		SITE I	NFORI	MATIC	ON					
	Report Type: Closure Report 1RP-5560									
General Site Information:										
Site:		Tres Equis Sta	te 2H							
Company:		Cimarex Energ								
Section, Towns	hip and Range	Unit C	Unit C Sec. 06 T 24S R 33E							
API No:		30-025-40183								
County:		Lea County								
GPS:		32.2	53516º		-103.613769	90				
Surface Owner:		State								
Mineral Owner:										
Directions:		From the intersection of CR 2-A and 128, head west on 128 for 1.66 miles, turn right (north) onto unnamed lease road, and go 2.87 miles, keep to the right at the fork and go north for 0.46 miles, keep to the right and go east for 0.3 miles, keep to the left and continue east for 250 feet and arrive on location.								
Release Data:										
Date Released:		6/5/2019								
Type Release:		Produced Water								
Source of Contar	mination:	Flowline								
Fluid Released:		10 bbls								
Fluids Recovered Official Commun		0 bbls								
Name:	Christine Aldern				Clair Gonzales					
Company:	Cimarex Energy	1			Tetra Tech					
Address:	600 N. Marienfie	eld St.			901 W. Wall St.					
	Ste 600				Ste 100					
City:	Midland Texas,	79701			Midland, Texas, 79701					
Phone number:	(432) 853-7059				(432) 687-8123					
Fax:										
Email:					Clair.Gonzales@Tetratech	.com				
Site Characteriz	ation									
Depth to Groundy		>100' below surface								
Doommondad	Pomodial Action	n Levels (DDAL								
Recommended						Chloridas				
Benzene 10 mg/kg	Total BTEX 50 mg/kg		<b>RO+DRO)</b> O mg/kg		TPH (GRO+DRO+MRO) 2,500 mg/kg	Chlorides 20,000 mg/kg				
TO HIG/NG	ou mg/kg	1,000	Jing/ng		2,000 mg/kg	20,000 mg/kg				



August 22, 2019

Christine Alderman
ESH Supervisor – Permian Basin
Cimarex Energy
600 N. Marienfeld St.
Midland, Texas 79701

Re: Closure Report for the Cimarex Energy, Tres Equis State 2H, Unit C, Section 06, Township 24 South, Range 33 East, Lea County, New Mexico. 1RP-5560

Ms. Alderman:

Tetra Tech, Inc. (Tetra Tech) was contacted by Cimarex Energy (Cimarex) to prepare a closure report for a spill at the Tres Equis State 2H, Unit C, Section 06, Township 24 South, Range 33 East, Lea County, New Mexico (site). The spill site coordinates are 32.253516°, -103.613769°. The site location is shown on Figures 1 and 2.

### **Background**

According to the State of New Mexico C-141 Initial Report, the release was discovered on June 5, 2019, and released approximately ten (10) barrels of produced water due to the development of a hole in a water transfer polyline. No fluids were recovered. The release occurred on the pad area and a pipeline right of way (ROW), measuring approximately 60' x 85'. The initial C-141 Form is included in Appendix A.

#### Site Characterization

A site characterization was performed for the site 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. The nearest well is listed on the USGS National Water Information System in Section 35, Township 23 South, Range 32 East, approximately 1.68 miles northwest of the site, and has a reported depth to groundwater of 487 feet below ground surface. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in this area is approximately 200'-300' below surface. The groundwater data is shown in Appendix B.

#### Regulatory

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. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 1,000 mg/kg (GRO + DRO) and 2,500 mg/kg (GRO + DRO + MRO). Additionally, based on the reported depth to groundwater in the area, the proposed RRAL for chlorides is 20,000 mg/kg.

### **Soil Assessment and Analytical Results**

On July 18, 2019, Tetra Tech personnel were onsite to evaluate and sample the release area. Six (6) auger holes (AH-1, AH-2, AH-3, AH-4, AH-5, and AH-6) were installed in the spill foot print to total depths of 5.0'-5.5' below surface. Four horizontal delineation samples (North Horizontal, South Horizontal, East, Horizontal, and West Horizontal) were also collected. Selected samples were analyzed for TPH analysis by EPA Method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The sample locations are shown in Figure 3.

Referring to Table 1, all analyzed samples showed benzene, total BTEX, TPH, and chloride concentrations below the RRAL's.

#### Conclusion

Based on the laboratory results and the location of the release on the facilities pad and ROW, Cimarex requests closure of this spill issue. The final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment activities for this site, please call at (432) 682-4559.

Respectfully submitted,

TETRA TECH

Clair Gonzales, PG Project Manager Johnathon Kell, Geologist

Salvath P. Kell

## **Tables**

Table 1
Cimarex
Tres Equis State 2H
Lea County, New Mexico

Sample ID	Sample	Sample	Soil S	Status	TPH (mg/kg)			Benzene	Toluene	Ethlybenzene	Xylene	Total BTEX	Chloride	
	Date	Depth (ft)	In-Situ	Removed	GRO	DRO	ORO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
AH-1	7/18/2019	0-6"	Х		ND	ND	ND	ND	ND	ND	ND	ND	ND	338
	"	1-1.5'	Х		ND	ND	ND	ND	ND	ND	ND	ND	ND	90.8
	"	2-2.5'	Х		-	-	-	-	-	-	-	-	-	10.2
	"	3-3.5'	Х		-	-	-	-	-	-	-	-	-	8.63
	"	4-4.5'	Х		-	-	-	-	-	-	-	-	-	8.80
	II	5-5.5'	Х		-	-	-	-	-	-	-	-	-	11.5
AH-2	7/18/2019	0-6"	Х		ND	ND	ND	ND	ND	ND	ND	ND	ND	786
	II .	1-1.5'	Х		ND	ND	ND	ND	ND	ND	ND	ND	ND	19.3
	II.	2-2.5'	Х		-	-	-	-	-	-	-	-	-	16.7
	II.	3-3.5'	Х		-	-	-	-	-	-	-	-	-	19.7
	II .	4-4.5'	Х		-	-	-	-	-	-	-	-	-	18.9
	"	5-5.5'	Х		-	-	-	-	-	-	-	-	-	21.2
AH-3	7/18/2019	0-6"	Х		ND	268	35.7	304	ND	ND	ND	ND	ND	147
	II.	1-1.5'	Х		ND	ND	ND	ND	ND	ND	ND	ND	ND	967
	II.	2-2.5'	Х		-	-	-	-	-	-	-	-	-	487
	II .	3-3.5'	Х		-	-	-	-	-	-	-	-	-	2,040
	II .	4-4.5'	Х		-	-	-	-	-	-	-	-	-	4,160
	"	5-5.5'	Х		-	-	-	-	-	-	-	-	-	7,030
AH-4	7/18/2019	0-6"	Х		ND	ND	ND	ND	ND	ND	ND	ND	ND	73.7
	11	1-1.5'	Х		ND	ND	ND	ND	ND	ND	ND	ND	ND	5.39
	11	2-2.5'	Х		-	-	-	-	-	-	-	-	-	6.60
	11	3-3.5'	Х		-	-	-	-	-	-	-	-	-	5.54
	11	4-4.5'	Х		-	-	-	-	-	-	-	-	-	4.73
	"	5-5.5'	Х		-	-	-	-	-	-	-	-	-	7.15

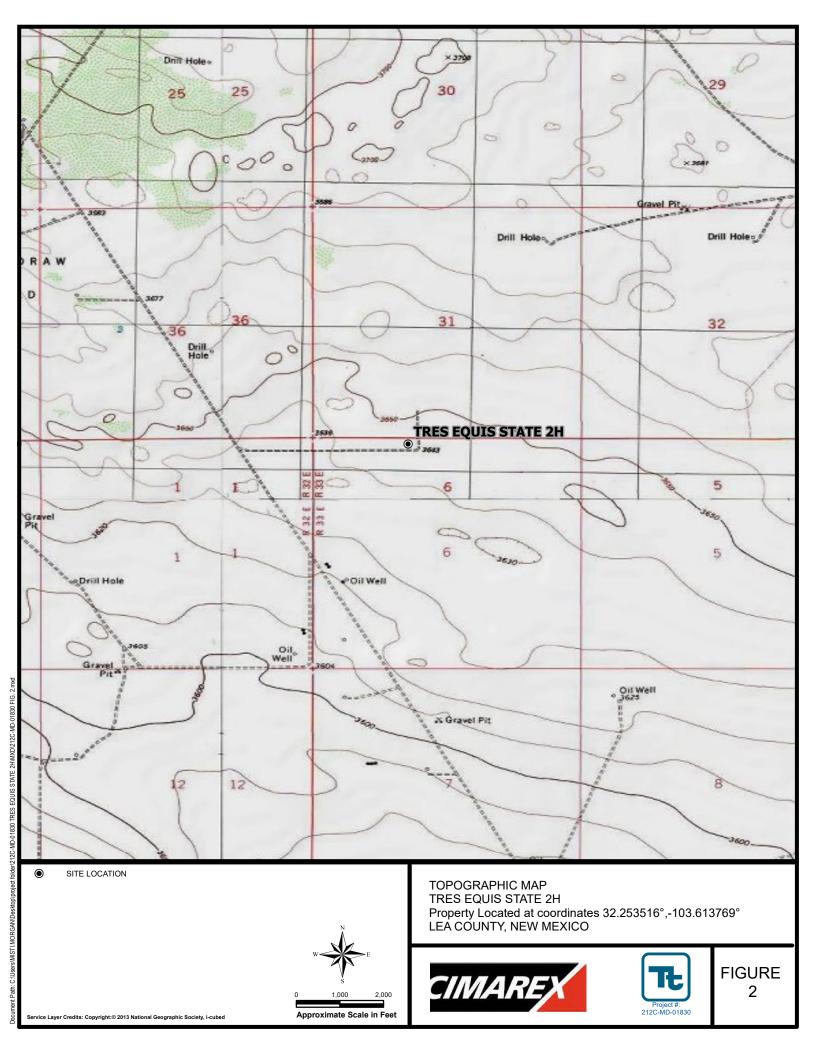
Table 1
Cimarex
Tres Equis State 2H
Lea County, New Mexico

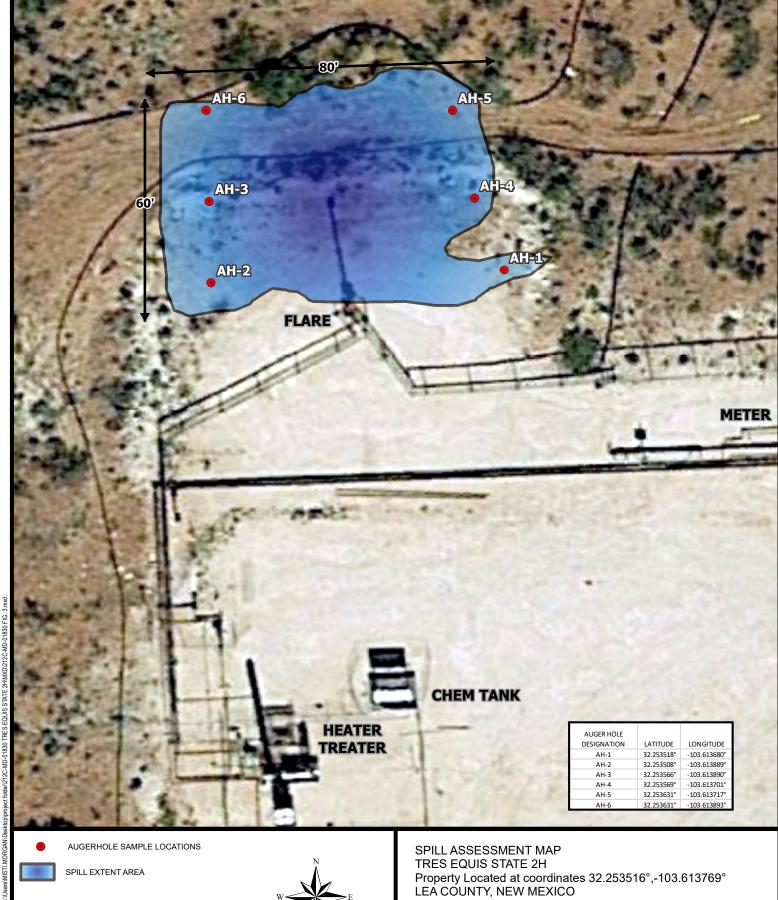
Sample Sample		Sample Soil S		Soil Status TPH (mg/kg)			Benzene T	Toluene	Ethlybenzene	Xylene	Total BTEX	Chloride		
Sample ID	Date	Depth (ft)	In-Situ	Removed	GRO	DRO	ORO	Total	(mg/kg)	(mg/kg)	kg) (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
AH-5	7/18/2019	0-6"	Х		ND	ND	ND	ND	ND	ND	ND	ND	ND	20.4
	"	1-1.5'	Х		ND	ND	ND	ND	ND	ND	ND	ND	ND	1.64
	"	2-2.5'	Х		-	-	-	-	-	-	-	-	-	ND
	"	3-3.5'	Х		-	-	-	-	-	-	-	-	-	4.43
	"	4-4.5'	Х		-	-	-	-	-	-	-	-	-	1.54
	11	5-5.5'	Х		-	-	-	-	-	-	-	-	-	1.1
AH-6	7/18/2019	0-6"	Х		ND	ND	ND	ND	ND	ND	ND	ND	ND	1.51
	"	1-1.5'	Х		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	"	2-2.5'	Х		-	-	-	-	-	-	-	-	-	ND
		3-3.5'	Х		-	-	-	-	-	-	-	-	-	2.86
		4-4.5'	Х		-	1	-	-	-	-	-		-	3.64
	"	5-5.5'	Х		-	-	-	-	-	-	-	-	-	3.7
North Horizontal	7/18/2019	0-6"	Х		ND	ND	ND	ND	ND	ND	ND	ND	ND	1.21
South Horizontal	7/18/2019	0-6"	Х		ND	ND	ND	ND	ND	ND	ND	ND	ND	2.64
East Horizontal	7/18/2019	0-6"	Х		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
West Horizontal	7/18/2019	0-6"	Х		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

( - ) Not Analyzed ND Not Detected

# Figures

STATE LOCATOR MAP





CIMARE

Approximate Scale in Feet

**FIGURE** 3

ce: "New Mexico". 32°15'12.66"N, 103°36'49.25"W. Google Earth. mber 2017. August 16. 2019.

## **Photos**

## Cimarex Energy Tres Equis State 2H Lea County, New Mexico





Area of Release - View South



Area of Release – View Southeast

## Cimarex Energy Tres Equis State 2H Lea County, New Mexico





Area of Release - View Northwest



Area of Release – View Southeast

# Appendix A

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

Responsible Party Cimarex Energy

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	NDHR1917156677
District RP	1RP-5560
Facility ID	
Application ID	pDHR1917156344

## **Release Notification**

### **Responsible Party**

OGRID 215099

Contact Name Christine Alderman					Contact Telephone 432-853-7059				
Contact ema	il calderman	@cimarex.com			Incident # (assigned by OCD)				
Contact mail 79701	ing address	600 N Marienfelo	l Ste 60, Midland	l, TX					
			Location	ı of F	Release So	ource			
Latitude 32.2	53587		(NAD 83 in d	lecimal de	Longitude - egrees to 5 decin	-103.613699 nal places)			
Site Name Tr	res Equis Sta	ate 2H	· · · · · · · · · · · · · · · · · · ·		Site Type	production batt	ery		
Date Release	Discovered	6/5/2019			API# (if app	olicable) 30-025-40	0183		
Unit Letter	Section	Township	Range		Coun	nty			
С	06	24S	33E	Lea			_		
Crude Oil		l(s) Released (Select a Volume Release				justification for the	e volumes provided below) overed (bbls)		
☐ Crude On ☐ Produced		Volume Release  Volume Release			Volume Recovered (bbls)  Volume Recovered (bbls) 0				
	W atox		tion of dissolved	chlorid	· · ·				
Condensa	ite	Volume Release				Volume Recovered (bbls)			
☐ Natural G	as	Volume Release	ed (Mcf)			Volume Reco	overed (Mcf)		
Other (dea	scribe)	Volume/Weight	Released (provid	de units	)	Volume/Wei	ght Recovered (provide units)		
Cause of Rele	ease	<u> </u>				1			
A poly line u	sed for wate	r transfer develop	ed a hole and rele	eased pi	oduced wate	r onto the locat	ion.		

### State of New Mexico Oil Conservation Division

Incident ID	NDHR1917156677
District RP	1RP-5560
Facility ID	
Application ID	pDHR1917156344

Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the respo	nsible party consider this a major release?
Yes No		
If YES, was immediate no	otice given to the OCD? By whom? To w	nom? When and by what means (phone, email, etc)?
	Initial R	esponse
The responsible p	party must undertake the following actions immediate	ly unless they could create a safety hazard that would result in injury
The source of the rele	ease has been stopped.	
The impacted area has	s been secured to protect human health and	the environment.
Released materials ha	we been contained via the use of berms or	likes, absorbent pads, or other containment devices.
All free liquids and re	ecoverable materials have been removed an	d managed appropriately.
has begun, please attach a	a narrative of actions to date. If remedial	emediation immediately after discovery of a release. If remediation efforts have been successfully completed or if the release occurred please attach all information needed for closure evaluation.
regulations all operators are a public health or the environm failed to adequately investiga	required to report and/or file certain release not nent. The acceptance of a C-141 report by the C ate and remediate contamination that pose a thre	best of my knowledge and understand that pursuant to OCD rules and fications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have at to groundwater, surface water, human health or the environment. In responsibility for compliance with any other federal, state, or local laws
Printed Name: _Christine		Title:ESH Supervisor
Signature: Chuotin	e Alderman	Date:6/7/2019
email:calderman@cim	arex.com	Telephone: _432-853-7059
OCD Only		
Received by: Dylan F	Rose-Coss	Date:06/20/2019

## State of New Mexico Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	(ft bgs)				
Did this release impact groundwater or surface water?	☐ 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)?					
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 <b>not</b> 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	
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the regulations all operators are required to report and/or file certain release noti public health or the environment. The acceptance of a C-141 report by the C failed to adequately investigate and remediate contamination that pose a thre addition, OCD acceptance of a C-141 report does not relieve the operator of and/or regulations.	fications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have at to groundwater, surface water, human health or the environment. In
Printed Name:	Title:
Signature:	Date:
email:	Telephone:
OCD Only	
Received by:	Date:

### State of New Mexico Oil Conservation Division

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

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.

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 must be notified 2 days prior to liner inspection)	of the liner integrity if applicable (Note: appropriate OCD District office								
☐ Laboratory analyses of final sampling (Note: appropriate ODC	District office must be notified 2 days prior to final sampling)								
☐ Description of remediation activities									
and regulations all operators are required to report and/or file certain may endanger public health or the environment. The acceptance of a	dediate contamination that pose a threat to groundwater, surface water, C-141 report does not relieve the operator of responsibility for ions. The responsible party acknowledges they must substantially ditions that existed prior to the release or their final land use in CD when reclamation and re-vegetation are complete.  Title:								
	Telephone:								
OCD Only									
<del></del>									
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

# Water Well Data Average Depth to Groundwater (ft) Cimarex - Tres Equis State 2H

	23 5	South	;	32 East			23 S	outh	3	3 East			23 9	South	3	34 East	Ċ
6	5	4	3	2	1	6	5	4	3	2	1	6	5	4	3	2	1
7	8	9	10	11	12	7	8	9	10	11	12	7	8	9	10	11	12
18	17	16	15	14	13	18	17	16	15	14	13	18	17	16	15	14	13
19	20	21	22	23	24	19	20	21	22	23	24	19	20	21	22	23	24
30	29	<b>400</b> 28	27	26	25	30	29	28	27	26	25	30	29	28	27	26	25
31	32	33	34	35 487	36	31	32	33	34	35	36	31	32	33	34	35	36
	24	South		32 East			24 S	outh	3	3 East		<u> </u>	24 9	South		34 East	 }
6	5	4	3	2	1	6 Site	5	4	3	2	1	6	5	4	3	2	1
7	8	9	10	11	12	7	8	9	10	11	12	7	8	9	10	11	12
18	17	16	<b>20</b> 15	14	13	18	17 <b>97</b>	16	<b>24.6</b> 15	14	13	18	17	16	15	14	13
19	20	21	22	23	24	19	20	21	22	23	24	19	20	21	22	23	24
30	29	28	27	26	25	30	29	28	27	<b>208</b> 26	<b>16.9</b> 25	30	29	28	27	26	25
31	32	33	34	35	36	31	32	33	34	35	36	31	32	33	34	35	36
	25.5	290 South		32 East	<u> </u>		25 S	93.2	3	3 East		<u> </u>	25.5	South	-1	34 East	<u></u>
6	5	4	3	2	1	6	5	4	3 172		1	6	5	4	3	2	1
7	8	9	10	11	12	7	8	9	10	11	12	7	8	9	10	11	12
18	17	16	15	14	13	18	17	16	15	140	13	18	17	16	15	14	13
19	20	21	22	23	24	19	20	21	22	23	24	19	20	21	22	23	24
30	29	28	27	26	25	30	<b>200</b> 29	1 <u>20</u> 28	27	26	25	30	29	28	27	26	25
31	32	33	34	35	36	31	32	33	125 34	35	36	31	32	33	34	35	36
	290					257											

- 88 New Mexico State Engineers Well Reports
- 105 USGS Well Reports
- **90** Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)
- 90 Geology and Groundwater Resources of Eddy County, NM (Report 3)
- 34 NMOCD Groundwater Data
- **121** Abandoned Waterwell (recently measured)



USGS Home Contact USGS Search USGS

### **National Water Information System: Web Interface**

HECE	Water	Daggii	
U3G3	water	kesou	rces

Data Category:		Geographic Area:	
Groundwater	<b>~</b>	New Mexico ~	GO

### Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for New Mexico

Click to hide state-specific text

### Search Results -- 1 sites found

site\_no list =

• 321555103381501

### Minimum number of levels = 1

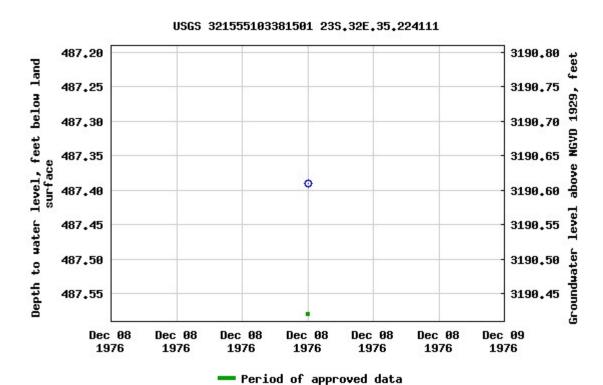
Save file of selected sites to local disk for future upload

### USGS 321555103381501 23S.32E.35.224111

Available data for this site	Groundwater:	Field measurements	~	GO	
Lea County, New Mexico					
Hydrologic Unit Code 1307	0007				
Latitude 32°15'59.0", Long	gitude 103°	38'17.6" NAD83			
Land-surface elevation 3,6	78.00 feet a	above NGVD29			
The depth of the well is 700	) feet belov	v land surface.			
This well is completed in th	e Santa Ro	sa Sandstone (23	31SN	RS) Ic	cal aquifer.

**Output formats** 

<u>Table of data</u>
<u>Tab-separated data</u>
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.

Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility Plug-Ins FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

**Title: Groundwater for New Mexico: Water Levels** 

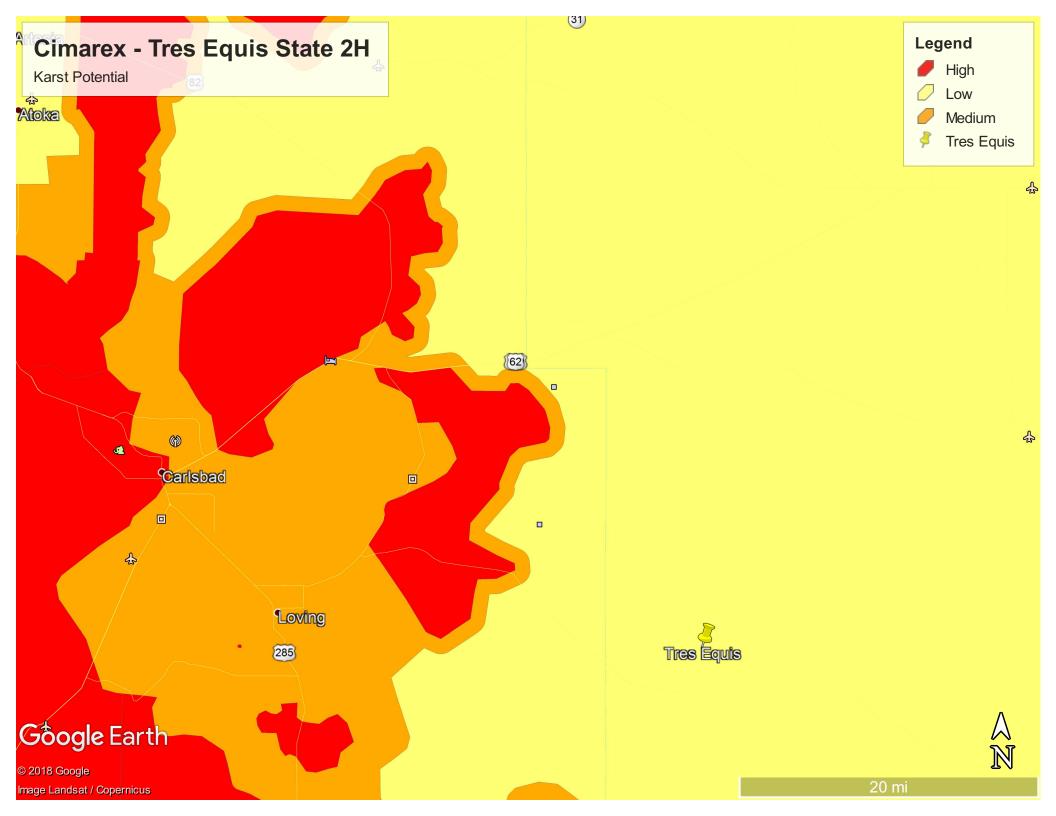
URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

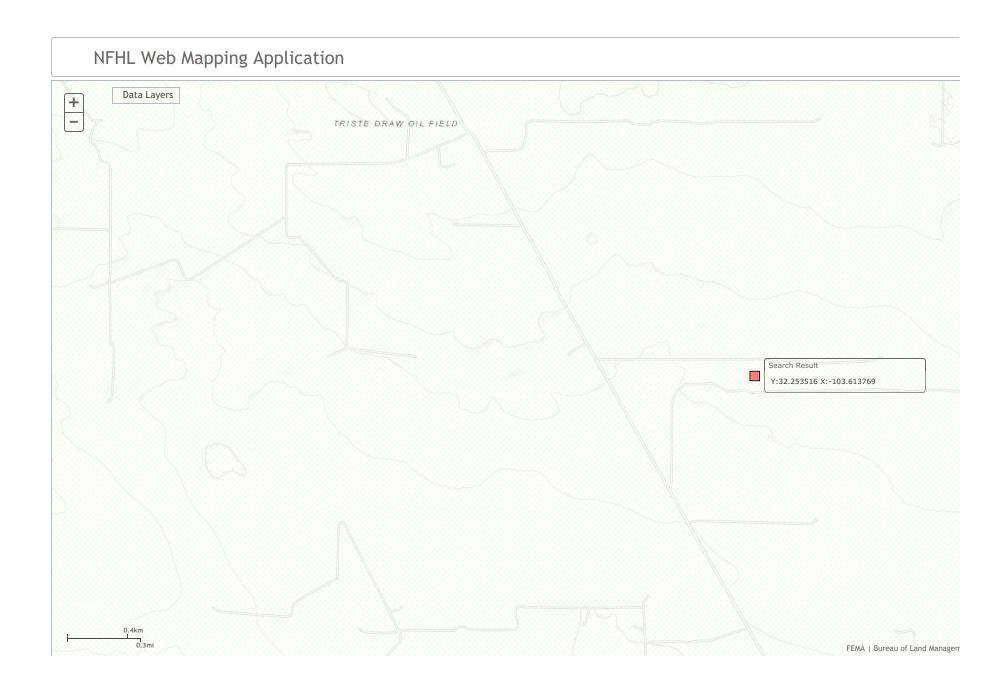
Page Contact Information: New Mexico Water Data Maintainer

Page Last Modified: 2019-08-06 16:03:52 EDT

0.98 0.9 nadww02







# Appendix C

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



## Analytical Report

### **Prepared for:**

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

Project: Tres Equis 2 St Project Number: 212C-MD-01830 Location: Lea County, NM

Lab Order Number: 9G23021



NELAP/TCEQ # T104704516-18-9

Report Date: 07/31/19

Fax: (432) 686-8085

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

Project: Tres Equis 2 St Project Number: 212C-MD-01830 Project Manager: John Kell

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH 1 @ 0-1'	9G23021-01	Soil	07/18/19 00:00	07-23-2019 11:09
AH 1 @ 1-1.5'	9G23021-02	Soil	07/18/19 00:00	07-23-2019 11:09
AH 1 @ 2-2.5'	9G23021-03	Soil	07/18/19 00:00	07-23-2019 11:09
AH 1 @ 3-3.5'	9G23021-04	Soil	07/18/19 00:00	07-23-2019 11:09
AH 1 @ 4-4.5'	9G23021-05	Soil	07/18/19 00:00	07-23-2019 11:09
AH 1 @ 5-5.5'	9G23021-06	Soil	07/18/19 00:00	07-23-2019 11:09
AH 2 @ 0-1'	9G23021-07	Soil	07/18/19 00:00	07-23-2019 11:09
AH 2 @ 1-1.5'	9G23021-08	Soil	07/18/19 00:00	07-23-2019 11:09
AH 2 @ 2-2.5'	9G23021-09	Soil	07/18/19 00:00	07-23-2019 11:09
AH 2 @ 3-3.5'	9G23021-10	Soil	07/18/19 00:00	07-23-2019 11:09
AH 2 @ 4-4.5'	9G23021-11	Soil	07/18/19 00:00	07-23-2019 11:09
AH 2 @ 5-5.5'	9G23021-12	Soil	07/18/19 00:00	07-23-2019 11:09
AH 3 @ 0-1'	9G23021-13	Soil	07/18/19 00:00	07-23-2019 11:09
AH 3 @ 1-1.5'	9G23021-14	Soil	07/18/19 00:00	07-23-2019 11:09
AH 3 @ 2-2.5'	9G23021-15	Soil	07/18/19 00:00	07-23-2019 11:09
AH 3 @ 3-3.5'	9G23021-16	Soil	07/18/19 00:00	07-23-2019 11:09
AH 3 @ 4-4.5'	9G23021-17	Soil	07/18/19 00:00	07-23-2019 11:09
AH 3 @ 5-5.5'	9G23021-18	Soil	07/18/19 00:00	07-23-2019 11:09
AH 4 @ 0-1'	9G23021-19	Soil	07/18/19 00:00	07-23-2019 11:09
AH 4 @ 1-1.5'	9G23021-20	Soil	07/18/19 00:00	07-23-2019 11:09
AH 4 @ 2-2.5'	9G23021-21	Soil	07/18/19 00:00	07-23-2019 11:09
AH 4 @ 3-3.5'	9G23021-22	Soil	07/18/19 00:00	07-23-2019 11:09
AH 4 @ 4-4.5'	9G23021-23	Soil	07/18/19 00:00	07-23-2019 11:09
AH 4 @ 5-5.5'	9G23021-24	Soil	07/18/19 00:00	07-23-2019 11:09
AH 5 @ 0-1'	9G23021-25	Soil	07/18/19 00:00	07-23-2019 11:09
AH 5 @ 1-1.5'	9G23021-26	Soil	07/18/19 00:00	07-23-2019 11:09
AH 5 @ 2-2.5'	9G23021-27	Soil	07/18/19 00:00	07-23-2019 11:09
AH 5 @ 3-3.5'	9G23021-28	Soil	07/18/19 00:00	07-23-2019 11:09
AH 5 @ 4-4.5'	9G23021-29	Soil	07/18/19 00:00	07-23-2019 11:09
AH 5 @ 5-5.5'	9G23021-30	Soil	07/18/19 00:00	07-23-2019 11:09
AH 6 @ 0-1'	9G23021-31	Soil	07/18/19 00:00	07-23-2019 11:09
AH 6 @ 1-1.5'	9G23021-32	Soil	07/18/19 00:00	07-23-2019 11:09
AH 6 @ 2-2.5'	9G23021-33	Soil	07/18/19 00:00	07-23-2019 11:09
AH 6 @ 3-3.5'	9G23021-34	Soil	07/18/19 00:00	07-23-2019 11:09

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH 6 @ 4-4.5'	9G23021-35	Soil	07/18/19 00:00	07-23-2019 11:09
AH 6 @ 5-5.5'	9G23021-36	Soil	07/18/19 00:00	07-23-2019 11:09

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 1 @ 0-1' 9G23021-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Allalyte	Result	LIIIII	Onits	Dilution	Datell	ricpared	Anaryzeu	Wenlod	Notes
	Pern	nian Basin E	Invironmer	ıtal Lab, l	L <b>.P.</b>				
Organics by GC									
Benzene	ND	0.00106	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Toluene	ND	0.00106	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		102 %	75-1	25	P9G2405	07/24/19	07/24/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		87.8 %	75-1	25	P9G2405	07/24/19	07/24/19	EPA 8021B	
General Chemistry Parameters by EPA	Standard Method	ds							
Chloride	338	1.06	mg/kg dry	1	P9G2802	07/28/19	07/29/19	EPA 300.0	
% Moisture	6.0	0.1	%	1	P9G2404	07/24/19	07/24/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35	by EPA Method 80	015M							
C6-C12	ND	26.6	mg/kg dry	1	P9G2509	07/25/19	07/27/19	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P9G2509	07/25/19	07/27/19	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P9G2509	07/25/19	07/27/19	TPH 8015M	
Surrogate: 1-Chlorooctane		83.0 %	70-1	30	P9G2509	07/25/19	07/27/19	TPH 8015M	
Surrogate: o-Terphenyl		89.4 %	70-1	30	P9G2509	07/25/19	07/27/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	07/25/19	07/27/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

### AH 1 @ 1-1.5' 9G23021-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
) t		nian Basin E				Trepareu	- mary zea		
Organics by GC				,					
Benzene	ND	0.00110	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Toluene	ND	0.00110	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.1 %	75-1.	25	P9G2405	07/24/19	07/24/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		113 %	75-1.	25	P9G2405	07/24/19	07/24/19	EPA 8021B	
General Chemistry Parameters by EPA / Sta	ındard Metho	ds							
Chloride	90.8	1.10	mg/kg dry	1	P9G2802	07/28/19	07/29/19	EPA 300.0	
% Moisture	9.0	0.1	%	1	P9G2404	07/24/19	07/24/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by I	EPA Method 8	015M							
C6-C12	ND	27.5	mg/kg dry	1	P9G2509	07/25/19	07/27/19	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P9G2509	07/25/19	07/27/19	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P9G2509	07/25/19	07/27/19	TPH 8015M	
Surrogate: 1-Chlorooctane		82.0 %	70-1.	30	P9G2509	07/25/19	07/27/19	TPH 8015M	
Surrogate: o-Terphenyl		87.3 %	70-1.	30	P9G2509	07/25/19	07/27/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	07/25/19	07/27/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 1 @ 2-2.5' 9G23021-03 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

Chloride	10.2	1.09 mg/kg dry	1	P9G2802	07/28/19	07/29/19	EPA 300.0
% Moisture	8.0	0.1 %	1	P9G2404	07/24/19	07/24/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 1 @ 3-3.5' 9G23021-04 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

Chloride	8.63	1.05 mg/kg dry	1	P9G2802	07/28/19	07/29/19	EPA 300.0
% Moisture	5.0	0.1 %	1	P9G2404	07/24/19	07/24/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 1 @ 4-4.5' 9G23021-05 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

Chloride	8.80	1.09 mg/kg dry	1	P9G2802	07/28/19	07/29/19	EPA 300.0
% Moisture	8.0	0.1 %	1	P9G2404	07/24/19	07/24/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 1 @ 5-5.5' 9G23021-06 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	11.5	1.09 mg/kg dry	1	P9G2802	07/28/19	07/29/19	EPA 300.0
% Moisture	8.0	0.1 %	1	P9G2404	07/24/19	07/24/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

### AH 2 @ 0-1' 9G23021-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Peri	nian Basin E	Environmen	ıtal Lab, I					
Organics by GC									
Benzene	ND	0.00109	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Toluene	ND	0.00109	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		92.1 %	75-1	25	P9G2405	07/24/19	07/24/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		88.2 %	75-1	25	P9G2405	07/24/19	07/24/19	EPA 8021B	
General Chemistry Parameters by EPA / Sta	ndard Metho	ds							
Chloride	786	1.09	mg/kg dry	1	P9G2802	07/28/19	07/29/19	EPA 300.0	
% Moisture	8.0	0.1	%	1	P9G2404	07/24/19	07/24/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by E	PA Method 8	015M							
C6-C12	ND	27.2	mg/kg dry	1	P9G2509	07/25/19	07/27/19	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P9G2509	07/25/19	07/27/19	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P9G2509	07/25/19	07/27/19	TPH 8015M	
Surrogate: 1-Chlorooctane		79.9 %	70-1	30	P9G2509	07/25/19	07/27/19	TPH 8015M	
Surrogate: o-Terphenyl		88.7 %	70-1	30	P9G2509	07/25/19	07/27/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	07/25/19	07/27/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

### AH 2 @ 1-1.5' 9G23021-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		nian Basin E				Tropuled	2 mary 200	memod	110103
	ren	man basın e	anvironiniei	itai Lab, i	<b>⊿.Г.</b>				
Organics by GC									
Benzene	ND	0.00102	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Toluene	ND	0.00102	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Ethylbenzene	ND	0.00102	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Xylene (p/m)	ND	0.00204	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Xylene (o)	ND	0.00102	mg/kg dry	1	P9G2405	07/24/19	07/24/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		111 %	75-1	25	P9G2405	07/24/19	07/24/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.7 %	75-1	25	P9G2405	07/24/19	07/24/19	EPA 8021B	
General Chemistry Parameters by EPA / Star	ndard Metho	ds							
Chloride	19.3	1.02	mg/kg dry	1	P9G2802	07/28/19	07/29/19	EPA 300.0	
% Moisture	2.0	0.1	%	1	P9G2404	07/24/19	07/24/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by E	PA Method 8	015M							
C6-C12	ND	25.5	mg/kg dry	1	P9G2509	07/25/19	07/27/19	TPH 8015M	
>C12-C28	ND	25.5	mg/kg dry	1	P9G2509	07/25/19	07/27/19	TPH 8015M	
>C28-C35	ND	25.5	mg/kg dry	1	P9G2509	07/25/19	07/27/19	TPH 8015M	
Surrogate: 1-Chlorooctane		80.4 %	70-1	30	P9G2509	07/25/19	07/27/19	TPH 8015M	
Surrogate: o-Terphenyl		84.5 %	70-1	30	P9G2509	07/25/19	07/27/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.5	mg/kg dry	1	[CALC]	07/25/19	07/27/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 2 @ 2-2.5' 9G23021-09 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	16.7	1.02 mg/kg dry	1	P9G2802	07/28/19	07/29/19	EPA 300.0
% Moisture	2.0	0.1 %	1	P9G2404	07/24/19	07/24/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 2 @ 3-3.5' 9G23021-10 (Soil)

									I .
		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	19.7	1.02 mg/kg dry	1	P9G2802	07/28/19	07/29/19	EPA 300.0
% Moisture	2.0	0.1 %	1	P9G2404	07/24/19	07/24/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 2 @ 4-4.5' 9G23021-11 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	18.9	1.02 mg/kg dry	1	P9G2802	07/28/19	07/29/19	EPA 300.0
% Moisture	2.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 2 @ 5-5.5' 9G23021-12 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	21.2	1.05 mg/kg dry	1	P9G2802	07/28/19	07/29/19	EPA 300.0
% Moisture	5.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

### AH 3 @ 0-1' 9G23021-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Perm	ian Basin E	nvironmen	tal Lab, I	L.P.	•			
Organics by GC									
Benzene	ND	0.00110	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Toluene	ND	0.00110	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		110 %	75-12	?5	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.0 %	75-12	25	P9G2405	07/24/19	07/25/19	EPA 8021B	
General Chemistry Parameters by EP	A / Standard Method	ls							
Chloride	147	1.10	mg/kg dry	1	P9G2802	07/28/19	07/29/19	EPA 300.0	
% Moisture	9.0	0.1	%	1	P9G2501	07/25/19	07/25/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C3	35 by EPA Method 80	15M							
C6-C12	ND	27.5	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
>C12-C28	268	27.5	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
>C28-C35	35.7	27.5	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
Surrogate: 1-Chlorooctane		83.8 %	70-1.	30	P9G2510	07/25/19	07/27/19	TPH 8015M	
Surrogate: o-Terphenyl		90.9 %	70-1.	30	P9G2510	07/25/19	07/27/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	304	27.5	mg/kg dry	1	[CALC]	07/25/19	07/27/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

## AH 3 @ 1-1.5' 9G23021-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Analyte						Frepared	Allaryzeu	Method	Notes
	Pern	iian Basin E	Environmen	ıtal Lab, l	L <b>.P.</b>				
Organics by GC									
Benzene	ND	0.00105	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Toluene	ND	0.00105	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		97.0 %	75-1	25	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		115 %	75-1	25	P9G2405	07/24/19	07/25/19	EPA 8021B	
General Chemistry Parameters by EPA	Standard Method	ls							
Chloride	967	1.05	mg/kg dry	1	P9G2802	07/28/19	07/29/19	EPA 300.0	
% Moisture	5.0	0.1	%	1	P9G2501	07/25/19	07/25/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35	by EPA Method 80	)15M							
C6-C12	ND	26.3	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
Surrogate: 1-Chlorooctane		82.8 %	70-1	30	P9G2510	07/25/19	07/27/19	TPH 8015M	
Surrogate: o-Terphenyl		84.6 %	70-1	30	P9G2510	07/25/19	07/27/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	07/25/19	07/27/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 3 @ 2-2.5' 9G23021-15 (Soil)

									I .
		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	487	1.05 mg/kg dry	1	P9G2802	07/28/19	07/29/19	EPA 300.0
% Moisture	5.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 3 @ 3-3.5' 9G23021-16 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	2040	5.15 mg/kg dry	5	P9G2803	07/28/19	07/29/19	EPA 300.0
% Moisture	3.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 3 @ 4-4.5' 9G23021-17 (Soil)

									I .
		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	4160	5.21 mg/kg dry	5	P9G2803	07/28/19	07/29/19	EPA 300.0
% Moisture	4.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 3 @ 5-5.5' 9G23021-18 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

Chloride	7030	10.6 mg/kg dry	10	P9G2803	07/28/19	07/29/19	EPA 300.0
% Moisture	6.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

## AH 4 @ 0-1' 9G23021-19 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		nian Basin E				Trepared	- mary zea	11201104	110100
Organics by GC				,					
Benzene	ND	0.00120	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Toluene	ND	0.00120	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Ethylbenzene	ND	0.00120	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (p/m)	ND	0.00241	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (o)	ND	0.00120	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		96.2 %	75-1.	25	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		120 %	75-1.	25	P9G2405	07/24/19	07/25/19	EPA 8021B	
<b>General Chemistry Parameters by EPA / Sta</b>	ndard Metho	ds							
Chloride	73.7	1.20	mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0	
% Moisture	17.0	0.1	%	1	P9G2501	07/25/19	07/25/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by E	PA Method 8	015M							
C6-C12	ND	30.1	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
>C12-C28	ND	30.1	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
>C28-C35	ND	30.1	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
Surrogate: 1-Chlorooctane		79.9 %	70-1.	30	P9G2510	07/25/19	07/27/19	TPH 8015M	
Surrogate: o-Terphenyl		85.6 %	70-1.	30	P9G2510	07/25/19	07/27/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	30.1	mg/kg dry	1	[CALC]	07/25/19	07/27/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

### AH 4 @ 1-1.5' 9G23021-20 (Soil)

Analysis	Result	Reporting Limit	Units	Dilution	Batch	Dromorod	Amalyzad	Mathad	Notes
Analyte	Result	Limit	Units	Dilution	Баісп	Prepared	Analyzed	Method	Notes
	Pern	iian Basin E	Environmen	tal Lab, l	<b>L.P.</b>				
Organics by GC									
Benzene	ND	0.00101	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Toluene	ND	0.00101	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.1 %	75-1	25	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		111 %	75-1	25	P9G2405	07/24/19	07/25/19	EPA 8021B	
General Chemistry Parameters by EPA	/ Standard Method	ls							
Chloride	5.39	1.01	mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0	
% Moisture	1.0	0.1	%	1	P9G2501	07/25/19	07/25/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35	by EPA Method 80	015M							
C6-C12	ND	25.3	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
Surrogate: 1-Chlorooctane		80.8 %	70-1	30	P9G2510	07/25/19	07/27/19	TPH 8015M	
Surrogate: o-Terphenyl		84.0 %	70-1	30	P9G2510	07/25/19	07/27/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	07/25/19	07/27/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 4 @ 2-2.5' 9G23021-21 (Soil)

			Reporting							
A	nalvte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	6.60	1.01 mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0
% Moisture	1.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 4 @ 3-3.5' 9G23021-22 (Soil)

									I .
		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	5.54	1.00 mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0
% Moisture	ND	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 4 @ 4-4.5' 9G23021-23 (Soil)

									I .
		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	4.73	1.02 mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0
% Moisture	2.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 4 @ 5-5.5' 9G23021-24 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	7.15	1.05 mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0
% Moisture	5.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

## AH 5 @ 0-1' 9G23021-25 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Peri	nian Basin E	nvironmer	ıtal Lab, I	L.P.				
Organics by GC									
Benzene	ND	0.00104	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Toluene	ND	0.00104	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.4 %	75-1	25	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		112 %	75-1	25	P9G2405	07/24/19	07/25/19	EPA 8021B	
<b>General Chemistry Parameters by EPA / Sta</b>	ndard Metho	ds							
Chloride	20.4	1.04	mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0	
% Moisture	4.0	0.1	%	1	P9G2501	07/25/19	07/25/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by E	PA Method 8	015M							
C6-C12	ND	26.0	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
Surrogate: 1-Chlorooctane		80.6 %	70-1	30	P9G2510	07/25/19	07/27/19	TPH 8015M	
Surrogate: o-Terphenyl		84.5 %	70-1	30	P9G2510	07/25/19	07/27/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	07/25/19	07/27/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

### AH 5 @ 1-1.5' 9G23021-26 (Soil)

	D. I	Reporting	<b>T</b> T 11	Dil c	D. I	ъ.		W 4 - 1	<b>N</b> . /
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Perm	nian Basin E	Environmen	ital Lab, l	P.				
Organics by GC									
Benzene	ND	0.00102	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Toluene	ND	0.00102	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Ethylbenzene	ND	0.00102	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (p/m)	ND	0.00204	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (o)	ND	0.00102	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		109 %	75-1	25	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		92.5 %	75-1	25	P9G2405	07/24/19	07/25/19	EPA 8021B	
General Chemistry Parameters by EPA	/ Standard Method	ls							
Chloride	1.64	1.02	mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0	
% Moisture	2.0	0.1	%	1	P9G2501	07/25/19	07/25/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35	by EPA Method 80	015M							
C6-C12	ND	25.5	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
>C12-C28	ND	25.5	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
>C28-C35	ND	25.5	mg/kg dry	1	P9G2510	07/25/19	07/27/19	TPH 8015M	
Surrogate: 1-Chlorooctane		81.5 %	70-1	30	P9G2510	07/25/19	07/27/19	TPH 8015M	
Surrogate: o-Terphenyl		88.3 %	70-1	30	P9G2510	07/25/19	07/27/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.5	mg/kg dry	1	[CALC]	07/25/19	07/27/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 5 @ 2-2.5' 9G23021-27 (Soil)

									I .
		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	ND	1.01 mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0
% Moisture	1.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 5 @ 3-3.5' 9G23021-28 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	4.43	1.05 mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0
% Moisture	5.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 5 @ 4-4.5' 9G23021-29 (Soil)

									I .
		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	1.54	1.05 mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0
% Moisture	5.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 5 @ 5-5.5' 9G23021-30 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

Chloride	1.11	1.06 mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0
% Moisture	6.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

## AH 6 @ 0-1' 9G23021-31 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Pern	nian Basin E	nvironmer	ıtal Lab, l	L <b>.P.</b>				
Organics by GC									
Benzene	ND	0.00103	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Toluene	ND	0.00103	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Ethylbenzene	ND	0.00103	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.2 %	75-1	25	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		116 %	75-1	25	P9G2405	07/24/19	07/25/19	EPA 8021B	
General Chemistry Parameters by EPA	Standard Method	ls							
Chloride	1.51	1.03	mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0	
% Moisture	3.0	0.1	%	1	P9G2501	07/25/19	07/25/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 l	by EPA Method 80	)15M							
C6-C12	ND	25.8	mg/kg dry	1	P9G2511	07/25/19	07/25/19	TPH 8015M	
>C12-C28	ND	25.8	mg/kg dry	1	P9G2511	07/25/19	07/25/19	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P9G2511	07/25/19	07/25/19	TPH 8015M	
Surrogate: 1-Chlorooctane		84.9 %	70-1	30	P9G2511	07/25/19	07/25/19	TPH 8015M	
Surrogate: o-Terphenyl		90.9 %	70-1	30	P9G2511	07/25/19	07/25/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.8	mg/kg dry	1	[CALC]	07/25/19	07/25/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

### AH 6 @ 1-1.5' 9G23021-32 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
majo						Trepared	7 mary zeu	Monod	110103
	Peri	nian Basin E	nvironmer	itai Lab, I	⊔ <b>.۲.</b>				
Organics by GC									
Benzene	ND	0.00101	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Toluene	ND	0.00101	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		112 %	75-1	25	P9G2405	07/24/19	07/25/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.8 %	75-1	25	P9G2405	07/24/19	07/25/19	EPA 8021B	
<b>General Chemistry Parameters by EPA / Stat</b>	ndard Metho	ds							
Chloride	ND	1.01	mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0	
% Moisture	1.0	0.1	%	1	P9G2501	07/25/19	07/25/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by E	PA Method 8	015M							
C6-C12	ND	25.3	mg/kg dry	1	P9G2511	07/25/19	07/25/19	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P9G2511	07/25/19	07/25/19	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P9G2511	07/25/19	07/25/19	TPH 8015M	
Surrogate: 1-Chlorooctane		86.4 %	70-1	30	P9G2511	07/25/19	07/25/19	TPH 8015M	
Surrogate: o-Terphenyl		90.2 %	70-1	30	P9G2511	07/25/19	07/25/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	07/25/19	07/25/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 6 @ 2-2.5' 9G23021-33 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	ND	1.03 mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0
% Moisture	3.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 6 @ 3-3.5' 9G23021-34 (Soil)

									I .
		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	2.86	1.03 mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0
% Moisture	3.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 6 @ 4-4.5' 9G23021-35 (Soil)

									I .
		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	3.64	1.05 mg/kg dry	1	P9G2803	07/28/19	07/29/19	EPA 300.0
% Moisture	5.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

AH 6 @ 5-5.5' 9G23021-36 (Soil)

									I .
		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### Permian Basin Environmental Lab, L.P.

Chloride	3.74	1.08 mg/kg dry	1	P9G2907	07/29/19	07/29/19	EPA 300.0
% Moisture	7.0	0.1 %	1	P9G2501	07/25/19	07/25/19	ASTM D2216

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

## Organics by GC - Quality Control Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
						,				
Batch P9G2405 - General Preparation (GC) Blank (P9G2405-BLK1)				Prepared &	Analyzed:	07/24/19				
Benzene	ND	0.00100	mg/kg wet	1 repared &	Allalyzcu.	07/24/19				
Toluene	ND	0.00100	mg/kg wet							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.125		"	0.120		104	75-125			
Surrogate: 1,4-Difluorobenzene	0.108		"	0.120		89.8	75-125			
LCS (P9G2405-BS1)				Prepared &	: Analyzed:	07/24/19				
Benzene	0.111	0.00100	mg/kg wet	0.100		111	70-130			
Toluene	0.117	0.00100	"	0.100		117	70-130			
Ethylbenzene	0.112	0.00100	"	0.100		112	70-130			
Xylene (p/m)	0.212	0.00200	"	0.200		106	70-130			
Xylene (o)	0.113	0.00100	"	0.100		113	70-130			
Surrogate: 4-Bromofluorobenzene	0.132		"	0.120		110	75-125			
Surrogate: 1,4-Difluorobenzene	0.143		"	0.120		119	75-125			
LCS Dup (P9G2405-BSD1)				Prepared &	Analyzed:	07/24/19				
Benzene	0.112	0.00100	mg/kg wet	0.100		112	70-130	1.62	20	
Toluene	0.114	0.00100	"	0.100		114	70-130	2.96	20	
Ethylbenzene	0.116	0.00100	"	0.100		116	70-130	3.44	20	
Xylene (p/m)	0.225	0.00200	"	0.200		113	70-130	5.93	20	
Xylene (o)	0.113	0.00100	"	0.100		113	70-130	0.177	20	
Surrogate: 4-Bromofluorobenzene	0.124		"	0.120		103	75-125			
Surrogate: 1,4-Difluorobenzene	0.137		"	0.120		114	75-125			
Calibration Blank (P9G2405-CCB2)				Prepared: 0	)7/24/19 Aı	nalyzed: 07	/25/19			
Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 1,4-Difluorobenzene	0.112		"	0.120		93.0	75-125			
Surrogate: 4-Bromofluorobenzene	0.134		"	0.120		112	75-125			

901 W Wall Street, Ste 100 Midland TX, 79705 Project Number: 212C-MD-01830 Project Manager: John Kell

## Organics by GC - Quality Control Permian Basin Environmental Lab, L.P.

Toluene 0.0810 0.00108 " 0.108 ND 75.3 80-120 QM-05 Ethylbenzene 0.0857 0.00108 " 0.108 ND 79.7 80-120 QM-05 Xylene (p/m) 0.196 0.00215 " 0.215 ND 91.2 80-120 Xylene (o) 0.0873 0.00108 " 0.108 ND 81.2 80-120 Surrogate: 1,4-Diffuorobenzene 0.151 " 0.129 117 75-125 Surrogate: 4-Bromofluorobenzene 0.139 " 0.129 108 75-125  Matrix Spike Dup (P9G2405-MSD1) Source: 9G23020-09 Prepared: 07/24/19 Analyzed: 07/25/19 Benzene 0.0559 0.00108 mg/kg dry 0.108 ND 52.0 80-120 26.5 20 QM-05 Toluene 0.0678 0.00108 " 0.108 ND 63.1 80-120 17.6 20 QM-05 Ethylbenzene 0.0747 0.00108 " 0.108 ND 69.4 80-120 13.8 20 QM-05 Xylene (p/m) 0.195 0.00215 " 0.215 ND 90.6 80-120 0.567 20	Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Remizence	Batch P9G2405 - General Preparation (C	GC)									
Tolune	Calibration Check (P9G2405-CCV2)				Prepared: (	07/24/19 A	nalyzed: 07	7/25/19			
Selection   Control   Co	Benzene	0.0992	0.00100	mg/kg wet	0.100		99.2	80-120			
National Content   National Co	Toluene	0.112	0.00100	"	0.100		112	80-120			
Xylene (o)	Ethylbenzene	0.107	0.00100	"	0.100		107	80-120			
State of the sta	Xylene (p/m)	0.235	0.00200	"	0.200		117	80-120			
Surrogate:   A-Polithorobenzene	Xylene (o)	0.110	0.00100	"	0.100		110	80-120			
Prepared: 07/24/19   Analyzed: 07/25/19	Surrogate: 4-Bromofluorobenzene	0.128		"	0.120		107	75-125			
Benzene 0.119 0.00100 mg/kg wet 0.100 119 80-120 Toluene 0.119 0.00100 " 0.100 119 80-120 Ethylbenzene 0.119 0.00100 " 0.100 119 80-120 Ethylbenzene 0.119 0.00100 " 0.100 119 80-120 Xylene (p/m) 0.222 0.00200 " 0.200 111 80-120 Xylene (p/m) 0.222 0.00200 " 0.100 111 80-120 Xylene (o) 0.118 0.00100 " 0.100 111 80-120 Xyrogate: 1,4-Difluorobenzene 0.134 " 0.120 112 75-125 Surrogate: 4-Bromofluorobenzene 0.131 " 0.120 110 75-125  Matrix Spike (P9G2405-MS1) Source: 9G23020-09 Prepared: 07/24/19 Analyzed: 07/25/19 Benzene 0.0730 0.00108 mg/kg dry 0.108 ND 67.9 80-120 QM-05 Toluene 0.0810 0.00108 " 0.108 ND 75.3 80-120 QM-05 Ethylbenzene 0.0857 0.00108 " 0.108 ND 75.3 80-120 QM-05 Ethylbenzene 0.0857 0.00108 " 0.108 ND 79.7 80-120 QM-05 Xylene (p/m) 0.196 0.00215 " 0.215 ND 91.2 80-120 Xylene (p/m) 0.0873 0.00108 " 0.108 ND 79.7 80-120 Xylene (y) 0.0873 0.00108 " 0.129 117 75-125 Surrogate: 4-Bromofluorobenzene 0.151 " 0.129 117 75-125 Surrogate: 4-Bromofluorobenzene 0.151 " 0.129 117 75-125 Surrogate: 4-Bromofluorobenzene 0.151 " 0.129 117 75-125 Surrogate: 4-Bromofluorobenzene 0.0559 0.00108 mg/kg dry 0.108 ND 81.2 80-120  Matrix Spike Dup (P9G2405-MSD1) Source: 9G23020-09 Prepared: 07/24/19 Analyzed: 07/25/19  Benzene 0.0559 0.00108 mg/kg dry 0.108 ND 52.0 80-120 26.5 20 QM-05 Toluene 0.0678 0.00108 " 0.108 ND 63.1 80-120 17.6 20 QM-05 Toluene 0.0678 0.00108 " 0.108 ND 69.4 80-120 17.6 20 QM-05 Toluene 0.0678 0.00108 " 0.108 ND 69.4 80-120 17.6 20 QM-05 Toluene 0.0678 0.00108 " 0.108 ND 69.6 80-120 0.567 20 Xylene (p/m) 0.195 0.00215 " 0.118 ND 75.6 80-120 7.19 20 QM-05 Toluene 0.06813 0.00108 " 0.118 ND 75.6 80-120 7.19 20 QM-05 Toluene 0.06813 0.00108 " 0.118 ND 75.6 80-120 7.19 20 QM-05 Toluene 0.06813 0.00108 " 0.118 ND 75.6 80-120 7.19 20 QM-05 Toluene 0.06813 0.00108 " 0.118 ND 75.6 80-120 7.19 20 QM-05 Toluene 0.06813 0.00108 " 0.118 ND 75.6 80-120 7.19 20 QM-05	Surrogate: 1,4-Difluorobenzene	0.137		"	0.120		114	75-125			
Toluene	Calibration Check (P9G2405-CCV3)				Prepared: (	07/24/19 A	nalyzed: 07	7/25/19			
Ethylbenzene 0.119 0.00100 " 0.100 119 80-120	Benzene	0.119	0.00100	mg/kg wet	0.100		119	80-120			
Xylene (p/m)   0.222   0.0020   "   0.200   111   80-120     Xylene (o)   0.118   0.0010   "   0.100   118   80-120     Xylene (o)   0.118   0.0010   "   0.120   112   75-125     Xurrogate: 4-Bromofluorobenzene   0.134   "   0.120   110   75-125     Xurrogate: 4-Bromofluorobenzene   0.031   "   0.120   110   75-125     Xurrogate: 4-Bromofluorobenzene   0.031   0.00108   mg/kg dry   0.108   ND   67.9   80-120   QM-05     Xylene (p/m)   0.0857   0.00108   "   0.108   ND   75.3   80-120   QM-05     Xylene (p/m)   0.196   0.00215   "   0.118   ND   75.3   80-120   QM-05     Xylene (p/m)   0.196   0.00215   "   0.129   ND   91.2   80-120     Xylene (a)   0.0873   0.00108   "   0.108   ND   91.2   80-120   QM-05     Xylene (b)   0.0873   0.00108   "   0.129   ND   91.2   80-120   QM-05     Xylene (b)   0.0873   0.00108   "   0.129   ND   91.2   80-120   QM-05     Xylene (b)   0.0873   0.00108   "   0.129   ND   91.2   80-120   QM-05   QM-05     Xylene (b)   0.0873   0.00108   "   0.129   ND   91.2   80-120   QM-05   Q	Toluene	0.119	0.00100	"	0.100		119	80-120			
Nylene (ph   0.122	Ethylbenzene	0.119	0.00100	"	0.100		119	80-120			
Surrogate: 1,4-Difluorobenzene   0.131   " 0.120   112   75-125	Xylene (p/m)	0.222	0.00200	"	0.200		111	80-120			
Matrix Spike (P9G2405-MS1)         Source: 9G23020-09         Prepared: 07/24/19 Prep	Xylene (o)	0.118	0.00100	"	0.100		118	80-120			
Matrix Spike (P9G2405-MS1)   Source: 9G23020-09   Prepared: 07/24/19   Analyzed: 07/25/19	Surrogate: 1,4-Difluorobenzene	0.134		"	0.120		112	75-125			
Benzene 0.0730 0.00108 mg/kg dry 0.108 ND 67.9 80-120 QM-05 Toluene 0.0810 0.00108 " 0.108 ND 75.3 80-120 QM-05 Ethylbenzene 0.0857 0.00108 " 0.108 ND 79.7 80-120 QM-05 Xylene (p/m) 0.196 0.00215 " 0.215 ND 91.2 80-120 Xylene (o) 0.0873 0.00108 " 0.108 ND 81.2 80-120 Surrogate: 1,4-Difluorobenzene 0.151 " 0.129 117 75-125 Surrogate: 4-Bromofluorobenzene 0.139 " 0.129 108 75-125  Matrix Spike Dup (P9G2405-MSD1) Source: 9G23020-09 Prepared: 07/24/19 Analyzed: 07/25/19 Benzene 0.0559 0.00108 mg/kg dry 0.108 ND 52.0 80-120 26.5 20 QM-05 Toluene 0.0678 0.00108 " 0.108 ND 63.1 80-120 17.6 20 QM-05 Ethylbenzene 0.0747 0.00108 " 0.108 ND 69.4 80-120 13.8 20 QM-05 Xylene (p/m) 0.195 0.00215 " 0.215 ND 90.6 80-120 0.567 20 Xylene (p/m) 0.195 0.00215 " 0.215 ND 90.6 80-120 0.567 20 Xylene (o) 0.0813 0.00108 " 0.108 ND 75.6 80-120 7.19 20 QM-05 Surrogate: 4-Bromofluorobenzene 0.161 " 0.129 125 75-125	Surrogate: 4-Bromofluorobenzene	0.131		"	0.120		110	75-125			
Toluene 0.0810 0.00108 " 0.108 ND 75.3 80-120 QM-05 Ethylbenzene 0.0857 0.00108 " 0.108 ND 79.7 80-120 QM-05 Xylene (p/m) 0.196 0.00215 " 0.215 ND 91.2 80-120 Xylene (o) 0.0873 0.00108 " 0.108 ND 81.2 80-120 Surrogate: 1,4-Difluorobenzene 0.151 " 0.129 117 75-125 Surrogate: 4-Bromofluorobenzene 0.139 " 0.129 108 75-125  Matrix Spike Dup (P9G2405-MSD1) Source: 9G23020-09 Prepared: 07/24/19 Analyzed: 07/25/19 Benzene 0.0559 0.00108 mg/kg dry 0.108 ND 52.0 80-120 26.5 20 QM-05 Toluene 0.0678 0.00108 " 0.108 ND 63.1 80-120 17.6 20 QM-05 Ethylbenzene 0.0747 0.00108 " 0.108 ND 63.1 80-120 17.6 20 QM-05 Xylene (p/m) 0.195 0.00215 " 0.215 ND 90.6 80-120 0.567 20 Xylene (p/m) 0.0813 0.00108 " 0.108 ND 75.6 80-120 7.19 20 QM-05 Surrogate: 4-Bromofluorobenzene 0.161 " 0.129 125 75-125	Matrix Spike (P9G2405-MS1)	Sou	rce: 9G23020	<b>)-09</b>	Prepared: (	07/24/19 A	nalyzed: 07	7/25/19			
Ethylbenzene 0.0857 0.00108 " 0.108 ND 79.7 80-120 QM-05 Xylene (p/m) 0.196 0.00215 " 0.215 ND 91.2 80-120 Xylene (o) 0.0873 0.00108 " 0.108 ND 81.2 80-120  Surrogate: 1,4-Diffuorobenzene 0.151 " 0.129 117 75-125 Surrogate: 4-Bromoffuorobenzene 0.139 " 0.129 108 75-125  Matrix Spike Dup (P9G2405-MSD1) Source: 9G23020-09 Prepared: 07/24/19 Analyzed: 07/25/19  Benzene 0.0559 0.00108 mg/kg dry 0.108 ND 52.0 80-120 26.5 20 QM-05 Toluene 0.0678 0.00108 " 0.108 ND 63.1 80-120 17.6 20 QM-05 Ethylbenzene 0.0747 0.00108 " 0.108 ND 69.4 80-120 13.8 20 QM-05 Xylene (p/m) 0.195 0.00215 " 0.215 ND 90.6 80-120 0.567 20  Xylene (o) 0.0813 0.00108 " 0.108 ND 75.6 80-120 7.19 20 QM-05 Surrogate: 4-Bromoffuorobenzene 0.161 " 0.129 125 75-125	Benzene	0.0730	0.00108	mg/kg dry	0.108	ND	67.9	80-120			QM-05
Xylene (p/m)         0.196         0.00215         "         0.215         ND         91.2         80-120           Xylene (o)         0.0873         0.00108         "         0.108         ND         81.2         80-120           Surrogate: 1,4-Difluorobenzene         0.151         "         0.129         117         75-125           Surrogate: 4-Bromofluorobenzene         0.139         "         0.129         108         75-125           Matrix Spike Dup (P9G2405-MSD1)         Source: 9G23020-09         Prepared: 07/24/19         Analyzed: 07/25/19           Benzene         0.0559         0.00108         mg/kg dry         0.108         ND         52.0         80-120         26.5         20         QM-05           Toluene         0.0678         0.00108         "         0.108         ND         63.1         80-120         17.6         20         QM-05           Ethylbenzene         0.0747         0.00108         "         0.108         ND         69.4         80-120         13.8         20         QM-05           Xylene (p/m)         0.195         0.00215         "         0.215         ND         90.6         80-120         7.19         20         QM-05           Su	Toluene	0.0810	0.00108	"	0.108	ND	75.3	80-120			QM-05
Xylene (o)         0.0873         0.00108         "         0.108         ND         81.2         80-120           Surrogate: 1,4-Difluorobenzene         0.151         "         0.129         117         75-125           Surrogate: 4-Bromofluorobenzene         0.139         "         0.129         108         75-125           Matrix Spike Dup (P9G2405-MSD1)         Source: 9G23020-09         Prepared: 07/24/19         Analyzed: 07/25/19           Benzene         0.0559         0.00108         mg/kg dry         0.108         ND         52.0         80-120         26.5         20         QM-05           Toluene         0.0678         0.00108         "         0.108         ND         63.1         80-120         17.6         20         QM-05           Ethylbenzene         0.0747         0.00108         "         0.108         ND         69.4         80-120         13.8         20         QM-05           Xylene (p/m)         0.195         0.00215         "         0.215         ND         90.6         80-120         7.19         20         QM-05           Surrogate: 4-Bromofluorobenzene         0.161         "         0.129         125         75-125	Ethylbenzene	0.0857	0.00108	"	0.108	ND	79.7	80-120			QM-05
Surrogate: 1,4-Difluorobenzene         0.151         "         0.129         117         75-125           Surrogate: 4-Bromofluorobenzene         0.139         "         0.129         108         75-125           Matrix Spike Dup (P9G2405-MSD1)         Source: 9G23020-09         Prepared: 07/24/19         Analyzed: 07/25/19           Benzene         0.0559         0.00108         mg/kg dry         0.108         ND         52.0         80-120         26.5         20         QM-05           Toluene         0.0678         0.00108         "         0.108         ND         63.1         80-120         17.6         20         QM-05           Ethylbenzene         0.0747         0.00108         "         0.108         ND         69.4         80-120         13.8         20         QM-05           Xylene (p/m)         0.195         0.00215         "         0.215         ND         90.6         80-120         0.567         20           Xylene (o)         0.0813         0.00108         "         0.108         ND         75.6         80-120         7.19         20         QM-05           Surrogate: 4-Bromofluorobenzene         0.161         "         0.129         125         75-125 <td>Xylene (p/m)</td> <td>0.196</td> <td>0.00215</td> <td>"</td> <td>0.215</td> <td>ND</td> <td>91.2</td> <td>80-120</td> <td></td> <td></td> <td></td>	Xylene (p/m)	0.196	0.00215	"	0.215	ND	91.2	80-120			
Surrogate: 4-Bromofluorobenzene         0.139         "         0.129         108         75-125           Matrix Spike Dup (P9G2405-MSD1)         Source: 9G23020-09         Prepared: 07/24/19         Analyzed: 07/25/19           Benzene         0.0559         0.00108         mg/kg dry         0.108         ND         52.0         80-120         26.5         20         QM-05           Toluene         0.0678         0.00108         "         0.108         ND         63.1         80-120         17.6         20         QM-05           Ethylbenzene         0.0747         0.00108         "         0.108         ND         69.4         80-120         13.8         20         QM-05           Xylene (p/m)         0.195         0.00215         "         0.215         ND         90.6         80-120         0.567         20           Xylene (o)         0.0813         0.00108         "         0.108         ND         75.6         80-120         7.19         20         QM-05           Surrogate: 4-Bromofluorobenzene         0.161         "         0.129         125         75-125	Xylene (o)	0.0873	0.00108	"	0.108	ND	81.2	80-120			
Matrix Spike Dup (P9G2405-MSD1)         Source: 9G23020-09         Prepared: 07/24/19         Analyzed: 07/25/19           Benzene         0.0559         0.00108 mg/kg dry         0.108 ND         52.0         80-120 26.5         20 QM-05           Toluene         0.0678         0.00108 " 0.108 ND         63.1         80-120 17.6         20 QM-05           Ethylbenzene         0.0747 0.00108 " 0.108 ND         69.4 80-120 13.8 20 QM-05           Xylene (p/m)         0.195 0.00215 " 0.215 ND 90.6 80-120 0.567 20           Xylene (o)         0.0813 0.00108 " 0.108 ND 75.6 80-120 7.19 20 QM-05           Surrogate: 4-Bromofluorobenzene         0.161 " 0.129 125 75-125	Surrogate: 1,4-Difluorobenzene	0.151		"	0.129		117	75-125			
Benzene         0.0559         0.00108 mg/kg dry         0.108         ND         52.0         80-120         26.5         20         QM-05           Toluene         0.0678         0.00108 "         0.108 ND         63.1         80-120 17.6         20         QM-05           Ethylbenzene         0.0747         0.00108 "         0.108 ND         69.4         80-120 13.8         20         QM-05           Xylene (p/m)         0.195         0.00215 "         0.215 ND         90.6         80-120 0.567 20         20           Xylene (o)         0.0813         0.00108 "         0.108 ND         75.6         80-120 7.19 20         QM-05           Surrogate: 4-Bromofluorobenzene         0.161 "         0.129 125 75-125         75-125         75-125	Surrogate: 4-Bromofluorobenzene	0.139		"	0.129		108	75-125			
Toluene 0.0678 0.00108 " 0.108 ND 63.1 80-120 17.6 20 QM-05 Ethylbenzene 0.0747 0.00108 " 0.108 ND 69.4 80-120 13.8 20 QM-05 Xylene (p/m) 0.195 0.00215 " 0.215 ND 90.6 80-120 0.567 20  Xylene (o) 0.0813 0.00108 " 0.108 ND 75.6 80-120 7.19 20 QM-05 Surrogate: 4-Bromofluorobenzene 0.161 " 0.129 125 75-125	Matrix Spike Dup (P9G2405-MSD1)	Sou	rce: 9G23020	0-09	Prepared: (	07/24/19 A	nalyzed: 07	7/25/19			
Ethylbenzene         0.0747         0.00108         "         0.108         ND         69.4         80-120         13.8         20         QM-05           Xylene (p/m)         0.195         0.00215         "         0.215         ND         90.6         80-120         0.567         20           Xylene (o)         0.0813         0.00108         "         0.108         ND         75.6         80-120         7.19         20         QM-05           Surrogate: 4-Bromofluorobenzene         0.161         "         0.129         125         75-125	Benzene	0.0559	0.00108	mg/kg dry	0.108	ND	52.0	80-120	26.5	20	QM-05
Xylene (p/m)       0.195       0.00215       "       0.215       ND       90.6       80-120       0.567       20         Xylene (o)       0.0813       0.00108       "       0.108       ND       75.6       80-120       7.19       20       QM-05         Surrogate: 4-Bromofluorobenzene       0.161       "       0.129       125       75-125	Toluene	0.0678	0.00108	"	0.108	ND	63.1	80-120	17.6	20	QM-05
Xylene (o)         0.0813         0.00108         "         0.108         ND         75.6         80-120         7.19         20         QM-05           Surrogate: 4-Bromofluorobenzene         0.161         "         0.129         125         75-125	Ethylbenzene	0.0747	0.00108	"	0.108	ND	69.4	80-120	13.8	20	QM-05
Surrogate: 4-Bromofluorobenzene 0.161 " 0.129 125 75-125	Xylene (p/m)	0.195	0.00215	"	0.215	ND	90.6	80-120	0.567	20	
	Xylene (o)	0.0813	0.00108	"	0.108	ND	75.6	80-120	7.19	20	QM-05
Surrogate: 1,4-Difluorobenzene 0.150 " 0.129 117 75-125	Surrogate: 4-Bromofluorobenzene	0.161		"	0.129		125	75-125			
	Surrogate: 1,4-Difluorobenzene	0.150		"	0.129		117	75-125			

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9G2404 - *** DEFAULT PREP ***										
Blank (P9G2404-BLK1)				Prepared &	Analyzed:	07/24/19				
% Moisture	ND	0.1	%							
Duplicate (P9G2404-DUP1)	Sou	rce: 9G23009-	01	Prepared &	Analyzed:	07/24/19				
% Moisture	5.0	0.1	%		2.0			85.7	20	
Duplicate (P9G2404-DUP2)	Sou	rce: 9G23019-	.09	Prepared &	Analyzed:	07/24/19				
% Moisture	10.0	0.1	%	10.0				0.00	20	
Duplicate (P9G2404-DUP3)	Sou	rce: 9G23021-	Prepared &	Analyzed:	: 07/24/19					
% Moisture	2.0	0.1	%		2.0			0.00	20	
Batch P9G2501 - *** DEFAULT PREP *** Blank (P9G2501-BLK1)				Prepared &	z Analyzed	07/25/19				
% Moisture	ND	0.1	%							
Duplicate (P9G2501-DUP1)	Sou	rce: 9G23021-	-36	Prepared &	Analyzed:	: 07/25/19				
% Moisture	7.0	0.1	%		7.0			0.00	20	
Duplicate (P9G2501-DUP2)	Sou	rce: 9G23024-	-13	Prepared &	Analyzed:	lyzed: 07/24/19 0.0 0.00 lyzed: 07/24/19 0.0 0.00 lyzed: 07/25/19 1.0 0.00 lyzed: 07/25/19 1.0 0.00 lyzed: 07/25/19 1.0 0.00 lyzed: 07/25/19 1.0 0.00 lyzed: 07/25/19				
% Moisture	ND	0.1	%	ND					20	
Duplicate (P9G2501-DUP3)	Sou	rce: 9G24009-	-01	Prepared &	Analyzed:	: 07/25/19				
% Moisture	1.0	0.1	%		1.0			0.00	20	
Duplicate (P9G2501-DUP4)	Sou	rce: 9G24018-	-02	Prepared &						
% Moisture	6.0	0.1	%		5.0			18.2	20	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9G2802 - *** DEFAULT PREP ***										
Blank (P9G2802-BLK1)				Prepared &	& Analyzed:	07/28/19				
Chloride	ND	1.00	mg/kg wet							
LCS (P9G2802-BS1)				Prepared &	& Analyzed:	: 07/28/19				
Chloride	202	1.00	mg/kg wet	200		101	80-120			
LCS Dup (P9G2802-BSD1)				Prepared &	& Analyzed:	: 07/28/19				
Chloride	198	1.00	mg/kg wet	200		98.8	80-120	2.34	20	
Calibration Blank (P9G2802-CCB1)				Prepared &	& Analyzed:	: 07/28/19				
Chloride	0.00		mg/kg wet	•	•					
Calibration Blank (P9G2802-CCB2)				Prepared: (	07/28/19 A	nalyzed: 07	7/29/19			
Chloride	0.00		mg/kg wet							
Calibration Check (P9G2802-CCV1)				Prepared &	& Analyzed:	: 07/28/19				
Chloride	9.89		mg/kg	10.0	-	98.9	0-200			
Calibration Check (P9G2802-CCV2)				Prepared: (	07/28/19 A	nalyzed: 07	7/29/19			
Chloride	10.3		mg/kg	10.0		103	0-200			
Calibration Check (P9G2802-CCV3)				Prepared: (	07/28/19 A	nalyzed: 07	7/29/19			
Chloride	10.2		mg/kg	10.0		102	0-200			
Matrix Spike (P9G2802-MS1)	Sou	rce: 9G23020	)-09	Prepared: (	07/28/19 A	nalyzed: 07	7/29/19			
Chloride	7650	10.8	mg/kg dry	1080	6590	98.9	80-120			
Matrix Spike (P9G2802-MS2)	Sou	rce: 9G23021	1-06	Prepared: 07/28/19 Analyzed: 07/29/19						
Chloride	547	1.09	mg/kg dry	543	11.5	98.5	80-120			

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

		Reporting		Spike	Source		%REC		RPD		
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes	
Batch P9G2802 - *** DEFAULT PREP ***											
Matrix Spike Dup (P9G2802-MSD1)	Source: 9G23020-09			Prepared: (	07/28/19 A	nalyzed: 07	//29/19				
Chloride	7550	10.8	mg/kg dry	1080	6590	90.0	80-120	1.27	20		
Matrix Spike Dup (P9G2802-MSD2)	Sou	rce: 9G23021	1-06	Prepared: (	07/28/19 A	nalyzed: 07	//29/19				
Chloride	527	1.09	mg/kg dry	543	11.5	94.9	80-120	3.60	20		
Batch P9G2803 - *** DEFAULT PREP ***											
Blank (P9G2803-BLK1)				Prepared: 07/28/19 Analyzed: 07/29/19							
Chloride	ND	1.00	mg/kg wet								
LCS (P9G2803-BS1)				Prepared: (	07/28/19 A	nalyzed: 07	//29/19				
Chloride	198	1.00	mg/kg wet	200		98.8	80-120				
LCS Dup (P9G2803-BSD1)				Prepared: (	07/28/19 A	nalyzed: 07	//29/19				
Chloride	202	1.00	mg/kg wet	200		101	80-120	2.03	20		
Calibration Blank (P9G2803-CCB1)				Prepared: (	07/28/19 A	nalyzed: 07	//29/19				
Chloride	0.00		mg/kg wet			-					
Calibration Blank (P9G2803-CCB2)				Prepared: (	07/28/19 A	nalyzed: 07	//29/19				
Chloride	0.00		mg/kg wet								
Calibration Check (P9G2803-CCV1)				Prepared: (	07/28/19 A	nalyzed: 07	//29/19				
Chloride	10.2		mg/kg	10.0		102	0-200				
Calibration Check (P9G2803-CCV2)				Prepared: 07/28/19 Analyzed: 07/29/19							
Chloride	9.90		mg/kg	10.0		99.0	0-200				

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9G2803 - *** DEFAULT PREP ***										
Calibration Check (P9G2803-CCV3)				Prepared: (	07/28/19 A	nalyzed: 07	7/29/19			
Chloride	10.2		mg/kg	10.0		102	0-200			
Matrix Spike (P9G2803-MS1)	Sour	ce: 9G23021	l <b>-16</b>	Prepared: (	07/28/19 A	nalyzed: 07	7/29/19			
Chloride	2580	5.15	mg/kg dry	515	2040	105	80-120			
Matrix Spike (P9G2803-MS2)	Source: 9G23021-26			Prepared: (	07/28/19 A	nalyzed: 07	7/29/19			
Chloride	486	1.02	mg/kg dry	510	1.64	94.9	80-120			
Matrix Spike Dup (P9G2803-MSD1)	Source: 9G23021-16			Prepared: (	07/28/19 A	nalyzed: 07	2/29/19			
Chloride	2580	5.15	mg/kg dry	515	2040	105	80-120	0.0480	20	
Matrix Spike Dup (P9G2803-MSD2)	Source: 9G23021-26			Prepared: (	07/28/19 A	nalyzed: 07	7/29/19			
Chloride	496	1.02	mg/kg dry	510	1.64	96.9	80-120	2.11	20	
Batch P9G2907 - *** DEFAULT PREP ***										
Blank (P9G2907-BLK1)				Prepared &	& Analyzed:	07/29/19				
Chloride	ND	1.00	mg/kg wet	-	-					
LCS (P9G2907-BS1)				Prepared &	& Analyzed:	07/29/19				
Chloride	202	1.00	mg/kg wet	200	-	101	80-120			
LCS Dup (P9G2907-BSD1)				Prepared &	& Analyzed:	07/29/19				
							00.120	0.282	20	
Chloride	202	1.00	mg/kg wet	200		101	80-120	0.282	20	
Chloride  Calibration Blank (P9G2907-CCB1)	202	1.00	mg/kg wet		& Analyzed:		80-120	0.282	20	

901 W Wall Street, Ste 100 Project Number: 212C-MD Midland TX, 79705 Project Manager: John Kell

Project: 1 res Equis 2 St

Project Number: 212C-MD-01830

	D 1:	Reporting	TT :-	Spike	Source	A/DEG	%REC	DDD	RPD	37.
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9G2907 - *** DEFAULT PREP ***										
Calibration Blank (P9G2907-CCB2)				Prepared &	Analyzed:	07/29/19				
Chloride	0.00		mg/kg wet							
Calibration Check (P9G2907-CCV1)				Prepared &	: Analyzed:	07/29/19				
Chloride	10.2		mg/kg	10.0		102	0-200			
Calibration Check (P9G2907-CCV2)				Prepared &	: Analyzed:	07/29/19				
Chloride	10.3		mg/kg	10.0		103	0-200			
Calibration Check (P9G2907-CCV3)				Prepared: (	07/29/19 A	nalyzed: 07	/30/19			
Chloride	9.88		mg/kg	10.0		98.8	0-200			
Matrix Spike (P9G2907-MS1)	Sou	rce: 9G24003	-01	Prepared &	Analyzed:	07/29/19				
Chloride	9640	27.2	mg/kg dry	2720	7240	88.3	80-120			
Matrix Spike (P9G2907-MS2)	Sou	rce: 9G24004	-02	Prepared: (	07/29/19 A	nalyzed: 07	/30/19			
Chloride	10100	28.1	mg/kg dry	2810	7190	102	80-120			
Matrix Spike Dup (P9G2907-MSD1)	Sou	rce: 9G24003	-01	Prepared &	: Analyzed:	07/29/19				
Chloride	9790	27.2	mg/kg dry	2720	7240	93.9	80-120	1.56	20	
Matrix Spike Dup (P9G2907-MSD2)	Sou	rce: 9G24004	-02	Prepared: (	)7/29/19 A	nalyzed: 07	/30/19			
Chloride	10100	28.1	mg/kg dry	2810	7190	103	80-120	0.315	20	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9G2509 - TX 1005										
Blank (P9G2509-BLK1)				Prepared: (	07/25/19 Aı	nalyzed: 07	/27/19			
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	87.4		"	100		87.4	70-130			
Surrogate: o-Terphenyl	45.2		"	50.0		90.5	70-130			
LCS (P9G2509-BS1)				Prepared: (	)7/25/19 Aı	nalyzed: 07	/27/19			
C6-C12	843	25.0	mg/kg wet	1000		84.3	75-125			
>C12-C28	854	25.0	"	1000		85.4	75-125			
Surrogate: 1-Chlorooctane	111		"	100		111	70-130			
Surrogate: o-Terphenyl	43.5		"	50.0		87.1	70-130			
LCS Dup (P9G2509-BSD1)				Prepared: (	07/25/19 Aı	nalyzed: 07	/27/19			
C6-C12	805	25.0	mg/kg wet	1000		80.5	75-125	4.58	20	
>C12-C28	832	25.0	"	1000		83.2	75-125	2.55	20	
Surrogate: 1-Chlorooctane	107		"	100		107	70-130			
Surrogate: o-Terphenyl	40.9		"	50.0		81.8	70-130			
Calibration Blank (P9G2509-CCB1)				Prepared: (	)7/25/19 Aı	nalyzed: 07	/27/19			
C6-C12	14.2		mg/kg wet							
>C12-C28	5.15		"							
Surrogate: 1-Chlorooctane	89.2		"	100		89.2	70-130			
Surrogate: o-Terphenyl	46.8		"	50.0		93.7	70-130			
Calibration Blank (P9G2509-CCB2)	Prepared: 07/25/19 Analyzed: 07/27/19									
C6-C12	11.0		mg/kg wet							
>C12-C28	10.5		"							
Surrogate: 1-Chlorooctane	90.4		"	100		90.4	70-130			
Surrogate: o-Terphenyl	47.5		"	50.0		95.0	70-130			

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

		Reporting		Spike	Source		%REC		RPD	_
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9G2509 - TX 1005										
Calibration Check (P9G2509-CCV1)				Prepared: (	07/25/19 Aı	nalyzed: 07	/26/19			
C6-C12	493	25.0	mg/kg wet	500		98.5	85-115			
>C12-C28	489	25.0	"	500		97.9	85-115			
Surrogate: 1-Chlorooctane	110		"	100		110	70-130			
Surrogate: o-Terphenyl	49.2		"	50.0		98.4	70-130			
Calibration Check (P9G2509-CCV2)				Prepared: (	07/25/19 Aı	nalyzed: 07	/27/19			
C6-C12	509	25.0	mg/kg wet	500		102	85-115			
>C12-C28	514	25.0	"	500		103	85-115			
Surrogate: 1-Chlorooctane	115		"	100		115	70-130			
Surrogate: o-Terphenyl	50.9		"	50.0		102	70-130			
Duplicate (P9G2509-DUP1)	Sou	rce: 9G23021	1-09	Prepared: (	07/25/19 Aı	nalyzed: 07	/27/19			
C6-C12	14.3	25.5	mg/kg dry		13.3			7.17	20	
>C12-C28	ND	25.5	"		23.8				20	
Surrogate: 1-Chlorooctane	87.5		"	102		85.8	70-130			
Surrogate: o-Terphenyl	47.2		"	51.0		92.6	70-130			
Batch P9G2510 - TX 1005										
Blank (P9G2510-BLK1)				Prepared: (	07/25/19 Aı	nalyzed: 07	/27/19			
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	93.9		"	100		93.9	70-130			
Surrogate: o-Terphenyl	46.6		"	50.0		93.2	70-130			
LCS (P9G2510-BS1)				Prepared: (	07/25/19 Aı	nalyzed: 07	/27/19			
C6-C12	861	25.0	mg/kg wet	1000		86.1	75-125			<u> </u>
>C12-C28	872	25.0	"	1000		87.2	75-125			
Surrogate: 1-Chlorooctane	114		"	100		114	70-130			
Surrogate: o-Terphenyl	44.1		"	50.0		88.3	70-130			

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9G2510 - TX 1005										
LCS Dup (P9G2510-BSD1)				Prepared: (	07/25/19 Aı	nalyzed: 07	7/27/19			
C6-C12	918	25.0	mg/kg wet	1000		91.8	75-125	6.39	20	
>C12-C28	946	25.0	"	1000		94.6	75-125	8.15	20	
Surrogate: 1-Chlorooctane	123		"	100		123	70-130			
Surrogate: o-Terphenyl	46.5		"	50.0		93.0	70-130			
Calibration Blank (P9G2510-CCB1)				Prepared: (	07/25/19 Aı	nalyzed: 07	7/27/19			
C6-C12	16.6		mg/kg wet							
>C12-C28	7.43		"							
Surrogate: 1-Chlorooctane	97.0		"	100		97.0	70-130			
Surrogate: o-Terphenyl	50.4		"	50.0		101	70-130			
Calibration Blank (P9G2510-CCB2)				Prepared: (	07/25/19 Aı	nalyzed: 07	7/27/19			
C6-C12	12.9		mg/kg wet							
>C12-C28	6.98		"							
Surrogate: 1-Chlorooctane	74.9		"	100		74.9	70-130			
Surrogate: o-Terphenyl	38.1		"	50.0		76.2	70-130			
Calibration Check (P9G2510-CCV1)				Prepared: (	07/25/19 Aı	nalyzed: 07	7/27/19			
C6-C12	501	25.0	mg/kg wet	500		100	85-115			
>C12-C28	507	25.0	"	500		101	85-115			
Surrogate: 1-Chlorooctane	110		"	100		110	70-130			
Surrogate: o-Terphenyl	48.3		"	50.0		96.5	70-130			
Calibration Check (P9G2510-CCV2)				Prepared: (	)7/25/19 Aı	nalyzed: 07	7/27/19			
C6-C12	445	25.0	mg/kg wet	500		89.0	85-115			
>C12-C28	443	25.0	"	500		88.6	85-115			
Surrogate: 1-Chlorooctane	88.2		"	100		88.2	70-130			
Surrogate: o-Terphenyl	37.8		"	50.0		75.7	70-130			

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9G2510 - TX 1005										
Duplicate (P9G2510-DUP1)	Sou	rce: 9G23021	1-29	Prepared: (	07/25/19 A	nalyzed: 07	7/27/19			
C6-C12	14.1	26.3	mg/kg dry		13.9			1.43	20	
>C12-C28	ND	26.3	"		ND				20	
Surrogate: 1-Chlorooctane	88.8		"	105		84.4	70-130			
Surrogate: o-Terphenyl	47.0		"	52.6		89.4	70-130			
Batch P9G2511 - TX 1005										
Blank (P9G2511-BLK1)				Prepared &	Analyzed:	07/25/19				
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	88.0		"	100		88.0	70-130			
Surrogate: o-Terphenyl	46.6		"	50.0		93.1	70-130			
LCS (P9G2511-BS1)				Prepared &	Analyzed:	07/25/19				
C6-C12	840	25.0	mg/kg wet	1000		84.0	75-125			
>C12-C28	886	25.0	"	1000		88.6	75-125			
Surrogate: 1-Chlorooctane	114		"	100		114	70-130			
Surrogate: o-Terphenyl	44.8		"	50.0		89.6	70-130			
LCS Dup (P9G2511-BSD1)				Prepared &	Analyzed:	07/25/19				
C6-C12	820	25.0	mg/kg wet	1000		82.0	75-125	2.39	20	
>C12-C28	858	25.0	"	1000		85.8	75-125	3.23	20	
Surrogate: 1-Chlorooctane	107		"	100		107	70-130			
Surrogate: o-Terphenyl	42.4		"	50.0		84.7	70-130			
Calibration Blank (P9G2511-CCB1)				Prepared &	Analyzed:	07/25/19				
C6-C12	12.6		mg/kg wet							
>C12-C28	6.35		"							
Surrogate: 1-Chlorooctane	88.5		"	100		88.5	70-130			
Surrogate: o-Terphenyl	46.9		"	50.0		93.8	70-130			

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9G2511 - TX 1005										
Calibration Blank (P9G2511-CCB2)				Prepared &	Analyzed	: 07/25/19				
C6-C12	11.9		mg/kg wet							
>C12-C28	15.7		"							
Surrogate: 1-Chlorooctane	95.2		"	100		95.2	70-130			
Surrogate: o-Terphenyl	50.0		"	50.0		100	70-130			
Calibration Check (P9G2511-CCV1)				Prepared &	Analyzed	: 07/25/19				
C6-C12	453	25.0	mg/kg wet	500		90.5	85-115			
>C12-C28	466	25.0	"	500		93.2	85-115			
Surrogate: 1-Chlorooctane	102		"	100		102	70-130			
Surrogate: o-Terphenyl	46.4		"	50.0		92.9	70-130			
Calibration Check (P9G2511-CCV2)				Prepared &	Analyzed	: 07/25/19				
C6-C12	467	25.0	mg/kg wet	500		93.4	85-115			
>C12-C28	482	25.0	"	500		96.4	85-115			
Surrogate: 1-Chlorooctane	105		"	100		105	70-130			
Surrogate: o-Terphenyl	47.0		"	50.0		94.1	70-130			
Calibration Check (P9G2511-CCV3)				Prepared: (	)7/25/19 A	nalyzed: 07	/26/19			
C6-C12	476	25.0	mg/kg wet	500		95.2	85-115			
>C12-C28	493	25.0	"	500		98.6	85-115			
Surrogate: 1-Chlorooctane	107		"	100		107	70-130			
Surrogate: o-Terphenyl	47.8		"	50.0		95.5	70-130			
Duplicate (P9G2511-DUP1)	Sou	rce: 9G25011	1-01	Prepared &	Analyzed	: 07/25/19				
C6-C12	ND	26.0	mg/kg dry		ND				20	
>C12-C28	ND	26.0	"		ND				20	
Surrogate: 1-Chlorooctane	49.6		"	52.1		95.2	70-130			
Surrogate: o-Terphenyl	26.3		"	26.0		101	70-130			

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

#### **Notes and Definitions**

ROI Received on Ice

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were

within acceptance limits showing that the laboratory is in control and the data is acceptable.

BULK Samples received in Bulk soil containers

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

	Drew	Darron			
Report Approved By:			Date:	7/31/2010	

Brent Barron, Laboratory Director/Technical Director

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

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

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



## Analytical Report

### **Prepared for:**

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

Project: Tres Equis 2 St Project Number: 212C-MD-01830 Location: Lea County, NM

Lab Order Number: 9G23018



NELAP/TCEQ # T104704516-18-9

Report Date: 07/30/19

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
North Horizontal	9G23018-01	Soil	07/18/19 00:00	07-23-2019 11:08
South Horizontal	9G23018-02	Soil	07/18/19 00:00	07-23-2019 11:08
East Horizontal	9G23018-03	Soil	07/18/19 00:00	07-23-2019 11:08
West Horizontal	9G23018-04	Soil	07/18/19 00:00	07-23-2019 11:08

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

### North Horizontal 9G23018-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Peri	nian Basin E	nvironmer	ıtal Lab, l	L <b>.P.</b>				
Organics by GC									
Benzene	ND	0.00103	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Toluene	ND	0.00103	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Ethylbenzene	ND	0.00103	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		99.1 %	75-1	25	P9G2403	07/24/19	07/24/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		88.8 %	75-1	25	P9G2403	07/24/19	07/24/19	EPA 8021B	
General Chemistry Parameters by EPA / Stand	ard Metho	ds							
Chloride	1.21	1.03	mg/kg dry	1	P9G2513	07/25/19	07/26/19	EPA 300.0	
% Moisture	3.0	0.1	%	1	P9G2404	07/24/19	07/24/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA	A Method 8	015M							
C6-C12	ND	25.8	mg/kg dry	1	P9G2508	07/25/19	07/26/19	TPH 8015M	
>C12-C28	ND	25.8	mg/kg dry	1	P9G2508	07/25/19	07/26/19	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P9G2508	07/25/19	07/26/19	TPH 8015M	
Surrogate: 1-Chlorooctane		81.0 %	70-1	30	P9G2508	07/25/19	07/26/19	TPH 8015M	
Surrogate: o-Terphenyl		85.4 %	70-1	30	P9G2508	07/25/19	07/26/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.8	mg/kg dry	1	[CALC]	07/25/19	07/26/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

### South Horizontal 9G23018-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Pern	nian Basin E	nvironmer	ıtal Lab, l	L <b>.P.</b>				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Toluene	ND	0.00100	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		85.9 %	75-1	25	P9G2403	07/24/19	07/24/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		99.2 %	75-1	25	P9G2403	07/24/19	07/24/19	EPA 8021B	
General Chemistry Parameters by EPA	Standard Method	ds							
Chloride	2.64	1.00	mg/kg dry	1	P9G2513	07/25/19	07/26/19	EPA 300.0	
% Moisture	ND	0.1	%	1	P9G2404	07/24/19	07/24/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 l	by EPA Method 80	015M							
C6-C12	ND	25.0	mg/kg dry	1	P9G2508	07/25/19	07/26/19	TPH 8015M	
>C12-C28	ND	25.0	mg/kg dry	1	P9G2508	07/25/19	07/26/19	TPH 8015M	
>C28-C35	ND	25.0	mg/kg dry	1	P9G2508	07/25/19	07/26/19	TPH 8015M	
Surrogate: 1-Chlorooctane		80.5 %	70-1	30	P9G2508	07/25/19	07/26/19	TPH 8015M	
Surrogate: o-Terphenyl		87.0 %	70-1	30	P9G2508	07/25/19	07/26/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.0	mg/kg dry	1	[CALC]	07/25/19	07/26/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

### East Horizontal 9G23018-03 (Soil)

	D 1	Reporting	TT '	D'I d'	D. ( I	D 1		Mala	N.
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Peri	nian Basin E	nvironmer	ıtal Lab, I	<b>P.</b>				
Organics by GC									
Benzene	ND	0.00104	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Toluene	ND	0.00104	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		99.8 %	75-1	25	P9G2403	07/24/19	07/24/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		88.0 %	75-1	25	P9G2403	07/24/19	07/24/19	EPA 8021B	
<b>General Chemistry Parameters by EPA / Sta</b>	ndard Metho	ds							
Chloride	ND	1.04	mg/kg dry	1	P9G2513	07/25/19	07/26/19	EPA 300.0	
% Moisture	4.0	0.1	%	1	P9G2404	07/24/19	07/24/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by E	PA Method 8	015M							
C6-C12	ND	26.0	mg/kg dry	1	P9G2508	07/25/19	07/26/19	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P9G2508	07/25/19	07/26/19	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P9G2508	07/25/19	07/26/19	TPH 8015M	
Surrogate: 1-Chlorooctane		78.2 %	70-1	30	P9G2508	07/25/19	07/26/19	TPH 8015M	
Surrogate: o-Terphenyl		84.0 %	70-1	30	P9G2508	07/25/19	07/26/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	07/25/19	07/26/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

### West Horizontal 9G23018-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Pern	nian Basin E	Invironmen	ıtal Lab, l	L <b>.P.</b>				
Organics by GC									
Benzene	ND	0.00106	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Toluene	ND	0.00106	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P9G2403	07/24/19	07/24/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		88.0 %	75-1	25	P9G2403	07/24/19	07/24/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		99.8 %	75-1	25	P9G2403	07/24/19	07/24/19	EPA 8021B	
General Chemistry Parameters by EPA	Standard Method	ls							
Chloride	ND	1.06	mg/kg dry	1	P9G2513	07/25/19	07/26/19	EPA 300.0	
% Moisture	6.0	0.1	%	1	P9G2404	07/24/19	07/24/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 l	by EPA Method 80	)15M							
C6-C12	ND	26.6	mg/kg dry	1	P9G2508	07/25/19	07/26/19	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P9G2508	07/25/19	07/26/19	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P9G2508	07/25/19	07/26/19	TPH 8015M	
Surrogate: 1-Chlorooctane		83.3 %	70-1	30	P9G2508	07/25/19	07/26/19	TPH 8015M	
Surrogate: o-Terphenyl		88.3 %	70-1	30	P9G2508	07/25/19	07/26/19	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	07/25/19	07/26/19	calc	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

### Organics by GC - Quality Control Permian Basin Environmental Lab, L.P.

	D 1	Reporting	*** **	Spike	Source	N/DEC	%REC	DDD	RPD	NT /
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9G2403 - General Preparation (G	GC)									
Blank (P9G2403-BLK1)				Prepared &	: Analyzed:	07/24/19				
Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.117		"	0.120		97.3	75-125			
Surrogate: 1,4-Difluorobenzene	0.102		"	0.120		85.3	75-125			
LCS (P9G2403-BS1)				Prepared &	: Analyzed:	07/24/19				
Benzene	0.117	0.00100	mg/kg wet	0.100		117	70-130			
Toluene	0.114	0.00100	"	0.100		114	70-130			
Ethylbenzene	0.110	0.00100	"	0.100		110	70-130			
Xylene (p/m)	0.226	0.00200	"	0.200		113	70-130			
Xylene (o)	0.119	0.00100	"	0.100		119	70-130			
Surrogate: 1,4-Difluorobenzene	0.120		"	0.120		100	75-125			
Surrogate: 4-Bromofluorobenzene	0.109		"	0.120		90.7	75-125			
LCS Dup (P9G2403-BSD1)				Prepared &	: Analyzed:	07/24/19				
Benzene	0.111	0.00100	mg/kg wet	0.100		111	70-130	5.34	20	
Toluene	0.112	0.00100	"	0.100		112	70-130	2.15	20	
Ethylbenzene	0.110	0.00100	"	0.100		110	70-130	0.00	20	
Xylene (p/m)	0.233	0.00200	"	0.200		117	70-130	3.07	20	
Xylene (o)	0.119	0.00100	"	0.100		119	70-130	0.0924	20	
Surrogate: 4-Bromofluorobenzene	0.112		"	0.120		93.0	75-125			
Surrogate: 1,4-Difluorobenzene	0.119		"	0.120		98.9	75-125			
Calibration Blank (P9G2403-CCB2)				Prepared &	: Analyzed:	07/24/19				
Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 1,4-Difluorobenzene	0.103		"	0.120		86.1	75-125			
Surrogate: 4-Bromofluorobenzene	0.115		"	0.120		96.0	75-125			

901 W Wall Street, Ste 100 Midland TX, 79705 Project Number: 212C-MD-01830 Project Manager: John Kell

Organics by GC - Quality Control Permian Basin Environmental Lab, L.P.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9G2403 - General Preparation (GC	C)									
Calibration Blank (P9G2403-CCB3)				Prepared &	Analyzed:	07/24/19				
Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 1,4-Difluorobenzene	0.108		"	0.120		89.7	75-125			
Surrogate: 4-Bromofluorobenzene	0.115		"	0.120		95.8	75-125			
Calibration Check (P9G2403-CCV2)				Prepared &	Analyzed:	07/24/19				
Benzene	0.109	0.00100	mg/kg wet	0.100		109	80-120			
Toluene	0.106	0.00100	"	0.100		106	80-120			
Ethylbenzene	0.0984	0.00100	"	0.100		98.4	80-120			
Xylene (p/m)	0.211	0.00200	"	0.200		105	80-120			
Xylene (o)	0.117	0.00100	"	0.100		117	80-120			
Surrogate: 4-Bromofluorobenzene	0.113		"	0.120		94.0	75-125			
Surrogate: 1,4-Difluorobenzene	0.113		"	0.120		94.4	75-125			
Calibration Check (P9G2403-CCV3)				Prepared &	Analyzed:	07/24/19				
Benzene	0.108	0.00100	mg/kg wet	0.100		108	80-120			
Toluene	0.109	0.00100	"	0.100		109	80-120			
Ethylbenzene	0.107	0.00100	"	0.100		107	80-120			
Xylene (p/m)	0.204	0.00200	"	0.200		102	80-120			
Xylene (o)	0.113	0.00100	"	0.100		113	80-120			
Surrogate: 4-Bromofluorobenzene	0.123		"	0.120		103	75-125			
Surrogate: 1,4-Difluorobenzene	0.139		"	0.120		116	75-125			
Matrix Spike (P9G2403-MS1)	Sou	rce: 9G23016	-01	Prepared &	Analyzed:	07/24/19				
Benzene	0.0973	0.00108	mg/kg dry	0.108	ND	90.5	80-120			
Toluene	0.106	0.00108	"	0.108	ND	98.3	80-120			
Ethylbenzene	0.101	0.00108	"	0.108	ND	93.5	80-120			
Xylene (p/m)	0.235	0.00215	"	0.215	ND	109	80-120			
Xylene (o)	0.105	0.00108	"	0.108	ND	97.8	80-120			
Surrogate: 1,4-Difluorobenzene	0.144		"	0.129		112	75-125			
Surrogate: 4-Bromofluorobenzene	0.148		"	0.129		115	75-125			

901 W Wall Street, Ste 100 Midland TX, 79705 Project Number: 212C-MD-01830 Project Manager: John Kell

### Organics by GC - Quality Control Permian Basin Environmental Lab, L.P.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch P9G2403 - General Preparation (GC	)
-----------------------------------------	---

Matrix Spike Dup (P9G2403-MSD1)	Sour	ce: 9G23016	5-01	Prepared &	Analyzed:	07/24/19			
Benzene	0.0945	0.00108	mg/kg dry	0.108	ND	87.9	80-120	2.90	20
Toluene	0.105	0.00108	"	0.108	ND	97.8	80-120	0.500	20
Ethylbenzene	0.109	0.00108	"	0.108	ND	102	80-120	8.24	20
Xylene (p/m)	0.228	0.00215	"	0.215	ND	106	80-120	3.00	20
Xylene (o)	0.111	0.00108	"	0.108	ND	103	80-120	5.47	20
Surrogate: 1,4-Difluorobenzene	0.143		"	0.129		110	75-125		
Surrogate: 4-Bromofluorobenzene	0.142		"	0.129		110	75-125		

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

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

	D. Iv	Reporting	TT '	Spike	Source	0/DEC	%REC	DDD	RPD	NI 4
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9G2404 - *** DEFAULT PREP ***										
Blank (P9G2404-BLK1)				Prepared &	k Analyzed	07/24/19				
% Moisture	ND	0.1	%							
Duplicate (P9G2404-DUP1)	Sour	ce: 9G23009	-01	Prepared &	Prepared & Analyzed: 07/24/19					
% Moisture	5.0	0.1	%		2.0			85.7	20	
Duplicate (P9G2404-DUP2)	Source: 9G23019-09 P			Prepared &	Prepared & Analyzed: 07/24/19					
% Moisture	10.0	0.1	%		10.0			0.00	20	
Duplicate (P9G2404-DUP3)	Sour	ce: 9G23021	-10	Prepared &	Analyzed:	07/24/19				
% Moisture	2.0	0.1	%		2.0			0.00	20	
Batch P9G2513 - *** DEFAULT PREP ***										
Blank (P9G2513-BLK1)				Prepared: (	07/25/19 A	nalyzed: 07	7/26/19			
Chloride	ND	1.00	mg/kg wet	•						
LCS (P9G2513-BS1)				Prepared: (	07/25/19 A	nalyzed: 07	7/26/19			
Chloride	200	1.00	mg/kg wet	200		100	80-120			
LCS Dup (P9G2513-BSD1)				Prepared: (	07/25/19 A	nalyzed: 0	7/26/19			
Chloride	205	1.00	mg/kg wet			103	80-120	2.50	20	
Calibration Blank (P9G2513-CCB1)				Prepared: (	07/25/19 A	nalyzed: 07	7/26/19			
Chloride	0.00		mg/kg wet			-				
Calibration Blank (P9G2513-CCB2)				Prepared: (	07/25/19 A	nalyzed: 0	7/26/19			
Chloride	0.00		mg/kg wet							

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source		%REC Limits	RPD	RPD Limit	Notes
Batch P9G2513 - *** DEFAULT PREP ***	result	- Dillik	- Cinto	20101	resur	, vice	Zillito		Zamt	110103
Calibration Check (P9G2513-CCV1)				Prepared: (	07/25/19	Analyzed: 0	07/26/19			
Chloride	10.1		mg/kg	10.0		101	0-200			
Calibration Check (P9G2513-CCV2)				Prepared: (	07/25/19	Analyzed: 0	7/26/19			
Chloride	9.64		mg/kg	10.0		96.4	0-200			
Calibration Check (P9G2513-CCV3)		9.64 mg/kg			07/25/19	Analyzed: 0	7/26/19			
Chloride	9.68		mg/kg	10.0		96.8	0-200			
Matrix Spike (P9G2513-MS1)	Sou	rce: 9G23016	-04	Prepared: (	07/25/19	Analyzed: 0	7/26/19			
Chloride	521	1.04	mg/kg dry	521	12.3	97.7	80-120			
Matrix Spike (P9G2513-MS2)	Sou	rce: 9G23019	-02	Prepared: (	07/25/19	Analyzed: 0	7/26/19			
Chloride	513	1.06	mg/kg dry	532	3.02	96.0	80-120			
Matrix Spike Dup (P9G2513-MSD1)	Sou	rce: 9G23016	-04	Prepared: (	07/25/19	Analyzed: 0	7/26/19			
Chloride	523	1.04	mg/kg dry	521	12.3	98.0	80-120	0.347	20	
Matrix Spike Dup (P9G2513-MSD2)	Sou	rce: 9G23019	-02	Prepared: (	07/25/19	Analyzed: 0	7/26/19			
Chloride	520	1.06	mg/kg dry	532	3.02	97.2	80-120	1.26	20	

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9G2508 - TX 1005										
Blank (P9G2508-BLK1)				Prepared: (	)7/25/19 Aı	nalyzed: 07	7/26/19			
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	88.8		"	100		88.8	70-130			
Surrogate: o-Terphenyl	46.4		"	50.0		92.8	70-130			
LCS (P9G2508-BS1)				Prepared: (	)7/25/19 Aı	nalyzed: 07	7/26/19			
C6-C12	831	25.0	mg/kg wet	1000		83.1	75-125			
>C12-C28	867	25.0	"	1000		86.7	75-125			
Surrogate: 1-Chlorooctane	112		"	100		112	70-130			
Surrogate: o-Terphenyl	47.2		"	50.0		94.3	70-130			
LCS Dup (P9G2508-BSD1)				Prepared: (	)7/25/19 Aı	nalyzed: 07	7/26/19			
C6-C12	816	25.0	mg/kg wet	1000		81.6	75-125	1.92	20	
>C12-C28	854	25.0	"	1000		85.4	75-125	1.51	20	
Surrogate: 1-Chlorooctane	109		"	100		109	70-130			
Surrogate: o-Terphenyl	44.9		"	50.0		89.8	70-130			
Calibration Blank (P9G2508-CCB1)				Prepared: (	)7/25/19 Aı	nalyzed: 07	7/26/19			
C6-C12	12.2		mg/kg wet							
>C12-C28	8.12		"							
Surrogate: 1-Chlorooctane	91.0		"	100		91.0	70-130			
Surrogate: o-Terphenyl	47.6		"	50.0		95.2	70-130			
Calibration Blank (P9G2508-CCB2)		Prepared: 07/25/19 Analyzed: 07/26/19								
C6-C12	9.65		mg/kg wet	-		-				
>C12-C28	12.3		"							
Surrogate: 1-Chlorooctane	91.7		"	100		91.7	70-130			
Surrogate: o-Terphenyl	48.0		"	50.0		96.1	70-130			

901 W Wall Street, Ste 100 Midland TX, 79705 Project Number: 212C-MD-01830 Project Manager: John Kell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9G2508 - TX 1005										
Calibration Check (P9G2508-CCV1)				Prepared:	07/25/19 A	nalyzed: 07	7/26/19			
C6-C12	460	25.0	mg/kg wet	500		92.0	85-115			
>C12-C28	475	25.0	"	500		95.0	85-115			
Surrogate: 1-Chlorooctane	105		"	100		105	70-130			
Surrogate: o-Terphenyl	47.7		"	50.0		95.4	70-130			
Calibration Check (P9G2508-CCV2)		Result         Limit         Units         Level         Result         %REC         Limits         RPD         Limit           Prepared: 07/25/19 Analyzed: 07/26/19           460         25.0 mg/kg wet         500         92.0 85-115           475         25.0 "         500         95.0 85-115           105         "         100         105 70-130								
C6-C12	473	25.0	mg/kg wet	500		94.5	85-115			
>C12-C28	479	25.0	"	500		95.9	85-115			
Surrogate: 1-Chlorooctane	106		"	100		106	70-130			
Surrogate: o-Terphenyl	47.3		"	50.0		94.6	70-130			
Duplicate (P9G2508-DUP1)	Sou	rce: 9G23020	0-02	Prepared:	07/25/19 A	nalyzed: 07	7/26/19			
C6-C12	14.4	26.0	mg/kg dry		16.7			15.1	20	<u> </u>
>C12-C28	ND	26.0	"		ND				20	
Surrogate: 1-Chlorooctane	83.7		"	104		80.4	70-130			
Surrogate: o-Terphenyl	44.9		"	52.1		86.3	70-130			

901 W Wall Street, Ste 100 Project Number: 212C-MD-01830 Midland TX, 79705 Project Manager: John Kell

#### **Notes and Definitions**

ROI Received on Ice

BULK Samples received in Bulk soil containers

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

	Drew	Darlor			
Report Approved By:			Date:	7/30/2019	

Brent Barron, Laboratory Director/Technical Director

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

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

# Appendix D