

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Benzene	U		0.000452	0.00100	0.00113	1	09/27/2019 17:11	WG1353348
Toluene	U		0.00141	0.00500	0.00565	1	09/27/2019 17:11	WG1353348
Ethylbenzene	U		0.000599	0.00250	0.00283	1	09/27/2019 17:11	WG1353348
Total Xylenes	U		0.00540	0.00650	0.00735	1	09/27/2019 17:11	WG1353348
(S) Toluene-d8	*113*				*75.0-131*		*09/27/2019 17:11*	WG1353348
(S) 4-Bromofluorobenzene	*110*				*67.0-138*		*09/27/2019 17:11*	WG1353348
(S) 1,2-Dichloroethane-d4	*110*				*70.0-130*		*09/27/2019 17:11*	WG1353348

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	U		1.82	4.00	4.52	1	09/26/2019 16:38	WG1352423
C28-C40 Oil Range	7.27		0.310	4.00	4.52	1	09/26/2019 16:38	WG1352423
(S) o-Terphenyl	*90.5*				*18.0-148*		*09/26/2019 16:38*	WG1352423

Method Blank (MB)

(MB) R3455995-1 09/30/19 07:58

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00200			

L1142087-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1142087-06 09/30/19 07:58 • (DUP) R3455995-3 09/30/19 07:58

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	93.6	93.8	1	0.173		10

Laboratory Control Sample (LCS)

(LCS) R3455995-2 09/30/19 07:58

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3455993-1 09/30/19 07:46

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1142087-17 Original Sample (OS) • Duplicate (DUP)

(OS) L1142087-17 09/30/19 07:46 • (DUP) R3455993-3 09/30/19 07:46

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	90.4	89.1	1	1.49		10

Laboratory Control Sample (LCS)

(LCS) R3455993-2 09/30/19 07:46

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	99.9	85.0-115	

Method Blank (MB)

(MB) R3455506-1 09/27/19 18:11

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000			

L1142087-25 Original Sample (OS) • Duplicate (DUP)

(OS) L1142087-25 09/27/19 18:11 • (DUP) R3455506-3 09/27/19 18:11

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	88.5	88.7	1	0.205		10

Laboratory Control Sample (LCS)

(LCS) R3455506-2 09/27/19 18:11

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3454194-1 09/24/19 19:08

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	3.02	J	0.795	10.0

L1142081-24 Original Sample (OS) • Duplicate (DUP)

(OS) L1142081-24 09/24/19 19:52 • (DUP) R3454194-3 09/24/19 20:00

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	14.6	14.1	1	2.92		20

L1142087-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1142087-16 09/24/19 23:59 • (DUP) R3454194-6 09/25/19 00:08

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	74.5	74.3	1	0.292		20

Laboratory Control Sample (LCS)

(LCS) R3454194-2 09/24/19 19:17

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	218	109	90.0-110	

L1142087-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1142087-05 09/24/19 21:36 • (MS) R3454194-4 09/24/19 21:45 • (MSD) R3454194-5 09/24/19 21:55

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	507	25.7	561	556	106	105	1	80.0-120			0.987	20

Method Blank (MB)

(MB) R3454000-1 09/24/19 12:04

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	2.39	J	0.795	10.0

L1137571-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1137571-15 09/24/19 13:59 • (DUP) R3454000-3 09/24/19 14:15

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	8920	9440	20	5.72		20

L1142087-22 Original Sample (OS) • Duplicate (DUP)

(OS) L1142087-22 09/24/19 15:54 • (DUP) R3454000-4 09/24/19 16:11

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	50.9	54.5	1	6.74		20

Laboratory Control Sample (LCS)

(LCS) R3454000-2 09/24/19 12:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	200	100	90.0-110	

L1142087-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1142087-24 09/24/19 17:16 • (MS) R3454000-5 09/24/19 17:33 • (MSD) R3454000-6 09/24/19 17:49

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	551	18.7	584	618	103	109	1	80.0-120			5.67	20

Method Blank (MB)

(MB) R3455677-2 09/28/19 03:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3455677-1 09/28/19 03:03 • (LCSD) R3455677-5 09/28/19 11:56

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	6.36	6.10	116	111	72.0-127			4.14	20
(S) a,a,a-Trifluorotoluene(FID)				*111*	*110*	*77.0-120*				

L1142072-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1142072-06 09/28/19 07:50 • (MS) R3455677-3 09/28/19 11:15 • (MSD) R3455677-4 09/28/19 11:35

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	ND	116	121	84.1	87.7	25	10.0-151			4.20	28
(S) a,a,a-Trifluorotoluene(FID)					*107*	*107*		*77.0-120*				

Method Blank (MB)

(MB) R3455957-3 09/28/19 16:15

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0566	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*93.5*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3455957-2 09/28/19 15:34

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.09	92.6	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*105*	*77.0-120*	

Method Blank (MB)

(MB) R3456104-3 09/29/19 20:31

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*97.1*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3456104-1 09/29/19 18:56 • (LCSD) R3456104-2 09/29/19 19:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.04	5.16	91.7	93.8	72.0-127			2.30	20
(S) a,a,a-Trifluorotoluene(FID)				*103*	*102*	*77.0-120*				

L1141941-49 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1141941-49 09/29/19 23:17 • (MS) R3456104-4 09/30/19 05:37 • (MSD) R3456104-5 09/30/19 06:01

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	7.41	U	161	132	84.2	69.3	25.75	10.0-151			19.3	28
(S) a,a,a-Trifluorotoluene(FID)					*101*	*102*		*77.0-120*				

Method Blank (MB)

(MB) R3456523-2 10/01/19 13:23

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*95.2*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3456523-1 10/01/19 10:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.48	99.6	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*103*	*77.0-120*	

Method Blank (MB)

(MB) R3455303-2 09/26/19 20:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
Ethylbenzene	U		0.000530	0.00250
Toluene	U		0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*117*			*75.0-131*
(S) 4-Bromofluorobenzene	*105*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3455303-1 09/26/19 19:43

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.0989	79.2	70.0-123	
Ethylbenzene	0.125	0.112	90.0	74.0-126	
Toluene	0.125	0.118	94.2	75.0-121	
Xylenes, Total	0.375	0.319	85.1	72.0-127	
(S) Toluene-d8			*109*	*75.0-131*	
(S) 4-Bromofluorobenzene			*104*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*113*	*70.0-130*	

L1142081-18 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1142081-18 09/26/19 21:04 • (MS) R3455303-3 09/27/19 05:14 • (MSD) R3455303-4 09/27/19 05:35

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.132	U	0.0805	0.0939	61.2	71.4	1	10.0-149			15.3	37
Ethylbenzene	0.132	U	0.103	0.125	78.7	94.9	1	10.0-160			18.7	38
Toluene	0.132	U	0.103	0.119	78.5	90.3	1	10.0-156			14.0	38
Xylenes, Total	0.395	U	0.281	0.310	71.2	78.7	1	10.0-160			9.96	38
(S) Toluene-d8					*113*	*115*		*75.0-131*				
(S) 4-Bromofluorobenzene					*104*	*102*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*95.0*	*99.6*		*70.0-130*				

Method Blank (MB)

(MB) R3455976-2 09/27/19 10:28

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
Ethylbenzene	U		0.000530	0.00250
Toluene	U		0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*111*			*75.0-131*
(S) 4-Bromofluorobenzene	*102*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3455976-1 09/27/19 09:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.100	80.0	70.0-123	
Ethylbenzene	0.125	0.121	96.5	74.0-126	
Toluene	0.125	0.119	95.5	75.0-121	
Xylenes, Total	0.375	0.350	93.3	72.0-127	
(S) Toluene-d8			*111*	*75.0-131*	
(S) 4-Bromofluorobenzene			*106*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*107*	*70.0-130*	

L1142409-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1142409-01 09/27/19 17:32 • (MS) R3455976-3 09/27/19 18:53 • (MSD) R3455976-4 09/27/19 19:13

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.142	U	0.779	0.810	68.4	71.2	8	10.0-149			3.98	37
Ethylbenzene	0.142	0.130	1.14	1.22	88.8	96.1	8	10.0-160			7.02	38
Toluene	0.142	U	0.890	0.964	78.2	84.7	8	10.0-156			8.00	38
Xylenes, Total	0.427	1.39	4.96	5.16	105	110	8	10.0-160			3.82	38
(S) Toluene-d8					*106*	*107*		*75.0-131*				
(S) 4-Bromofluorobenzene					*119*	*121*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*117*	*104*		*70.0-130*				

Method Blank (MB)

(MB) R3455190-1 09/26/19 21:29

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*73.7*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3455190-2 09/26/19 21:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	40.3	80.6	50.0-150	
(S) o-Terphenyl			*78.5*	*18.0-148*	

Method Blank (MB)

(MB) R3455191-1 09/26/19 14:06

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*80.0*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3455191-2 09/26/19 14:19

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	37.4	74.8	50.0-150	
(S) o-Terphenyl			*74.9*	*18.0-148*	

L1142087-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1142087-10 09/26/19 15:22 • (MS) R3455191-3 09/26/19 15:35 • (MSD) R3455191-4 09/26/19 15:48

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	59.1	4.00	44.2	31.8	68.0	47.0	1	50.0-150		J3 J6	32.7	20
(S) o-Terphenyl					*62.0*	*45.9*		*18.0-148*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MQL (dry)	Method Quantitation Limit.
MQL	Method Quantitation Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
SDL (dry)	Sample Detection Limit.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

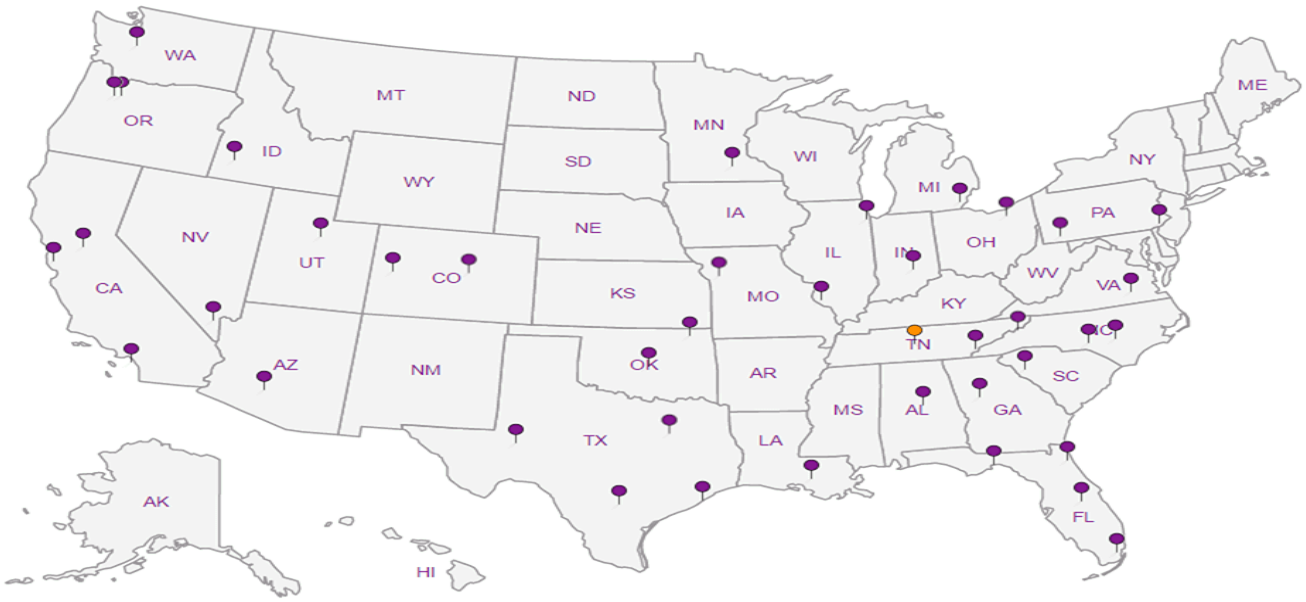
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



1142097

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

B248

Client Name:	Conoco Phillips	**Site Manager:**	Chrisian Llull
Project Name:	COP Britt B-21		
Project Location: (county, state)	Lea County, New Mexico	**Project #:**	212C-MD-01852
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	**Sampler Signature:**	
Comments:	COPTETRA Acctnum		

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD NONE	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
-01	BH-1 (4'- 5')	9/17/2019	1000		X				X			1	N	X		X												X						
02	BH-1 (6'- 7')	9/17/2019	1010		X				X			1	N	X		X												X						
03	BH-1 (9'- 10')	9/17/2019	1020		X				X			1	N	X		X												X						
04	BH-2 (0'- 1')	9/17/2019	1030		X				X			1	N	X		X												X						
05	BH-2 (2'- 3')	9/17/2019	1035		X				X			1	N	X		X												X						
06	BH-2 (4'- 5')	9/17/2019	1040		X				X			1	N	X		X												X						
07	BH-2 (6'- 7')	9/17/2019	1050		X				X			1	N	X		X												X						
08	BH-3 (4'- 5')	9/17/2019	1100		X				X			1	N	X		X												X						
09	BH-3 (6'- 7')	9/17/2019	1110		X				X			1	N	X		X												X						
10	BH-3 (9'- 10')	9/17/2019	1120		X				X			1	N	X		X												X						

Relinquished by:	Date: 9-20-19	Time: 13:00	Received by: Date: 9.20.19 Time: 13:00
Relinquished by:	Date: 9.20.19	Time: 16:30	Received by: Date: 9.20.19 Time: 15:30
Relinquished by:	Date:	Time:	Received by: Date: 9/21/19 Time: 8:30

LAB USE ONLY

Sample Temperature: 3.0 + 0.2 = 3.2

REMARKS:

- [X] STANDARD
- [ ] 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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1142087

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name:	Conoco Phillips	**Site Manager:**	Chrisian Llull
Project Name:	COP Britt B-21		
Project Location: (county, state)	Lea County, New Mexico	**Project #:**	212C-MD-01852
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	**Sampler Signature:**	
Comments:	COPTETRA Acctnum		

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD NONE	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
11	BH-4 (0'- 1')	9/17/2019	1140		X				X			1	N	X		X												X						
12	BH-4 (2'- 3')	9/17/2019	1145		X				X			1	N	X		X												X						
13	BH-4 (4'- 5')	9/17/2019	1150		X				X			1	N	X		X												X						
14	BH-4 (6'- 7')	9/17/2019	1200		X				X			1	N	X		X												X						
15	BH-5 (0'- 1')	9/17/2019	1215		X				X			1	N	X		X												X						
16	BH-5 (2'- 3')	9/17/2019	1220		X				X			1	N	X		X												X						
17	BH-5 (4'- 5')	9/17/2019	1230		X				X			1	N	X		X												X						
18	BH-6 (0'- 1')	9/17/2019	1245		X				X			1	N	X		X												X						
19	BH-6 (2'- 3')	9/17/2019	1250		X				X			1	N	X		X												X						
20	BH-6 (4'- 5')	9/17/2019	1300		X				X			1	N	X		X												X						

Relinquished by:	Date: 9-20-19	Time: 13:00	Received by: Date: 9/20/19 Time: 13:00
Relinquished by:	Date: 920	Time: 15:30	Received by: Date: 9.20 Time: 15:30
Relinquished by:	Date:	Time:	Received by: Date: 9/21/19 Time: 8:30

LAB USE ONLY

Sample Temperature

3+0=3.2

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

11/12087

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name:	Conoco Phillips	Site Manager:	Chrisian Llull
Project Name:	COP Britt B-21		
Project Location: (county, state)	Lea County, New Mexico	Project #:	212C-MD-01852
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Pace Analytical	Sampler Signature:	
Comments:	COPTETRA Acctnum		

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD NONE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
21	BH-7 (0'- 1')	9/17/2019	1400		X				X		1	N	X		X												X						
22	BH-7 (2'- 3')	9/17/2019	1410		X				X		1	N	X		X												X						
23	BH-7 (4'- 5')	9/17/2019	1420		X				X		1	N	X		X												X						
24	ESW-1	9/17/2019	1450		X				X		1	N	X		X												X						
25	WSW-1	9/17/2019	1500		X				X		1	N	X		X												X						

Relinquished by:	Date: 9-20-19	Time: 13:00	Received by: Date: 9/20 Time: 13:00
Relinquished by:	Date: 9/20/19	Time: 15:30	Received by: Date: 9/20 Time: 15:30
Relinquished by:	Date:	Time:	Received by: Date: 9/21/19 Time: 8:30

LAB USE ONLY

Sample Temperature 3.0-3.2

REMARKS:

- [X] STANDARD
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: COPTETRA	11/4/2087	
Cooler Received/Opened On: 9/23/19 Temperature:	3.0	
Received By: Paul Minnich		
Signature:		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?			
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

APPENDIX D
Soil Boring Logs

212C-MD-01852	TETRA TECH	**LOG OF BORING BH-1**	Page 1 of 1

Project Name: Britt B-21 Flowline Release

Borehole Location: GPS: N 32.581961° E -103.239870° | Surface Elevation: 3570 ft

Borehole Number: BH-1 | Borehole Diameter (in.): 8 | Date Started: 9/17/2019 | Date Finished: 9/17/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
												-AIR- EXISTING EXCAVATION		
													4	
5			2730	9.2								**-SM-** SILTY SAND; White to tan, loose to medium dense, with no hydrocarbon odor, with no staining.		BH-1 (4'-5')
			395	1.2										BH-1 (6'-7')
													8	
10			123	0.7								**-SM-** SILTY SAND; White, dense to very dense, cemented, with no hydrocarbon odor, with no staining, grading to SANDSTONE.	10	BH-1 (9'-10')

Bottom of borehole at 10.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01852	TETRA TECH	**LOG OF BORING BH-2**	Page 1 of 1

Project Name: Britt B-21 Flowline Release

Borehole Location: GPS: N 32.581961° E -103.239922° | Surface Elevation: 3570 ft

Borehole Number: BH-2 | Borehole Diameter (in.): 8 | Date Started: 9/17/2019 | Date Finished: 9/17/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
				6								**-SM-** SILTY SAND; Brown, dense, with low hydrocarbon odor, with little staining.		BH-2 (0'-1')
				15.8										BH-2 (2'-3')
													3.5	
5			60.8	6.1								**-SM-** SILTY SAND; White, dense, cemented, with gravel, with no hydrocarbon odor, with no staining, grading to SANDSTONE.		BH-2 (4'-5')
			89.1	4.8									7	BH-2 (6'-7')

Bottom of borehole at 7.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01852	TETRA TECH	**LOG OF BORING BH-3**	Page 1 of 1

Project Name: Britt B-21 Flowline Release

Borehole Location: GPS: N 32.581970° E -103.239783° | Surface Elevation: 3570 ft

Borehole Number: BH-3 | Borehole Diameter (in.): 8 | Date Started: 9/17/2019 | Date Finished: 9/17/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
												-AIR- EXISTING EXCAVATION		
													4	
5			1490	6.7								**-SM-** SILTY SAND; Tan, medium dense to dense, with few gravel, with low hydrocarbon odor, with no staining.	5.5	BH-3 (4'-5')
			165	6.3								**-SM-** SILTY SAND; White, medium dense to dense, cemented, with gravel, with no hydrocarbon odor, with no staining, grading to SANDSTONE.		BH-3 (6'-7')
10				3.3									10	BH-3 (9'-10')

Bottom of borehole at 10.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01852	TETRA TECH	**LOG OF BORING BH-4**	Page 1 of 1

Project Name: Britt B-21 Flowline Release

Borehole Location: GPS: N 32.581961° E -103.239729° | Surface Elevation: 3570 ft

Borehole Number: BH-4 | Borehole Diameter (in.): 8 | Date Started: 9/17/2019 | Date Finished: 9/17/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
				10.6								**-SM-** SILTY SAND; Brown, dense, with no hydrocarbon odor, with no staining.		BH-4 (0'-1')
			38.5	9.3										BH-4 (2'-3')
													3.5	
5			159	10.2								**-SM-** SILTY SAND; Brown, medium dense to dense, with few gravel, with no hydrocarbon odor, with no staining.		BH-4 (4'-5')
													5.5	
				7.3								**-SM-** SILTY SAND; White, medium dense to dense, cemented, with gravel, with no hydrocarbon odor, with no staining, grading to SANDSTONE.	7	BH-4 (6'-7')

Bottom of borehole at 7.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01852	TETRA TECH	**LOG OF BORING BH-5**	Page 1 of 1

Project Name: Britt B-21 Flowline Release

Borehole Location: GPS: N 32.582101° E -103.239690° | Surface Elevation: 3570 ft

Borehole Number: BH-5 | Borehole Diameter (in.): 8 | Date Started: 9/17/2019 | Date Finished: 9/17/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
				24.1								**-SM-** SILTY SAND; Brown, dense, with low hydrocarbon odor, with no staining.		BH-5 (0'-1')
			153	9.1										BH-5 (2'-3')
													3.5	
5			81.2	8.2								**-SM-** SILTY SAND; White, medium dense to dense, cemented, with gravel, with no hydrocarbon odor, with no staining, grading to SANDSTONE.	5	BH-5 (4'-5')

Bottom of borehole at 5.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01852	TETRA TECH	**LOG OF BORING BH-6**	Page 1 of 1

Project Name: Britt B-21 Flowline Release

Borehole Location: GPS: N 32.582069° E -103.239687° | Surface Elevation: 3570 ft

Borehole Number: BH-6 | Borehole Diameter (in.): 8 | Date Started: 9/17/2019 | Date Finished: 9/17/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
			1840	4.2								**-SM-** SILTY SAND; White, medium dense to dense, cemented, with gravel, with no hydrocarbon odor, with no staining.		BH-6 (0'-1')
			430	7.1										BH-6 (2'-3')
5				7.4									5	BH-6 (4'-5')

Bottom of borehole at 5.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-01852	TETRA TECH	**LOG OF BORING BH-7**	Page 1 of 1

Project Name: Britt B-21 Flowline Release

Borehole Location: GPS: N 32.582023° E -103.239684° | Surface Elevation: 3570 ft

Borehole Number: BH-7 | Borehole Diameter (in.): 8 | Date Started: 9/17/2019 | Date Finished: 9/17/2019

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
			91.4	5.1								**-SM-** SILTY SAND; Brown, dense, with no hydrocarbon odor, with no staining.		BH-7 (0'-1')
			86.2	3.4										BH-7 (2'-3')
													3.5	
5				1.9								**-SM-** SILTY SAND; White, medium dense to dense, with gravel, with no hydrocarbon odor, with no staining, grading to SANDSTONE.	5	BH-7 (4'-5')

Bottom of borehole at 5.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Core Barrel, Wash Rotary, Direct Push

Notes:

Analytical samples are shown in the "Remarks" column.
Surface elevation is an estimated value.

Logger: Joe Tyler | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

APPENDIX E
Photographic Documentation

TETRA TECH, INC. PROJECT NO. 212C-MD-01852	DESCRIPTION	View northeast over previously excavated area from initial response.	1
	SITE NAME	Britt B-21 Flowline Release	7/16/2019

TETRA TECH, INC. PROJECT NO. 212C-MD-01852	DESCRIPTION	View north of west sidewall of previously excavated area from initial response.	2
	SITE NAME	Britt B-21 Flowline Release	7/16/2019

TETRA TECH, INC. PROJECT NO. 212C-MD-01852	DESCRIPTION	View northwest over previously excavated area from initial response.	3
	SITE NAME	Britt B-21 Flowline Release	7/16/2019

TETRA TECH, INC. PROJECT NO. 212C-MD-01852	DESCRIPTION	View north of north sidewall of previously excavated area from initial response.	4
	SITE NAME	Britt B-21 Flowline Release	7/16/2019

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 Lea County, New Mexico

November 26, 2019

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

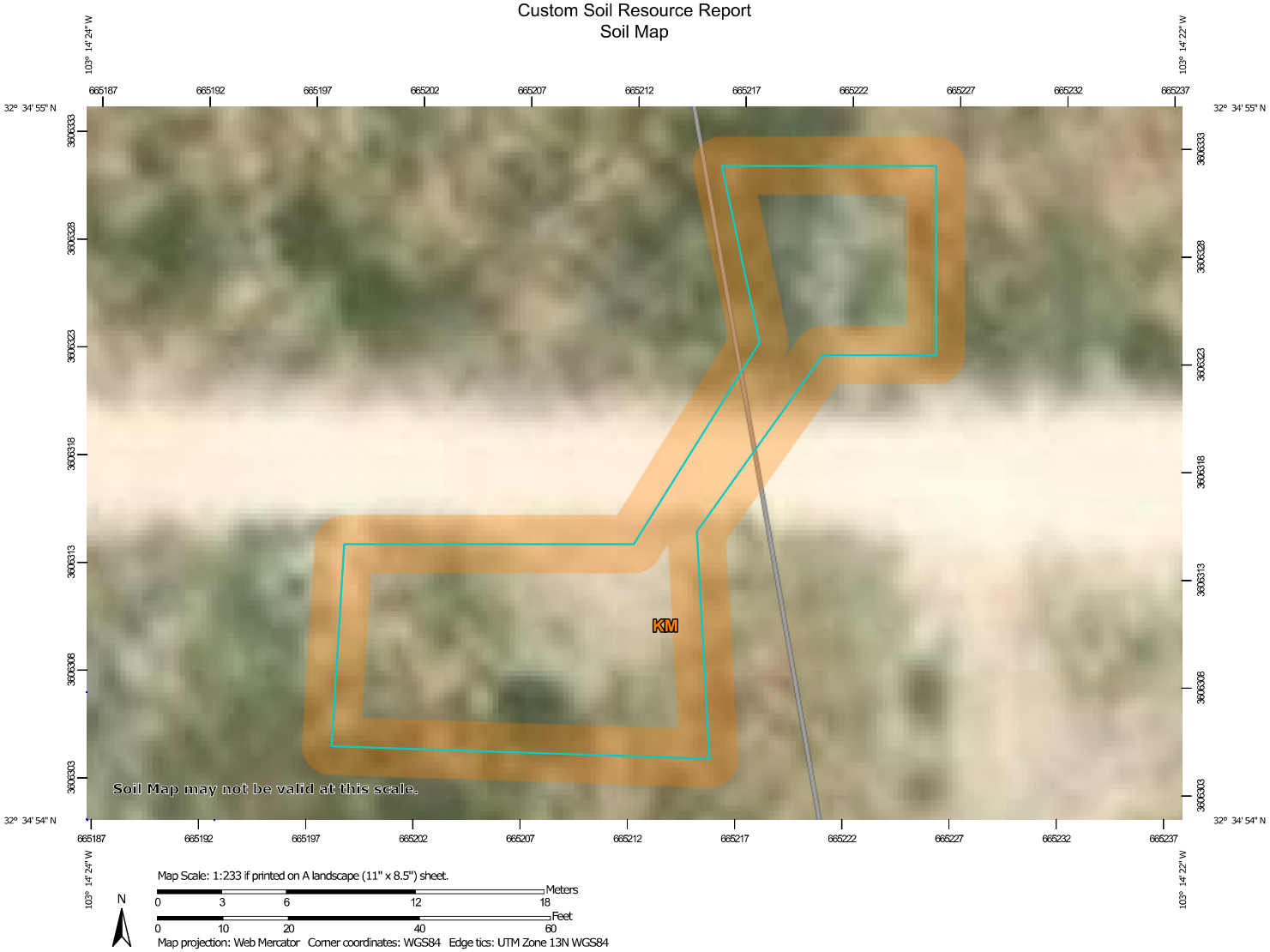
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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

Soil Map

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



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 16, Sep 15, 2019

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

Date(s) aerial images were photographed: Jun 15, 2016—Dec 15, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KM	Kermit soils and dune land, 0 to 12 percent slopes	0.1	100.0%
Totals for Area of Interest		**0.1**	**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 landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Lea County, New Mexico

KM—Kermit soils and dune land, 0 to 12 percent slopes

Map Unit Setting

National map unit symbol: dmpx
Elevation: 3,000 to 4,400 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Dune land: 45 percent
Kermit and similar soils: 45 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dune Land

Setting

Landform: Dunes
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear, concave
Across-slope shape: Convex

Typical profile

A - 0 to 6 inches: fine sand
C - 6 to 60 inches: fine sand

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8e
Hydrologic Soil Group: A
Hydric soil rating: No

Description of Kermit

Setting

Landform: Dunes
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear, concave
Across-slope shape: Convex
Parent material: Calcareous sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 8 inches: fine sand
C - 8 to 60 inches: fine sand

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 3 percent
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Sandhills (R042XC022NM)
Hydric soil rating: No

Minor Components

Palomas

Percent of map unit: 3 percent
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Pyote

Percent of map unit: 3 percent
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Maljamar

Percent of map unit: 2 percent
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Wink

Percent of map unit: 2 percent
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

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

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

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

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 — Sandy (S)

SANDY (S) SITES SEED MIXTURE:

COMMON NAME	VARIETY	APPLICATION RATE (PLS/Acre)	DRILL BOX
Grasses:			
Sand bluestem	**Elida, VNS, So.**	**2.0**	**F**
Little bluestem	**Cimarron, Pastura**	**3.0**	**F**
Black grama	**VNS, Southern**	**1.0**	**D**
Sand dropseed	**VNS, Southern**	**4.0**	**S**
Plains bristlegrass	**VNS, Southern**	**2.0**	**D**
Forbs:			
Firewheel (Gaillardia)	**VNS, Southern**	**1.0**	**D**
Annual Sunflower	**VNS, Southern**	**1.0**	**D**
Shrubs:			
Fourwing Saltbush	**VNS, Southern**	**1.0**	**F**
	Total PLS/acre	**16.0**	

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.