



February 14, 2023

Vertex Project #: 22E-03312

Spill Closure Report: Llama Lateral 8" pipeline
Section 2, Township 22 South, Range 31 East
County: Eddy
Incident Report: NAPP2223452247

Prepared For: Lucid Energy Delaware, LLC.
800, 3100 McKinnon Street
Dallas, Texas 75201

New Mexico Oil Conservation Division – District 2 – Artesia
811 South 1st Street
Artesia, New Mexico 88210

Lucid Energy Delaware, LLC (Lucid) retained Vertex Resource Services Inc. (Vertex) to conduct a Spill Assessment and Remediation for a release of natural gas and pipeline liquids caused by a polyline rupture due to high line pressure and enhanced weathering immediately off-pad to the south of EOG Resources Graham AKB State #001, API 30-015-26875, Incident NAPP2223452247 (hereafter referred to as “Llama”). This letter provides a description of the Spill Assessment and includes a request for Spill Closure. The spill area is located at N 32.425525°, W -103.741432°.

Background

Llama is located approximately 23 miles northeast of Loving, New Mexico (Google Inc., 2022). The legal location for the site is Section 2, Township 22 South, Range 31 East in Eddy County, New Mexico. The spill area is located on state property. An aerial photograph and site schematic are included on Figure 1 (Attachment 1).

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2022) indicates the site’s surface geology is comprised primarily of Qep - Eolian and piedmont deposits (Holocene and middle Pleistocene)—Interlayered eolian sands and piedmont-slope deposits, typically capped by thin eolian deposits. Predominant soil texture on the site is loamy sand. The Natural Resources Conservation Service *Web Soil Survey* characterizes the predominant soil texture on the site as Berino complex. It tends to be well drained with low runoff and moderate available moisture levels in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2022).

The surrounding landscape is associated with plains and fan piedmonts at elevations of 2,500 to 4,500 feet above sea level. The climate is semi-arid, with annual precipitation ranging between 8 to 13 inches. Historically, the plant community had a grassland aspect, dominated by grasses with shrubs. Black grama is dominant with a mixture of dropseeds, and bluestems, with scattered shinnery oak and sand sage. Overgrazing and extended drought can reduce grass cover (United States Department of Agriculture, Natural Resources Conservation Service, 2022).

There is no surface water located at Llama. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 Mexico Administrative Code (NMAC; New Mexico Oil Conservation Division, 2018), is the Pecos River located

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approximately 19.8 miles southwest of the site (Google Inc., 2022). There are no continuous flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Incident Description

The spill occurred on August 18, 2022, due to polyline rupture following high line pressure and enhanced weathering. The spill was reported on September 6, 2022, and involved the release of approximately 83 thousand cubic feet (Mcf) of natural gas and 6 barrels (bbls) of pipeline liquids oversprayed into the adjacent pasture. Approximately 1 bbl of free fluid was removed during initial spill clean-up. Field screening and laboratory analysis reports are included in Table 2 (Attachment 2). The New Mexico Oil Conservation Division (NMOCD) C-141 Report: NAPP2223452247 is included in Attachment 3. The daily field reports (DFRs) and site photographs are included in Attachment 4.

Closure Criteria Determination

The depth to groundwater was determined using information from the United States Department of the Interior, United States Geological Survey (2022) National Water Information Mapping System. A 0.5-mile search radius was used to determine groundwater depth. The closest recorded depth to groundwater was determined to be 970 feet below ground surface (bgs) and 1.49 miles from the site (New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2022). No groundwater wells were located within the 0.5-mile radius; therefore, the most stringent criteria will be applied. Documentation used in Closure Criteria Determination research is included in Attachment 5.

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Closure Criteria Worksheet			
Site Name: Llama Lateral			
Spill Coordinates:		X: 32.425332	Y: -103.741130
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	970	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	104,258	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	25,114	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	41,913	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or	41,913	feet
	ii) Within 1000 feet of any fresh water well or spring	41,913	feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	5,653	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
10	Within a 100-year Floodplain	Undetermined	year
11	Soil Type	Berino-complex	
12	Ecological Classification	Loamy Sand	
13	Geology	Qep	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'	<50' 51-100' >100'

The closure criteria determined for the site are associated with the following constituent concentration limits as presented in Table 1.

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Table 1. Closure Criteria for Soils Impacted by a Release		
Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Limit
< 50 feet	Chloride - Horizontal	600 mg/kg
	Chloride - Vertical	250 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TDS - Total dissolved solids, TPH - Total petroleum hydrocarbons = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO), BTEX - Benzene, toluene, ethylbenzene, and xylenes

Remedial Actions Taken

An initial site inspection of the spill area was completed on September 22, 2022, which identified the area of the spill specified in the initial C-141 Report, estimated the approximate volume of the spill and white lined the area required for the 811 One Call request. The impacted area was determined to be approximately 235 feet long and 91 feet wide; the total affected area was determined to be 9,075 square feet. The DFR associated with the site inspection is included in Attachment 4.

Remediation efforts began on October 14, 2022, and were completed on January 13, 2023. Vertex personnel supervised the excavation of, and application of microblaze to, impacted soils. Field screening was completed on 36 sample points and consisted of analysis using a photo ionization detector (volatile hydrocarbons), Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and electrical conductivity (chlorides). Field screening results were used to identify areas requiring further remediation from those areas showing concentrations below determined closure criteria levels. Soils were removed to a depth of 2 feet bgs during the first remedial activities. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. Field screening results are included in Table 2 (Attachment 2).

Notification that confirmatory samples were being collected was provided to the New Mexico Oil Conservation District (NMOCD) and State Land Office (SLO) on November 28, 2022, and is included in Attachment 6. Confirmatory composite samples were collected from the base and walls of the excavation in 200 square foot increments. Samples were collected for laboratory analysis following NMOCD soil sampling procedures (Table 3, Attachment 2). Samples were submitted to Envirotech under chain-of-custody (COC) protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chlorides (EPA Method 300.0).

A total of 37 samples out of 46 samples collected for confirmation sampling were above criteria and an extension request was submitted to NMOCD on December 9, 2022 to further assess areas above criteria. The extension request was granted and communication can be found in Attachment 6. Notification that additional excavation and confirmation sampling was being completed was provided to NMOCD and SLO on January 5, 2023, and can be found in Attachment 6. Soils were removed to a final max depth of 2.5 feet bgs after additional remediation was completed. Laboratory results are presented in Table 3 (Attachment 2) and the laboratory data report is included in Attachment 7.

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Confirmatory sample locations are included on Figure 2 (Attachment 1). All confirmatory samples collected and analyzed were below closure criteria for the site.

Closure Request

The spill area was fully delineated, remediated, and backfilled with local soils. Confirmatory Sample Notification emails are presented in Attachment 6. Confirmatory samples were analyzed by the laboratory and found to be below allowable concentrations as per the NMAC Closure Criteria for Soils Impacted by a Release locations "under 50 feet to groundwater". Based on these findings, Lucid respectfully requests that this spill be closed.

Should you have any questions or concerns, please do not hesitate to contact the undersigned at 575.361.9880 or mpeppin@vertex.ca.



Monica Peppin, A.S.
PROJECT MANAGER, REPORTING

February 14, 2023

Date

Attachments

- Attachment 1. Figures
- Attachment 2. Tables
- Attachment 3. NMOCD C-141
- Attachment 4. Daily Field Reports with Pictures
- Attachment 5. Closure Criteria for Soils Impacted by a Release Research Determination Documentation
- Attachment 6. Confirmatory Sample Notifications
- Attachment 7. Laboratory Data Reports and Chain of Custody Forms

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References

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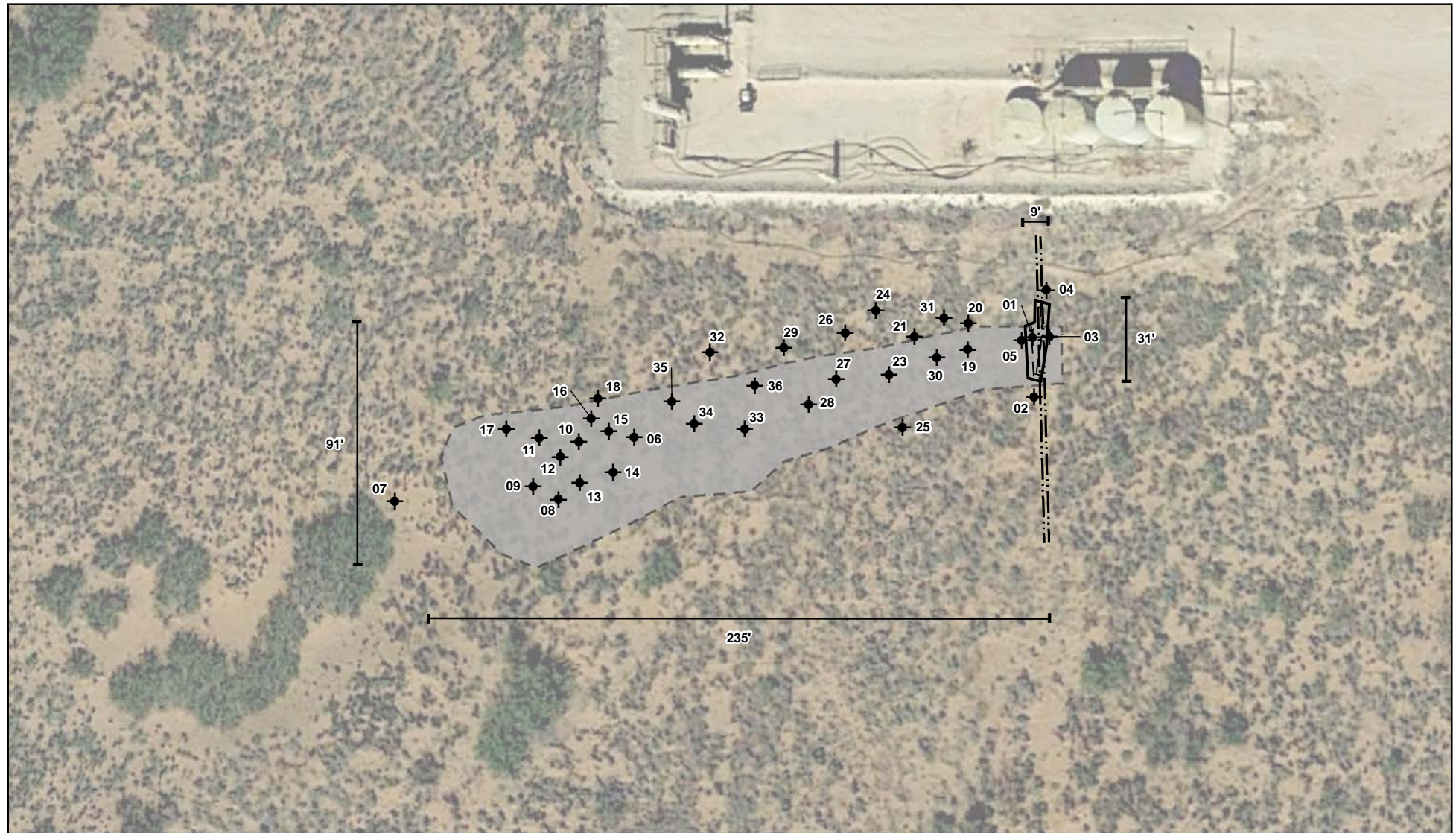
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Limitations

This report has been prepared for the sole benefit of Lucid Energy Delaware, LLC. This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division and State Land Office, without the express written consent of Vertex Resource Services Inc. (Vertex) and Lucid Energy Delaware, LLC. Any use of this report by a third party, or any reliance on decisions made based on it, or damages suffered as a result of the use of this report are the sole responsibility of the user.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted scientific practices current at the time the work was performed. The conclusions and recommendations presented represent the best judgement of Vertex based on the data collected during the assessment. Due to the nature of the assessment and the data available, Vertex cannot warrant against undiscovered environmental liabilities. Conclusions and recommendations presented in this report should not be considered legal advice.

ATTACHMENT 1



◆ Borehole (Prefixed by "BH22-")
 - - - Pipeline
 [Excavation Symbol] 4' Excavation (~195 sq. ft.)
 [Overspray Area Symbol] Overspray Area (~9,075 sq. ft.)



0 12.5 25 50 ft.
 Map Center:
 Lat/Long: 32.425308, -103.741533

WGS 1984 UTM Zone 13N
 Date: Nov 08/22



Characterization Schematic Llama Lateral

FIGURE:

1

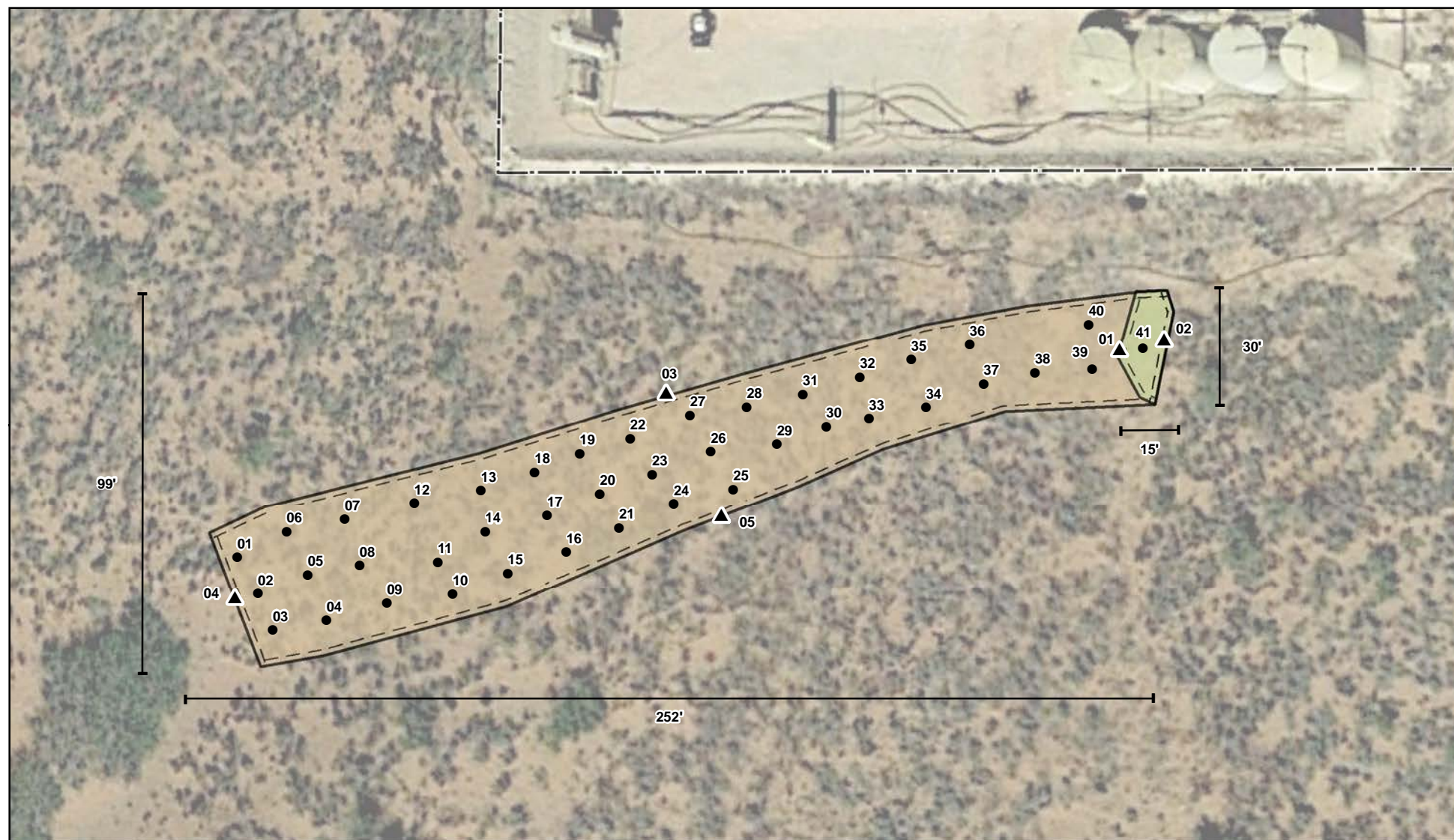
**Targa
 Resources
 Corp**

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Background imagery from Google Earth, 2022. Feature locations from GPS, Vertex Professional Services Ltd., 2022.

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Document Path: \\vxs-401.corp.internal\shared\ps04 - Geomatics\1-Projects\US PROJECTS\Targa Resources Corp\22E-03312 - Llama Lateral\Figure 2 Confirmation Schematic (Llama Lateral).mxd



- Base Sample (Prefixed by "BS22-")
- ▲ Wall Sample (Prefixed by "WS22-")
- Approximate Lease Boundary
- Excavation to 2.5' (~ 284 sq. ft.)
- Excavation to 0.5' (~ 8,621 sq. ft.)



0 12.5 25 ft.
Map Center:
Lat/Long: 32.425356, -103.741483

WGS 1984 UTM Zone 13N
Date: Jan 23/23



Confirmatory Schematic Llama Lateral

FIGURE:

2

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ATTACHMENT 2

Client Name: Targa Resources
 Site Name: Llama Lateral
 NMOCD Tracking #: nAPP2223452247
 Project #: 22E-03312
 Lab Reports: E210007

Table 2. Initial Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs													
Sample Description			Field Screening			Petroleum Hydrocarbons							
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Volatile		Extractable					Inorganic
						Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH22-01	4	10/2/2022	281	1,165	531	ND	1.3685	313	10400	ND	10713	10713	598
	5	10/2/2022	11	95	424	ND	ND	ND	ND	ND	ND	ND	461
	6	10/2/2022	2	42	0	-	-	-	-	-	-	-	-
	7	10/2/2022	1	35	0	-	-	-	-	-	-	-	-
BH22-02	0	10/2/2022	0	16	0	ND	ND	ND	ND	ND	ND	ND	ND
	1	10/2/2022	0	20	0	ND	ND	ND	ND	ND	ND	ND	ND
	2	10/2/2022	0	39	0	ND	ND	ND	ND	ND	ND	ND	ND
	3	10/2/2022	0	52	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-03	0	10/2/2022	0	28	0	ND	ND	ND	ND	ND	ND	ND	ND
	1	10/2/2022	0	22	0	ND	ND	ND	ND	ND	ND	ND	ND
	2	10/2/2022	0	19	0	ND	ND	ND	ND	ND	ND	ND	ND
	3	10/2/2022	0	18	0	ND	ND	ND	ND	ND	ND	ND	24.5
BH22-04	0	10/2/2022	0	30	0	ND	ND	ND	ND	ND	ND	ND	ND
	1	10/2/2022	0	25	0	ND	ND	ND	ND	ND	ND	ND	ND
	2	10/2/2022	0	21	0	ND	ND	ND	ND	ND	ND	ND	ND
	3	10/2/2022	0	17	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-05	0	10/2/2022	45	-	17	ND	ND	35.8	19000	8220	19035.8	27255.8	186
	1	10/2/2022	11	294	0	ND	ND	ND	134	86.1	134	220.1	49.4
	2	10/2/2022	3	80	0	ND	ND	ND	44	ND	44	44	95.3
	3	10/2/2022	4	105	92	ND	ND	ND	72.8	ND	72.8	72.8	151
BH22-06	0	10/2/2022	0	581	0	ND	ND	ND	470	ND	470	470	34.6
	1	10/2/2022	0	76	0	ND	ND	ND	59.5	ND	59.5	59.5	ND
	2	10/2/2022	0	27	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-07	0	10/2/2022	0	18	0	ND	ND	ND	ND	ND	ND	ND	ND
	1	10/2/2022	0	20	0	ND	ND	ND	ND	ND	ND	ND	ND
	2	10/2/2022	0	18	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-08	0	2022-10-31	-	621	-	-	-	-	-	-	-	-	-
	0.25	2022-10-31	-	22	-	-	-	-	-	-	-	-	-
BH22-09	0	2022-10-31	-	247	-	-	-	-	-	-	-	-	-
	0.25	2022-10-31	-	61	-	-	-	-	-	-	-	-	-
BH22-10	0	2022-10-31	-	120	-	-	-	-	-	-	-	-	-
	0.25	2022-10-31	-	63	-	-	-	-	-	-	-	-	-
BH22-11	0	2022-10-31	-	363	-	-	-	-	-	-	-	-	-
	0.25	2022-10-31	-	110	-	-	-	-	-	-	-	-	-
BH22-12	0	2022-10-31	-	152	-	-	-	-	-	-	-	-	-
	0.25	2022-10-31	-	20	-	-	-	-	-	-	-	-	-
BH22-13	0	2022-10-31	-	277	-	-	-	-	-	-	-	-	-
	0.25	2022-10-31	-	60	-	-	-	-	-	-	-	-	-
BH22-14	0	2022-10-31	-	135	-	-	-	-	-	-	-	-	-
	0.25	2022-10-31	-	35	-	-	-	-	-	-	-	-	-
BH22-15	0	2022-10-31	-	477	-	-	-	-	-	-	-	-	-
	0.25	2022-10-31	-	71	-	-	-	-	-	-	-	-	-
BH22-16	0	2022-10-31	-	158	-	-	-	-	-	-	-	-	-
	0.25	2022-10-31	-	63	-	-	-	-	-	-	-	-	-
BH22-17	0	2022-10-31	-	36	-	-	-	-	-	-	-	-	-
	0.25	2022-10-31	-	48	-	-	-	-	-	-	-	-	-
BH22-18	0	2022-10-31	-	66	-	-	-	-	-	-	-	-	-
	0.25	2022-10-31	-	45	-	-	-	-	-	-	-	-	-
BH22-19	0	2022-10-31	-	910	-	-	-	-	-	-	-	-	-
	1	2022-11-02	-	52	-	-	-	-	-	-	-	-	-

Client Name: Targa Resources
 Site Name: Llama Lateral
 NMOCD Tracking #: nAPP2223452247
 Project #: 22E-03312
 Lab Reports: E210007

Table 2. Initial Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs													
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						Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH22-20	0	2022-11-01	-	990	-	-	-	-	-	-	-	-	-
BH22-21	0	2022-11-01	-	176	-	-	-	-	-	-	-	-	-
BH22-22	0	2022-11-01	-	1,120	-	-	-	-	-	-	-	-	-
BH22-23	0	2022-11-01	-	18	-	-	-	-	-	-	-	-	-
BH22-24	0	2022-11-01	-	693	-	-	-	-	-	-	-	-	-
BH22-25	1	2022-11-02	-	20	-	-	-	-	-	-	-	-	-
BH22-26	0	2022-11-02	-	123	-	-	-	-	-	-	-	-	-
BH22-27	0	2022-11-02	-	255	-	-	-	-	-	-	-	-	-
BH22-28	0	2022-11-02	-	14	-	-	-	-	-	-	-	-	-
BH22-29	0	2022-11-02	-	66	-	-	-	-	-	-	-	-	-
BH22-30	1	2022-11-02	-	14	-	-	-	-	-	-	-	-	-
BH22-31	1	2022-11-02	-	76	-	-	-	-	-	-	-	-	-
BH22-32	0	2022-11-02	-	267	-	-	-	-	-	-	-	-	-
BH22-33	0	2022-11-02	-	184	-	-	-	-	-	-	-	-	-
BH22-34	0	2022-11-02	-	207	-	-	-	-	-	-	-	-	-
BH22-35	0	2022-11-02	-	260	-	-	-	-	-	-	-	-	-
BH22-36	0	2022-11-02	-	267	-	-	-	-	-	-	-	-	-

"ND" Not Detected at the Reporting Limit

"-" indicates not analyzed/assessed

Bold and grey shaded indicates exceedance outside of NMOCD Closure Criteria (on-pad)

Bold and green shaded indicates exceedance outside of NMOCD Reclamation Criteria (off-pad)

Client Name: Targa Resources

Site Name: Llama Lateral

NMOCD Tracking #: nAPP2223452247

Project #: 22E-03312

Lab Reports: E212030, E212031, E302020

Table 3. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Volatile		Extractable					
						Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BS22-01	0.25	11/30/2022	-	139	63	ND	ND	ND	44.4	ND	44.4	44.4	ND
BS22-02	0.25	11/30/2022	-	138	38	ND	ND	ND	35.9	ND	35.9	35.9	ND
BS22-03	0.25	11/30/2022	-	245	38	ND	ND	ND	73.7	80.6	73.7	154.3	ND
	0.5	1/10/2023	-	94	215	ND	ND	ND	26.1	ND	26.1	26.1	ND
BS22-04	0.25	11/30/2022	-	270	5	ND	ND	ND	80.3	92.9	80.3	173.2	ND
	0.5	1/10/2023	-	26	215	ND	ND	ND	ND	ND	ND	ND	ND
BS22-05	0.25	11/30/2022	-	155	27	ND	ND	ND	75.9	96.4	75.9	172.3	ND
	0.5	1/10/2023	-	3	242	ND	ND	ND	67.8	176	67.8	243.8	ND
	0.5	1/27/2023	-	42	196	ND	ND	ND	ND	ND	ND	ND	ND
BS22-06	0.25	11/30/2022	-	154	12	ND	ND	ND	65	85.8	65	150.8	ND
	0.5	1/10/2023	-	37	242	ND	ND	ND	44.7	103	44.7	147.7	ND
	0.5	1/27/2023	-	38	168	ND	ND	ND	ND	ND	ND	ND	ND
BS22-07	0.25	11/30/2022	-	148	41	ND	ND	ND	52.1	66.4	52.1	118.5	ND
	0.5	1/10/2023	-	4	207	ND	ND	ND	ND	ND	ND	ND	ND
BS22-08	0.25	11/30/2022	-	126	23	ND	ND	ND	47.8	65.9	47.8	113.7	ND
	0.5	1/10/2023	-	83	189	ND	ND	ND	ND	ND	ND	ND	ND
BS22-09	0.25	11/30/2022	-	243	34	ND	ND	ND	95.5	122	95.5	217.5	ND
	0.5	1/10/2023	-	66	167	ND	ND	ND	ND	ND	ND	ND	ND
BS22-10	0.25	11/30/2022	-	234	24	ND	ND	ND	144	194	144	338	ND
	0.5	1/10/2023	-	50	219	ND	ND	ND	51	112	51	163	ND
	0.5	1/10/2023	-	42	150	ND	ND	ND	ND	ND	ND	ND	ND
BS22-11	0.25	11/30/2022	-	178	10	ND	ND	ND	94.9	133	94.9	227.9	ND
	0.5	1/10/2023	-	55	229	ND	ND	ND	ND	ND	ND	ND	ND
BS22-12	0.25	11/30/2022	-	131	20	ND	ND	ND	41	58.3	41	99.3	ND
BS22-13	0.25	11/30/2022	-	141	67	ND	ND	ND	54.8	110	54.8	164.8	ND
	0.5	1/11/2023	-	11	340	ND	ND	ND	ND	ND	ND	ND	ND
BS22-14	0.25	11/30/2022	-	236	28	ND	ND	ND	118	160	118	278	ND
	0.5	1/11/2023	-	0	330	ND	ND	ND	ND	ND	ND	ND	ND
BS22-15	0.25	11/30/2022	-	221	33	ND	ND	ND	57.5	81.6	57.5	139.1	ND
	0.5	1/11/2023	-	0	342	ND	ND	ND	ND	ND	ND	ND	ND
BS22-16	0.25	11/30/2022	-	160	28	ND	ND	ND	48.2	69.1	48.2	117.3	ND
	0.5	1/11/2023	-	0	238	ND	ND	ND	38.5	ND	38.5	38.5	ND
BS22-17	0.25	11/30/2022	-	278	14	ND	ND	ND	85.4	110	85.4	195.4	ND
	0.5	1/11/2023	-	0	261	ND	ND	ND	ND	ND	ND	ND	ND
BS22-18	0.25	11/30/2022	-	264	41	ND	ND	ND	104	135	104	239	ND
	0.5	1/11/2023	-	10	225	ND	ND	ND	ND	ND	ND	ND	ND
BS22-19	0.25	11/30/2022	-	145	47	ND	ND	ND	49.3	67.6	49.3	116.9	ND
	0.5	1/11/2023	-	0	229	ND	ND	ND	ND	ND	ND	ND	ND
BS22-20	0.25	11/30/2022	-	400	14	ND	ND	ND	176	222	176	398	ND
	0.5	1/11/2023	-	13	225	ND	ND	ND	ND	ND	ND	ND	ND
BS22-21	0.25	11/30/2022	-	262	24	ND	ND	ND	168	429	168	597	ND
	0.5	1/11/2023	-	0	220	ND	ND	ND	ND	ND	ND	ND	ND
BS22-22	0.25	12/01/2022	-	187	102	ND	ND	ND	120	305	120	425	ND
	0.5	1/11/2023	-	15	248	ND	ND	ND	ND	ND	ND	ND	ND
BS22-23	0.25	12/01/2022	-	364	138	ND	ND	ND	205	499	205	704	32.1
	0.5	1/11/2023	-	26	268	ND	ND	ND	ND	ND	ND	ND	ND
BS22-24	0.25	12/01/2022	-	181	46	ND	ND	ND	94.3	260	94.3	354.3	ND
	0.5	1/11/2023	-	55	370	ND	ND	ND	ND	ND	ND	ND	ND

Client Name: Targa Resources

Site Name: Llama Lateral

NMOCD Tracking #: nAPP2223452247

Project #: 22E-03312

Lab Reports: E212030, E212031, E302020

Table 3. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs													
Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (petroFlag)	Chloride Concentration	Volatile		Extractable					
						Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
BS22-25	0.25	12/01/2022	-	156	134	ND	ND	ND	74.2	212	74.2	286.2	ND
	0.5	1/11/2023	-	0	229	ND	ND	ND	ND	ND	ND	ND	ND
BS22-26	0.25	12/01/2022	-	230	199	ND	ND	ND	82.9	234	82.9	316.9	21.9
	0.5	1/12/2023	-	71	105	ND	ND	ND	115	176	115	291	134
	0.5	1/27/2023	-	36	160	ND	ND	ND	ND	ND	ND	ND	ND
BS22-27	0.25	12/01/2022	-	405	0	ND	ND	ND	234	636	234	870	ND
	0.5	1/12/2023	-	71	105	ND	ND	ND	ND	ND	ND	ND	ND
BS22-28	0.25	12/01/2022	-	325	41	ND	ND	ND	412	1060	412	1472	ND
	0.5	1/12/2023	-	22	0	ND	ND	ND	ND	ND	ND	ND	ND
BS22-29	0.25	12/01/2022	-	277	191	ND	ND	ND	85.3	253	85.3	338.3	35.2
	0.5	1/12/2023	-	0	101	ND	ND	ND	ND	ND	ND	ND	38.4
BS22-30	0.25	12/01/2022	-	293	34	ND	ND	ND	162	356	162	518	21.2
	0.5	1/12/2023	-	0	60	ND	ND	ND	ND	ND	ND	ND	ND
BS22-31	0.25	12/01/2022	-	174	17	ND	ND	ND	94.3	231	94.3	325.3	ND
	0.5	1/12/2023	-	0	60	ND	ND	ND	ND	ND	ND	ND	ND
BS22-32	0.25	12/01/2022	-	241	135	ND	ND	ND	55.7	151	55.7	206.7	ND
	0.5	1/12/2023	-	0	47	ND	ND	ND	ND	ND	ND	ND	ND
BS22-33	0.25	12/01/2022	-	54	161	ND	ND	ND	70.1	150	70.1	220.1	ND
	0.5	1/12/2023	-	0	0	ND	ND	ND	ND	ND	ND	ND	ND
BS22-34	0.25	12/01/2022	-	215	226	ND	ND	ND	43.8	111	43.8	154.8	22.9
	0.5	1/13/2023	-	8	253	ND	ND	ND	ND	ND	ND	ND	ND
BS22-35	0.25	12/01/2022	-	304	213	ND	ND	ND	152	394	152	546	ND
	0.5	1/13/2023	-	0	259	ND	ND	ND	ND	ND	ND	ND	ND
BS22-36	0.25	12/01/2022	-	202	226	ND	ND	ND	249	669	249	918	25.8
	0.5	1/13/2023	-	0	281	ND	ND	ND	ND	ND	ND	ND	ND
BS22-37	0.25	12/01/2022	-	30	210	ND	ND	ND	ND	ND	ND	ND	ND
BS22-38	0.25	12/01/2022	-	14	239	ND	ND	ND	ND	ND	ND	ND	ND
BS22-39	0.25	12/01/2022	-	85	25	ND	ND	ND	ND	ND	ND	ND	ND
BS22-40	0.25	12/01/2022	-	154	83	ND	ND	ND	126	178	126	304	36.8
	0.5	1/13/2023	-	40	281	ND	ND	ND	32.6	ND	32.6	32.6	45.6
BS22-41	2	12/01/2022	-	249	47	ND	ND	ND	101	186	101	287	ND
	2.5	1/13/2023	-	0	278	ND	ND	ND	ND	ND	ND	ND	ND
WS22-01	0-2	12/01/2022	-	9	243	ND	ND	ND	ND	ND	ND	ND	27.1
WS22-02	0-2	12/01/2022	-	6	56	ND	ND	ND	ND	ND	ND	ND	ND
WS22-03	0-0.25	12/01/2022	-	164	56	ND	ND	ND	ND	54.8	ND	54.8	ND
WS22-04	0-0.25	12/01/2022	-	193	37	ND	ND	ND	271	595	271	866	ND
	0-0.5	1/14/2023	-	4	272	ND	ND	ND	ND	ND	ND	ND	ND
WS22-05	0-0.25	12/01/2022	-	209	47	ND	ND	ND	111	318	111	429	ND
	0-0.5	1/13/2023	-	0	285	ND	ND	ND	ND	ND	ND	ND	ND

"ND" Not Detected at the Reporting Limit

"-" indicates not analyzed/assessed

Bold and grey shaded indicates exceedance outside of NMOCD Closure Criteria

Bold and green shaded indicates under NMOCD Closure Criteria

ATTACHMENT 3

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	NAPP2223452247
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	Lucid Energy Delaware, LLC.	OGRID	372422
Contact Name	Michael Gant	Contact Telephone	3143307876
Contact email	mgant@targaresources.com	Incident # (assigned by OCD)	
Contact mailing address	3100 McKinnon St. Suite #800 Dallas, TX 75201		

Location of Release Source

Latitude 32.425525° Longitude -103.741432°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Llama Lateral 8" pipeline	Site Type	Natural gas pipeline
Date Release Discovered	8/18/2022	API# (if applicable)	

Unit Letter	Section	Township	Range	County
A	2	22S	31E	Eddy

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name: NM State Land Office)

Nature and Volume of Release

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


<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Natural Gas	Volume Released (Mcf) 83 MCF	Volume Recovered (Mcf) 0 MCF
<input checked="" type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Pipeline liquids	Approx. 6 BBLS	Approx. 1 BBLS
Cause of Release The release was caused by high line pressure and enhanced weathering which caused a rupture along the poly line.		

Incident ID	NAPP2223452247
District RP	
Facility ID	
Application ID	

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

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped.	
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Michael Gant</u>	Title: <u>Environmental Compliance Manager</u>
Signature: <u></u>	Date: <u>9/6/2022</u>
email: <u>mgant@targaresources.com</u>	Telephone: <u>3143307876</u>
<u>OCD Only</u>	
Received by: <u>Jocelyn Harimon</u>	Date: <u>09/06/2022</u>

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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

Printed Name: Michael Gant Title: Environmental Compliance Manager
Signature: *MGant* Date: 2/22/2023
email: mgant@targaresources.com Telephone: 3143307876

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ATTACHMENT 4



Daily Site Visit Report

Client:	<u>Targa Resources</u>	Inspection Date:	<u>9/22/2022</u>
Site Location Name:	<u>Llama Lateral</u>	Report Run Date:	<u>9/22/2022 11:08 PM</u>
Client Contact Name:	<u>Michael Gant</u>	API #:	<u></u>
Client Contact Phone #:	<u>314-330-7876</u>		
Unique Project ID	<u></u>	Project Owner:	<u></u>
Project Reference #	<u></u>	Project Manager:	<u></u>

Summary of Times

Arrived at Site	<u>9/22/2022 2:12 PM</u>
Departed Site	<u>9/22/2022 3:59 PM</u>

Daily Site Visit Report



Field Notes

14:20 Arrived at site and filled out safety paperwork.

15:32 One site to mark white line for the release area.

15:33 Done marking the white line/flag perimeter. Added perimeter to Collector.

Next Steps & Recommendations

1 Place 811 call and request ticket.

Daily Site Visit Report



Site Photos

Viewing Direction: Southwest



Northeast corner of white line area (near tank battery).

Viewing Direction: South



Excavated hole.

Viewing Direction: North



Excavated hole.

Viewing Direction: Northwest



Southeast corner of white line area



Daily Site Visit Report

Viewing Direction: Southwest



Long stained corridor result from overspray.

Viewing Direction: Southeast



Northwest corner of white line area

Viewing Direction: Northeast



Southwest corner of white line area

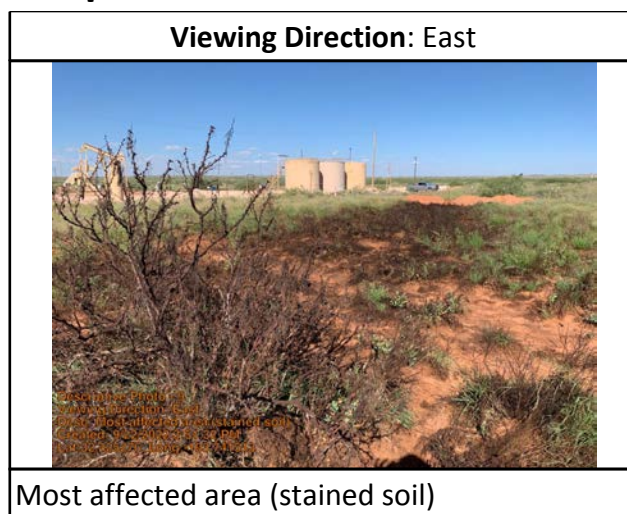
Viewing Direction: East



Westernmost area of the release (vegetated)



Daily Site Visit Report



Daily Site Visit Report



Daily Site Visit Signature

Inspector: Fernando Rodriguez

Signature: 
Signature



Daily Site Visit Report

Client:	<u>Targa Resources</u>	Inspection Date:	<u>1/27/2023</u>
Site Location Name:	<u>Llama Lateral</u>	Report Run Date:	<u>1/28/2023 1:35 AM</u>
Client Contact Name:	<u>Michael Gant</u>	API #:	<u></u>
Client Contact Phone #:	<u>314-330-7876</u>		
Unique Project ID	<u></u>	Project Owner:	<u></u>
Project Reference #	<u></u>	Project Manager:	<u></u>

Summary of Times

Arrived at Site	<u>1/27/2023 6:30 AM</u>
Departed Site	<u>1/27/2023 8:52 AM</u>

Field Notes

- 6:39** Completed JSA on arrival. On site to resample four confirmation sample locations.
- 7:32** Swept sampling locations with magnetic locator prior to ground disturbance.
- 8:15** Re-collected 5-point composite samples for BS22-05, BS22-06, BS22-10, and BS22-26 at respective locations.
- 8:51** Confirmation sample field screening results were below NMOCD strictest criteria.

Next Steps & Recommendations

1

Daily Site Visit Report



Site Photos

Viewing Direction: West



Descriptive Photo - 3
Viewing Direction: West
East end of release area facing west-southwest.
Created: 1/27/2023 9:47:10 AM
Latitude: 32.5411, Longitude: 101.74517

East end of release facing west-southwest.

Viewing Direction: Southwest



Descriptive Photo - 5
Viewing Direction: Southwest
North edge of release area facing southwest. Collected composite sample for BS22-26.
Created: 1/27/2023 9:47:40 AM
Latitude: 32.5411, Longitude: 101.74517

North edge of release area facing southwest.
Collected composite sample for BS22-26.

Viewing Direction: Northwest



Descriptive Photo - 6
Viewing Direction: Northwest
South edge of release area facing northwest. Collected composite sample for BS22-10.
Created: 1/27/2023 9:48:07 AM
Latitude: 32.5411, Longitude: 101.74517

South edge of release area facing northwest.
Collected composite sample for BS22-10.

Viewing Direction: Southeast



Descriptive Photo - 4
Viewing Direction: Southeast
North edge of release area facing southeast. Collected composite sample for BS22-06.
Created: 1/27/2023 9:47:07 AM
Latitude: 32.5411, Longitude: 101.74517

North edge of release area facing southeast.
Collected composite sample for BS22-06.



Daily Site Visit Report

Viewing Direction: East



West end of release area facing east. Collected composite sample for BS22-05.

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Lakin Pullman

Signature:

A handwritten signature in black ink, appearing to be 'LP', written over a horizontal line.

Signature

ATTACHMENT 5

Llama Lateral



9/27/2022, 1:18:03 PM

- Override 1

● Active

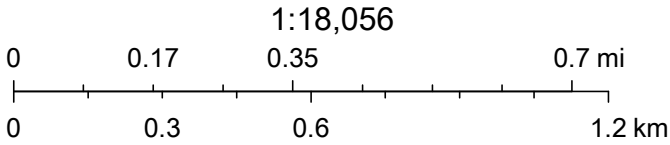
□ OSE District Boundary
- Water Right Regulations

□ Closure Area

New Mexico State Trust Lands

□ Subsurface Estate
- Both Estates

□ SiteBoundaries



Esri, HERE, GeoTechnologies, Inc., Esri, HERE, Garmin, GeoTechnologies, Inc., U.S. Department of Energy Office of Legacy Management, Maxar



New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
C	02949 EXPL	1	1	4	34	21S	31E	616140	3589231*

Driller License: 1184 **Driller Company:** WEST TEXAS WATER WELL SERVICE
Driller Name: RONNY KEITH
Drill Start Date: 08/14/2003 **Drill Finish Date:** 09/11/2003 **Plug Date:**
Log File Date: 09/23/2003 **PCW Rev Date:** **Source:** Artesian
Pump Type: **Pipe Discharge Size:** **Estimated Yield:**
Casing Size: **Depth Well:** 970 feet **Depth Water:**

Water Bearing Stratifications:	Top	Bottom	Description
	0	2	Other/Unknown
	2	16	Sandstone/Gravel/Conglomerate
	16	29	Sandstone/Gravel/Conglomerate
	29	95	Sandstone/Gravel/Conglomerate
	95	225	Sandstone/Gravel/Conglomerate
	225	577	Sandstone/Gravel/Conglomerate
	577	610	Sandstone/Gravel/Conglomerate
	610	622	Sandstone/Gravel/Conglomerate
	622	639	Sandstone/Gravel/Conglomerate
	639	662	Sandstone/Gravel/Conglomerate
	662	722	Sandstone/Gravel/Conglomerate
	722	735	Sandstone/Gravel/Conglomerate
	735	754	Sandstone/Gravel/Conglomerate
	754	775	Sandstone/Gravel/Conglomerate
	775	782	Sandstone/Gravel/Conglomerate
	782	792	Sandstone/Gravel/Conglomerate
	792	863	Sandstone/Gravel/Conglomerate
	863	932	Sandstone/Gravel/Conglomerate
	932	948	Sandstone/Gravel/Conglomerate
	948	970	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	755	773

*UTM location was derived from PLSS - see Help

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

9/27/22 1:20 PM

POINT OF DIVERSION SUMMARY



New Mexico Office of the State Engineer

Water Right Summary

WR File Number: C 02949 **Subbasin:** CUB **Cross Reference:** -
Primary Purpose: EXP EXPLORATION
Primary Status: PMT PERMIT
Total Acres: **Subfile:** - **Header:** -
Total Diversion: 0 **Cause/Case:** -
Owner: US DEPT OF ENERGY CARLSBAD FIELD OFFICE, WIPP
Contact: DOUG LYNN

Documents on File

Trn #	Doc	File/Act	Status		Transaction Desc.	From/ To	Acres	Diversion	Consumptive
			1	2					
258325	EXPL	2003-02-14	PMT	LOG	C 02949 EXPL	T	0	0	

Current Points of Diversion

(NAD83 UTM in meters)									
POD Number	Well Tag	Source	Q			X	Y	Other Location Desc	
			64	Q16	Q4				
C 02949 EXPL		Artesian	1	1	4 34 21S 31E	616140	3589231*		

An () after northing value indicates UTM location was derived from PLSS - see Help

Source

Acres	Diversion	CU	Use	Priority	Source Description
0	0		EXP		GW

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

9/27/22 1:19 PM

WATER RIGHT SUMMARY

Llama Lateral



9/27/2022, 1:22:01 PM

- Override 1

GIS WATERS PODs

Active

Pending
- Plugged

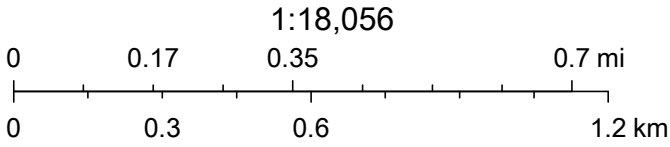
OSE District Boundary

Water Right Regulations

Closure Area
- New Mexico State Trust Lands

Both Estates

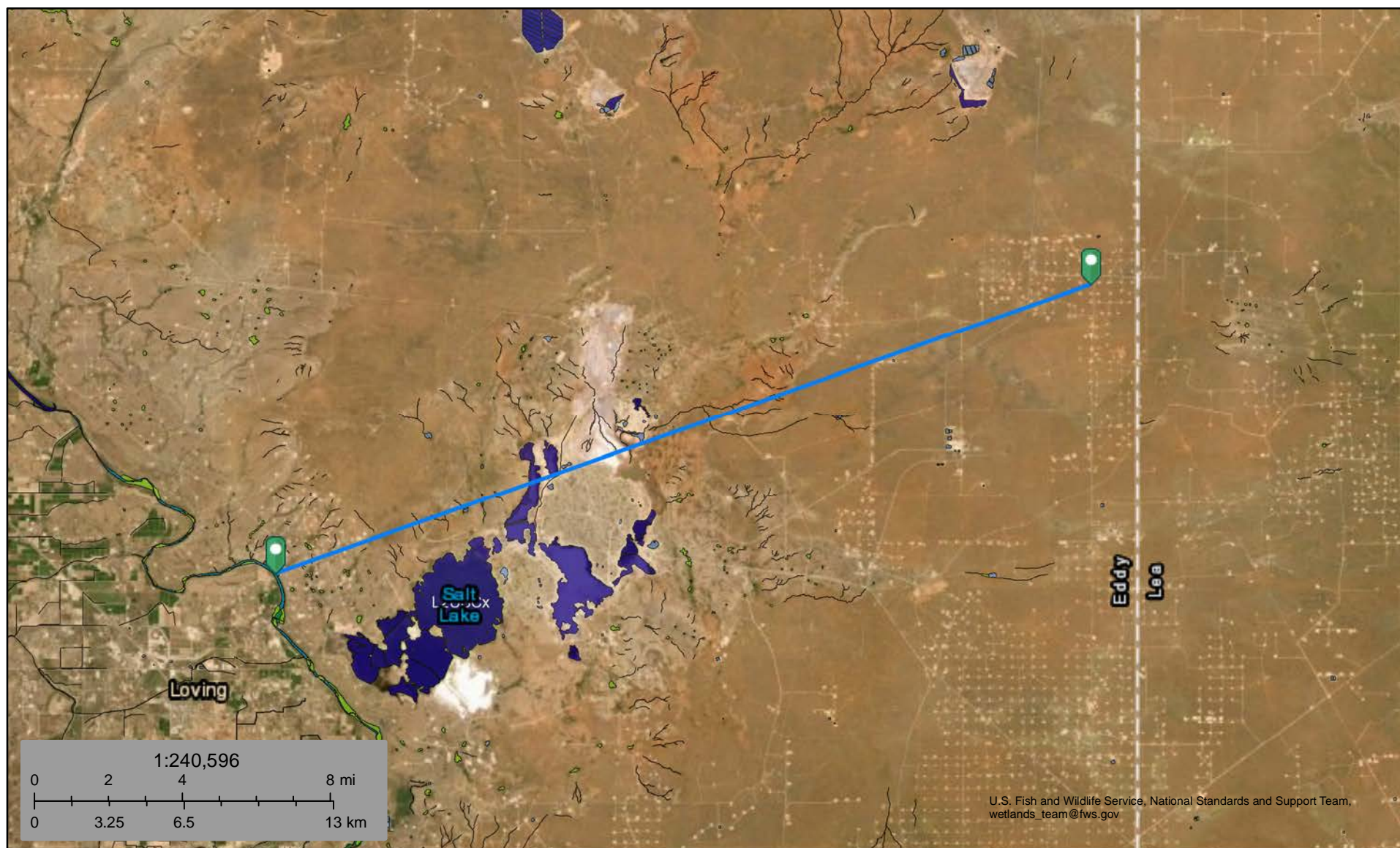
SiteBoundaries



Esri, HERE, GeoTechnologies, Inc., Esri, HERE, Garmin, GeoTechnologies, Inc., U.S. Department of Energy Office of Legacy Management, Maxar



Llama Lateral



September 27, 2022

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

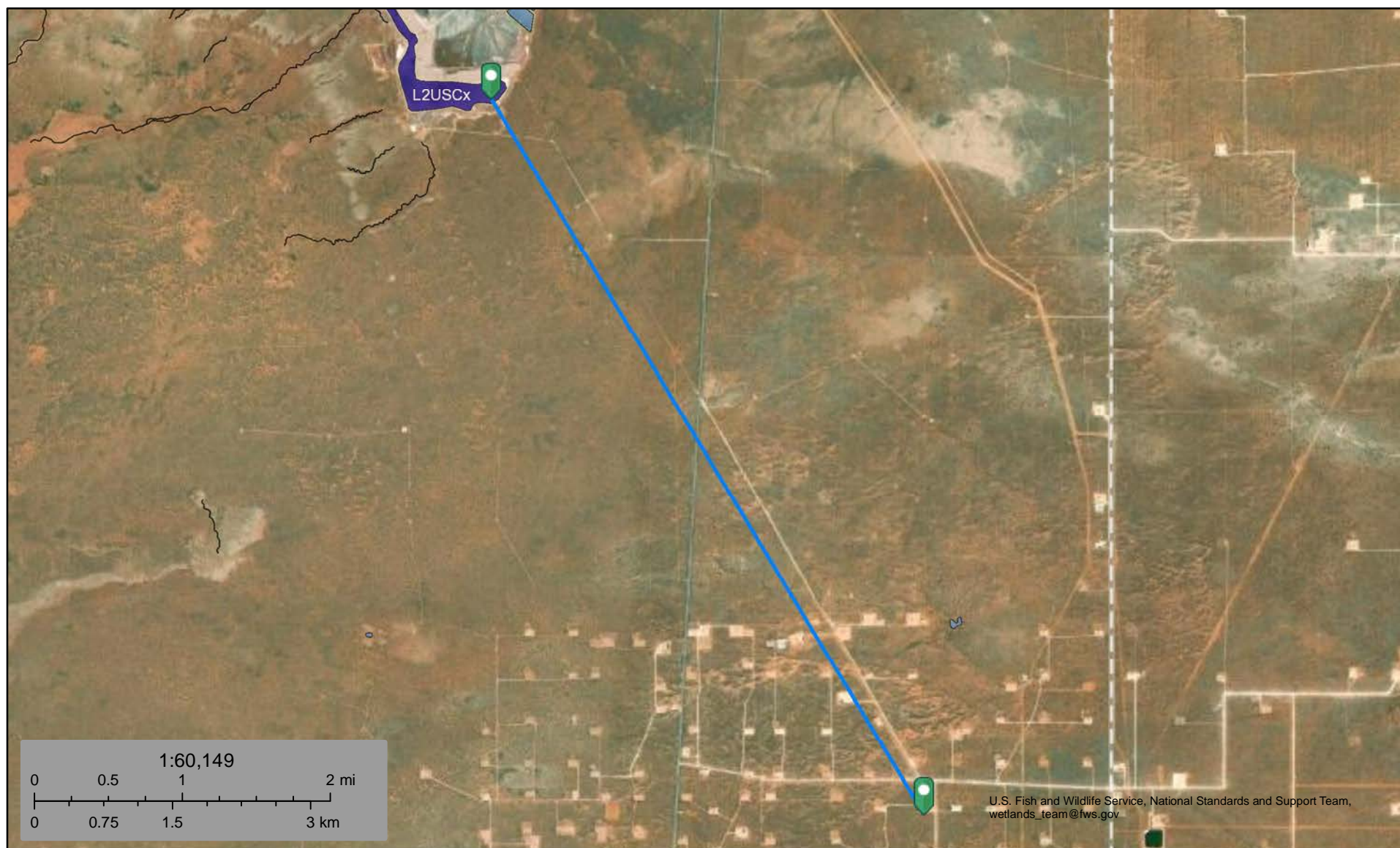
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



Llama Lateral



September 27, 2022

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond


- Lake
- Other
- Riverine

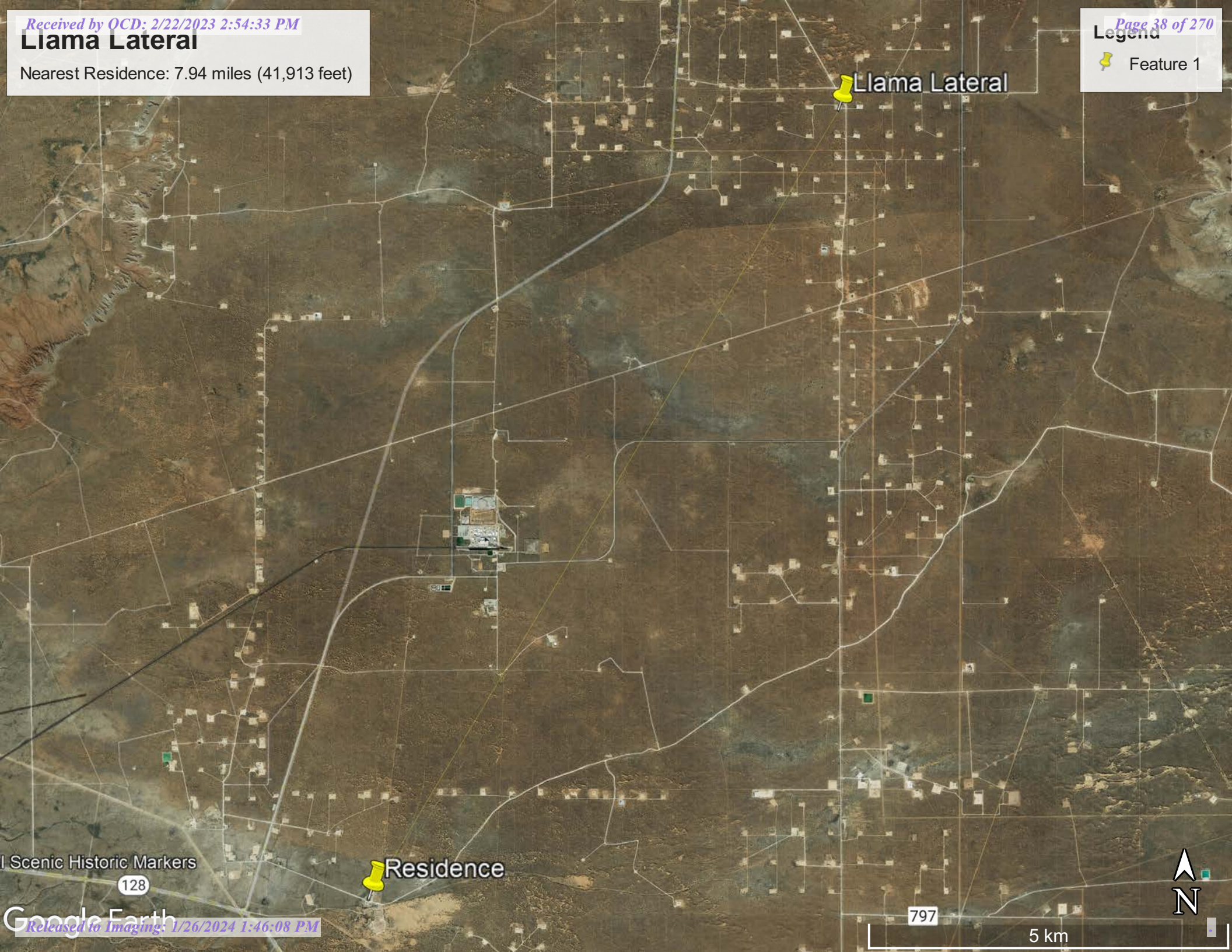
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Llama Lateral

Nearest Residence: 7.94 miles (41,913 feet)

Legend

 Feature 1



Scenic Historic Markers

128

Google Earth

797

5 km

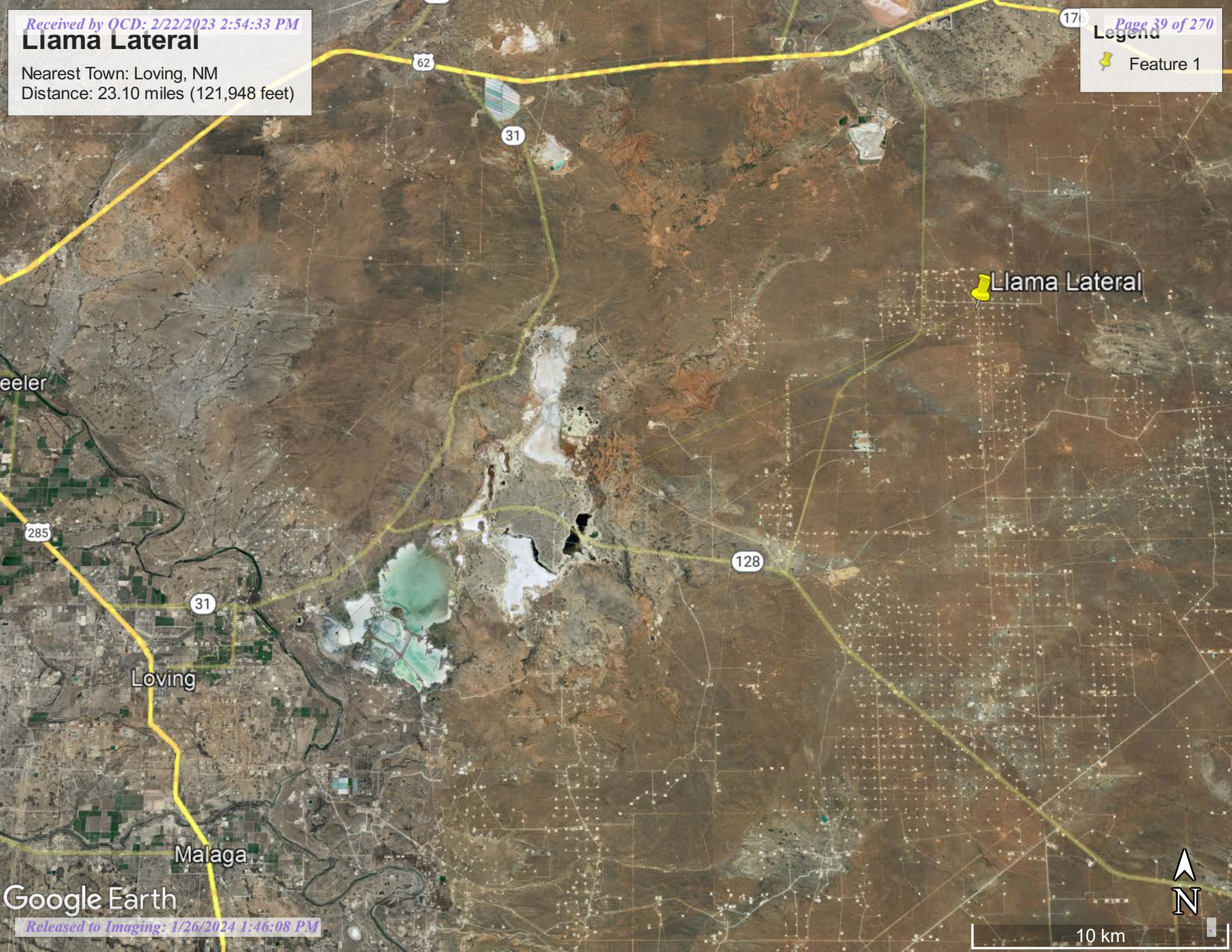


Llama Lateral

Nearest Town: Loving, NM
Distance: 23.10 miles (121,948 feet)

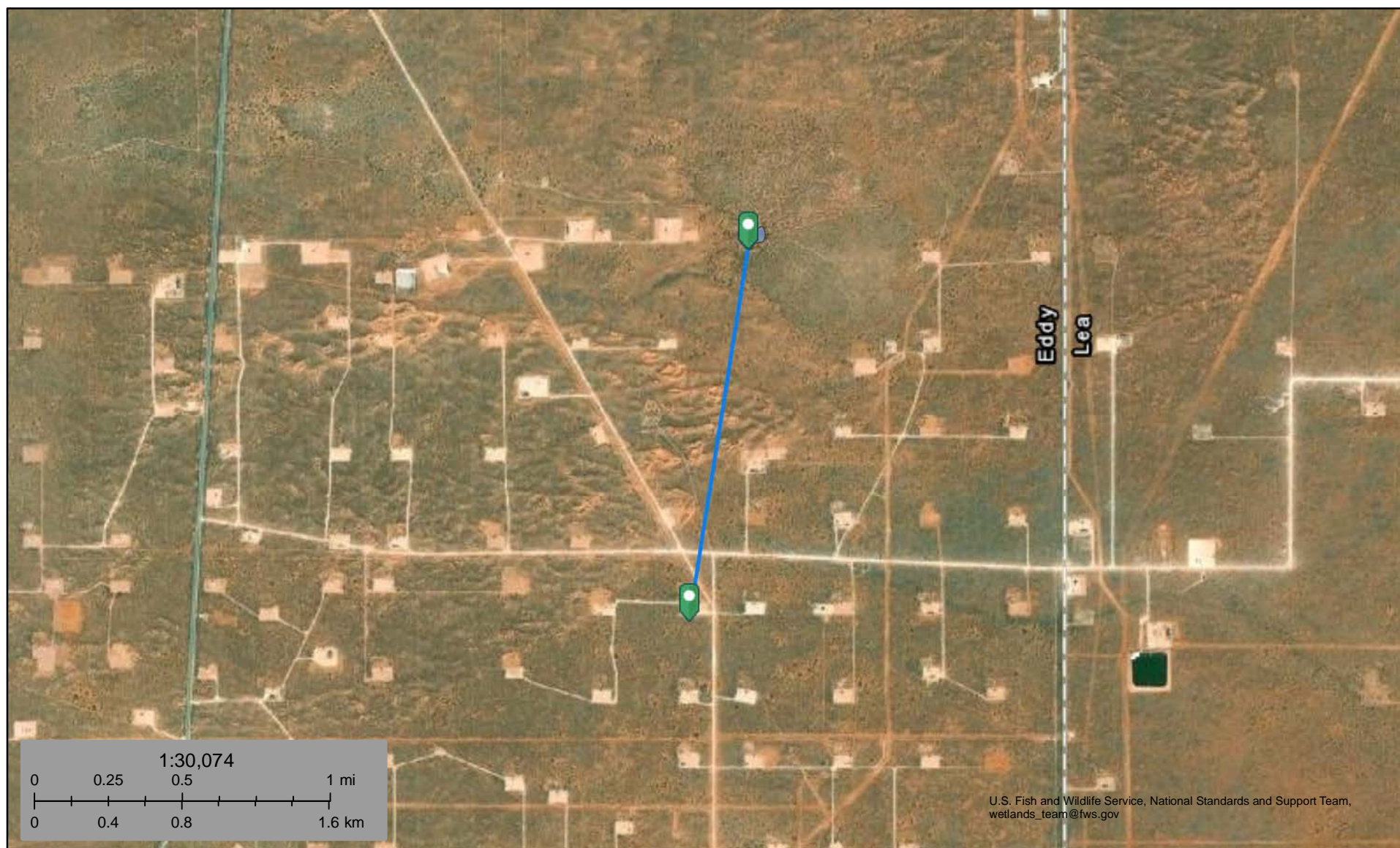
Legend

Feature 1





Llama Lateral



September 27, 2022

Wetlands

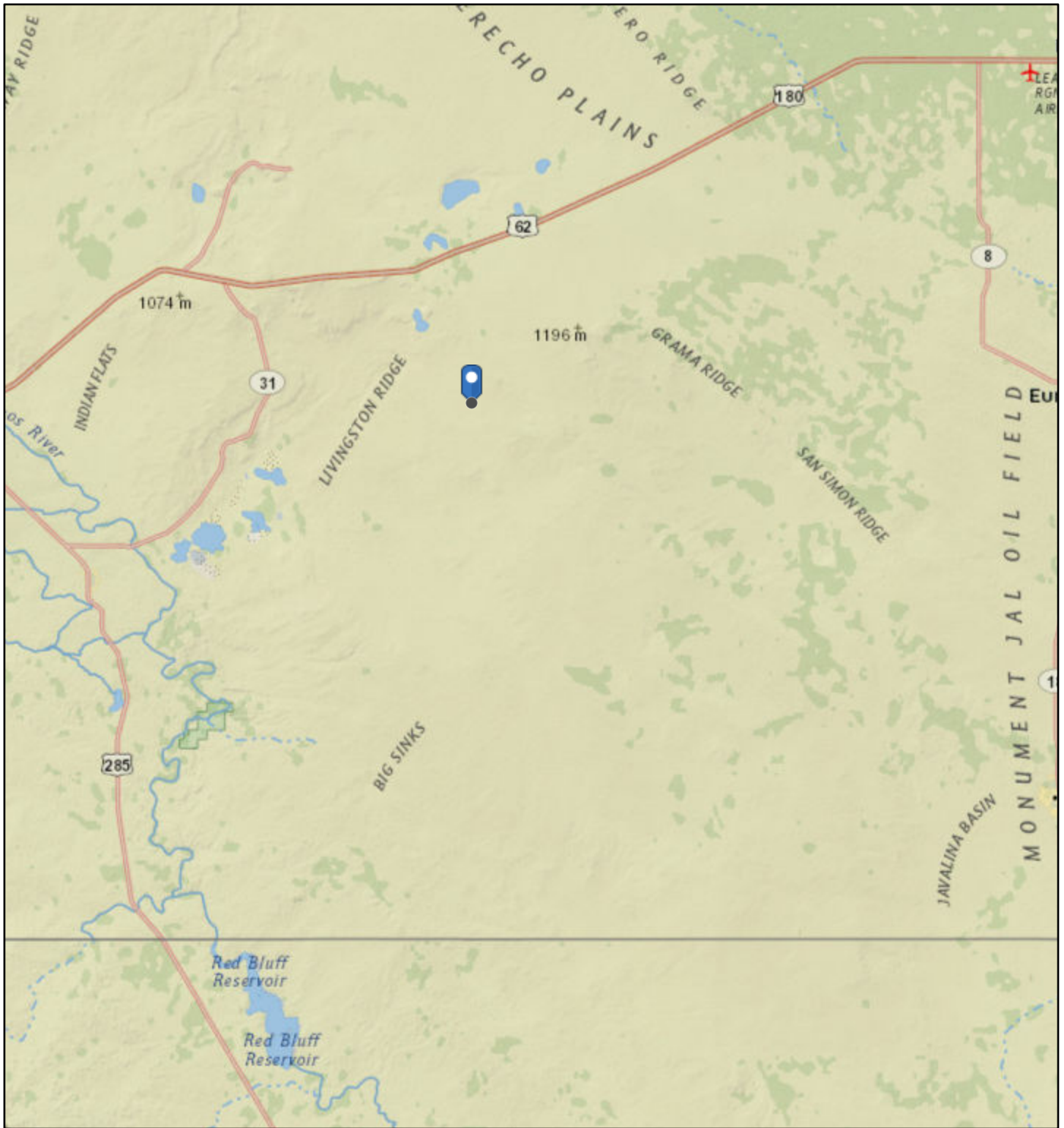
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

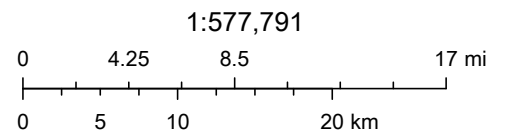
- Lake
- Other
- Riverine

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Llama Lateral

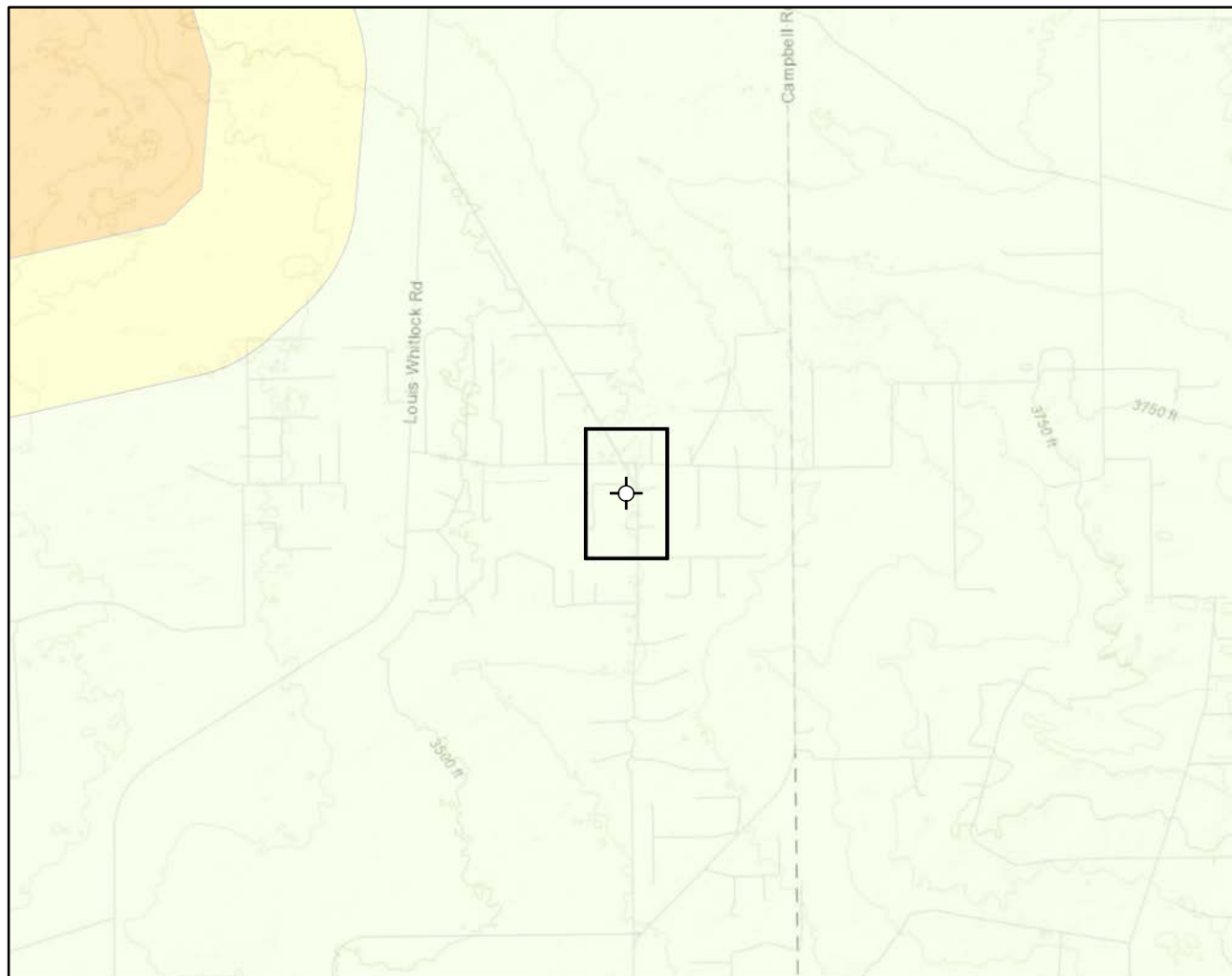


9/27/2022, 12:52:41 PM



National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Document Path: G:\Projects\US PROJECTS\Targa Resources Corp\22E-03312 - Llama Lateral\Figure X Karst Potential Llama Lateral.mxd



Karst Potential

- Critical
- High
- Medium
- Low

- Site Location
- Site Buffer (1,000 ft.)

Overview Map

0 0.25 0.5 1 mi



Detail Map

0 150 300 600 ft.



Map Center:
Lat/Long: 32.425332, -103.741130

NAD 1983 UTM Zone 13N
Date: Oct 04/22



Karst Potential Schematic Llama Lateral

FIGURE:

X

**Targa
Resources
Corp**

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Inset Map, Maxar, 2021; Overview Map: ESRI World Topographic. Karst potential data sourced from Rosswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

VERSATILITY. EXPERTISE.

National Flood Hazard Layer FIRMette



103°44'47"W 32°25'46"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
OTHER FEATURES		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
OTHER FEATURES		Limit of Study
		Jurisdiction Boundary
OTHER FEATURES		Coastal Transect Baseline
		Profile Baseline
OTHER FEATURES		Hydrographic Feature
		Digital Data Available
MAP PANELS		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/27/2022 at 1:26 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Soil Map—Eddy Area, New Mexico



Soil Map may not be valid at this scale.

Map Scale: 1:977 if printed on A landscape (11" x 8.5") sheet.

0 10 20 40 60 Meters

0 45 90 180 270 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

9/27/2022
Page 1 of 3

Soil Map—Eddy Area, New Mexico

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Eddy Area, New Mexico

Survey Area Data: Version 17, Sep 12, 2021

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

Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BB	Berino complex, 0 to 3 percent slopes, eroded	3.8	100.0%
Totals for Area of Interest		3.8	100.0%

Map Unit Description: Berino complex, 0 to 3 percent slopes, eroded---Eddy Area, New Mexico

Eddy Area, New Mexico

BB—Berino complex, 0 to 3 percent slopes, eroded

Map Unit Setting

National map unit symbol: 1w43

Elevation: 2,000 to 5,700 feet

Mean annual precipitation: 5 to 15 inches

Mean annual air temperature: 57 to 70 degrees F

Frost-free period: 180 to 260 days

Farmland classification: Not prime farmland

Map Unit Composition

Berino and similar soils: 60 percent

Pajarito and similar soils: 25 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Berino

Setting

Landform: Plains, fan piedmonts

Landform position (three-dimensional): Riser

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 17 inches: fine sand

H2 - 17 to 58 inches: sandy clay loam

H3 - 58 to 60 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water

(Ksat): Moderately high to high (0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 40 percent

Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum: 1.0

Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Map Unit Description: Berino complex, 0 to 3 percent slopes, eroded---Eddy Area, New Mexico

Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Description of Pajarito

Setting

Landform: Dunes, plains, interdunes
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 9 inches: loamy fine sand
H2 - 9 to 72 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High
(2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Minor Components

Cacique

Percent of map unit: 4 percent
Ecological site: R042XC004NM - Sandy
Hydric soil rating: No

Wink

Percent of map unit: 4 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Pajarito

Percent of map unit: 4 percent

Map Unit Description: Berino complex, 0 to 3 percent slopes, eroded---Eddy Area, New Mexico

Ecological site: R042XC003NM - Loamy Sand

Hydric soil rating: No

Kermit

Percent of map unit: 3 percent

Ecological site: R042XC005NM - Deep Sand

Hydric soil rating: No

Data Source Information

Soil Survey Area: Eddy Area, New Mexico

Survey Area Data: Version 17, Sep 12, 2021

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R042XC003NM

Site Name: Loamy Sand

Precipitation or Climate Zone: 8 to 13 inches

Phase: _____

PHYSIOGRAPHIC FEATURES**Narrative:**

This site occurs on upland plains between drainageways. Slopes are nearly level to undulating, usually less than 9 percent. Low stabilized dunes may occur occasionally. Direction of slopes varies and is not usually significant. Elevations range from 2,500 to 4,500 feet.

Land Form:

1. Fan

2. Alluvial flat

3.

Aspect:

1. N/A

2.

3.

	Minimum	Maximum
Elevation (feet)	2,500	4,500
Slope (percent)	0	9
Water Table Depth (inches)	N/A	N/A
Flooding:	Minimum	Maximum
Frequency	N/A	N/A
Duration	N/A	N/A
Ponding:	Minimum	Maximum
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to High depending on slope.

CLIMATIC FEATURES**Narrative:**

The average annual precipitation ranges from 8 to 13 inches. Variations of 5 inches, more or less, are common. Over 80 percent of the precipitation falls from April through October. Most of the summer precipitation comes in the form of high intensity-short duration thunderstorms.

Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes. The average annual temperature is 61 degrees with extremes of 25 degrees below zero in the winter to 112 degrees in the summer.

The average frost-free season is 207 to 220 days. The last killing frost being late March or early April and the first killing frost being in later October or early November.

Temperature and rainfall both favor warm season perennial plant growth. In years of abundant spring moisture, annual forbs and cool season grasses can make up an important component of this site. Strong winds blow from the southwest from January through June, which accelerates soil drying during a critical period for cool season plant growth.

	Minimum	Maximum
Frost-free period (days):	180	221
Freeze-free period (days):	199	240
Mean annual precipitation (inches):	10.0	13.0

Monthly moisture (inches) and temperature (°F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.40	0.42	20.6	59.7
February	0.40	0.41	25.2	65.6
March	0.41	0.43	31.4	72.7
April	0.58	0.63	40.4	81.5
May	1.28	1.35	49.6	88.7
June	1.40	1.46	59.1	95.4
July	1.62	1.64	63.3	96.4
August	1.79	1.84	61.6	94.8
September	1.81	2.20	54.1	88.5
October	1.16	1.41	40.7	80.4
November	0.43	0.47	28.4	68.7
December	0.48	0.51	20.9	61.1

Climate Stations:

- (1) NM0600, Artesia, NM - Period of record 1961 - 1990
- (2) NM0992, Bitter Lakes WL Refuge, NM - Period of record 1961 - 1990
- (3) NM1469, Carlsbad, NM - Period of record 1961 - 1990
- (4) NM293792, Hagerman, NM - Period of record 1961 - 1990
- (5) NM299563, Waste Isolation Plant, NM - Period of record 1961 - 1990
- (2) NM4346, Jal, NM - Period of record 1961 - 1990

INFLUENCING WATER FEATURES**Narrative:**

This site is not influenced from water from wetlands or streams.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES**Narrative:**

The soils on this site are deep and well drained. The surface texture varies from fine sand to loamy fine sand to a depth of 20 to 30 inches. Underlying layers are fine sandy loam or sandy clay loam. Some layers high in lime or with caliche fragments may occur at depths of 20 to 30 inches. These soils have a moderately rapid to moderate permeability. Available water holding capacity is medium to high. Moisture that falls on this site is readily absorbed and can be stored in the lower part of the root zone. These soils, if unprotected by plant cover and organic residue, become wind blown and low hummocks are formed.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Fine sand
2. Loamy
3. Loamy fine sand

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group:	N/A
Surface Fragments <=3" (% Cover):	N/A
Surface Fragments >3" (% Cover):	N/A
Subsurface Fragments <=3" (% Volume):	4 to 12
Subsurface Fragments >=3" (% Volume):	N/A

Drainage Class:	Minimum Well	Maximum Well
Permeability Class:	Moderately slow	Moderate
Depth (inches):	>72	>72
Electrical Conductivity (mmhos/cm):	2.0	4.0
Sodium Absorption Ratio:	N/A	N/A
Soil Reaction (1:1 Water):	6.6	8.4
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	5	5
Calcium Carbonate Equivalent (percent):	N/A	N/A

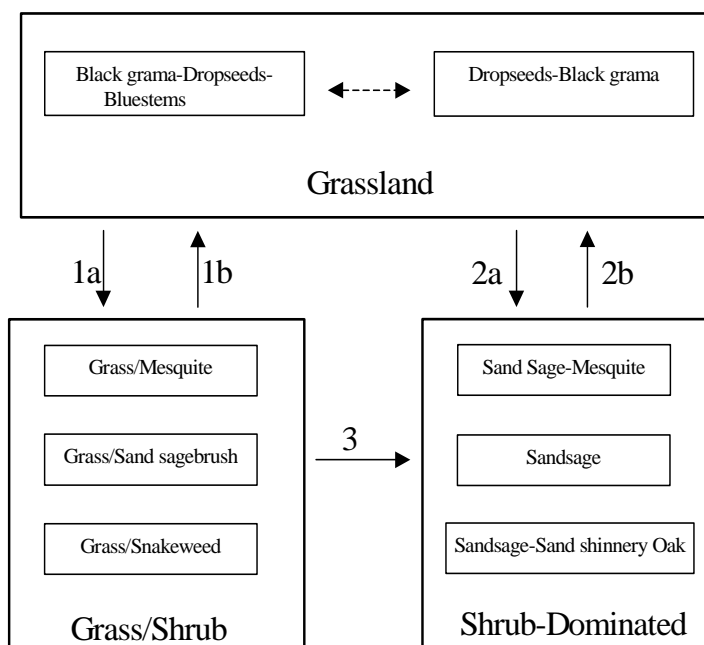
PLANT COMMUNITIES

Ecological Dynamics of the Site:

Overview

The Loamy Sand site intergrades with the Deep Sand and Sandy sites (SD-3). These sites can be differentiated by surface soil texture and depth to a textural change. Loamy Sand and Deep Sand sites have coarse textured (sands and loamy sand) surface soils while Sandy sites have moderately coarse textured (sandy loam and fine sandy loam) surfaces. Although Loamy Sand and Deep Sand sites have similar surface textures, the depth to a textural change is different—Loamy Sand sub-surface textures typically increase in clay at approximately 20 to 30 inches, and Deep Sand sites not until around 40 inches.

The historic plant community of Loamy Sand sites is dominated by black grama (*Bouteloua eriopoda*), dropseeds (*Sporobolus flexuosus*, *S. contractus*, *S. cryptandrus*), and bluestems (*Schizachyrium scoparium* and *Andropogon hallii*), with scattered shinnery oak (*Quercus havardii*) and sand sage (*Artemisia filifolia*). Perennial and annual forb abundance and distribution are dependent on precipitation. Litter and to a lesser extent, bare ground, are a significant proportion of ground cover while grasses compose the remainder. Decreases in black grama indicate a transition to either a grass/shrub or shrub-dominated state. The grass/shrub state is composed of grasses/honey mesquite (*Prosopis glandulosa*), grasses/broom snakeweed (*Gutierrezia sarothrae*), or grasses/sand sage. The shrub-dominated state occurs after a severe loss of grass cover and a prevalence of sand sage with secondary shinnery oak and mesquite. Heavy grazing intensity and/or drought are influential drivers in decreasing black grama and bluestems and subsequently increasing shrub cover, erosion, and bare patches. Historical fire suppression also encourages shrub pervasiveness and a competitive advantage over grass species (McPherson 1995). Brush and grazing management, however, may reverse grass/shrub and shrub-dominated states toward the grassland-dominated historic plant community.

Plant Communities and Transitional Pathways (diagram):**MLRA-42, SD-3, Loamy Sand**

1a. Drought, over grazing, fire suppression.

1b. Brush control, prescribed grazing

2.a Severe loss of grass cover, fire suppression, erosion.

2b. Brush control, seeding, prescribed grazing.

3. Continued loss of grass cover, erosion.

Plant Communities Photo Display & Descriptive Diagnosis

MLRA 42; SD-3; Loamy Sand

Grass/Shrub



- Black grama/Mesquite community, with some dropseeds, threeawns, and scattered sand shinnery oak
- Grass cover low to moderate

Shrub-Dominated



- Sand Sage/Sand shinnery oak community, with some yucca, dropseeds, threeawns, and black grama
- Grass cover low
- Bare patches evident

Shrub-Dominated



- Sand sagebrush community, with some dropseeds, bluestems, and a few scattered mesquite
- Grass cover low
- Bare patches expanding
- Pajarito loamy fine sand, Eddy Co., NM

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 Narrative Label: HCPC

State Containing Historic Plant Community

Grassland: The historic plant community is a uniformly distributed grassland dominated by black grama, dropseeds, and bluestems. Sand sage and shinnery oak are evenly dispersed throughout the grassland due to the coarse soil surface texture. Perennial and annual forbs are common but their abundance and distribution are reflective of precipitation. Bluestems initially, followed by black grama, decrease with drought and heavy grazing intensity. Historical fire frequency is unknown but likely occurred enough to remove small shrubs to the competitive advantage of grass species. Fire suppression, drought conditions, and excessive grazing drive most grass species out of competition with shrub species.

Diagnosis: Grassland dominated by black grama, dropseeds, and bluestems. Shrubs, such as sand sage, shinnery oak, and mesquite are dispersed throughout the grassland. Forbs are present and populations fluctuate with precipitation variability.

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs	28
Bare ground	22
Surface cobble and stone	0
Litter (percent)	50
Litter (average depth in cm.)	1

Plant Community Annual Production (by plant type):

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	442	833	1224
Forb	110	208	306
Tree/Shrub/Vine	98	184	270
Lichen			
Moss			
Microbiotic Crusts			
Totals	650	1225	1800

Plant Community Composition and Group Annual Production: Plant species are grouped by annual production **not** by functional groups.

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	SCSC	little bluestem	61 - 123	61 - 123
2	ANHA	sand bluestem	37 - 61	37 - 61
3	BOSA	silver bluestem	37 - 61	37 - 61
3	BOBA3	cane bluestem		
4	BOER4	black grama	123 - 184	123 - 184
4	MUPO2	bush muhly		
5	SEVU2	plains bristlegrass	123 - 184	123 - 184
5	URCI	signal grass		
5	PASE5	sand paspalum		
6	SPCR	sand dropseed	123 - 184	123 - 184
6	SPCO4	spike dropseed		
6	SPFL2	mesa dropseed		
7	DICOA	fall witchgrass	61 - 123	61 - 123
7	CHCU2	hooded windmill		
7	DICA8	Arizona cottontop		
8	SPGI	giant dropseed	37 - 61	37 - 61
8	HENE5	New Mexico feathergrass		
9	2GP	other perennial grasses	37 - 61	37 - 61

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
10	ARFI2	sand sagebrush	61 – 123	61 – 123
10	QUHA3	shinnery oak		
11	ATCA2	fourwing saltbush	37 - 61	37 - 61
11	DAFO	feather dalea		
12	EPHED	ephedra spp.	37 - 61	37 - 61
12	KRER	range ratany		
13	2SHRUB	other shrubs	37 - 61	37 - 61

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
14	CRPOP	leather croton	61 - 123	61 - 123
14	SPHAE	globemallow		
14	GAPU	Indian blanket flower		
15	PACAL5	wooly groundsel	12 - 37	12 - 37
16	PLPA2	wooly Indianwheat	61 - 123	61 - 123
16		Deerstongue		
16	DIWI2	spectaclepod		
17	2FORB	other forbs	37 - 61	37 - 61

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Growth Curves

Growth Curve ID NM2803Growth Curve Name: HCPCGrowth Curve Description: SD-3 Loamy Sand - Warm season plant community

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

Additional States

Grass/Shrub State: The grass/shrub state is dominated by communities of grasses/mesquite, grasses/snakeweed, or grasses/sand sage. Decreases in black grama and bluestem species lead to an increase in bare patches and mesquite which further competes with grass species. An increase of dropseeds and threeawns occurs. Grass distribution becomes more patchy with an absence or severe decrease in black grama and bluestems. Mesquite provides nitrogen and soil organic matter to co-dominant grasses (Ansley and Jacoby 1998, Ansley et al. 1998). Mesquite mortality when exposed to fire is low due to aggressive resprouting abilities. Herbicide application combined with subsequent prescribed fire may be more effective in mesquite reduction (Britton and Wright 1971).

Diagnosis: This state is dominated by an increased abundance of communities including grass/mesquite, grass/snakeweed, or grass/sand sage. Dropseeds and threeawns have a patchy distribution.

Transition to Grass/Shrub State (1a): The historic plant community begins to shift toward the grass/shrub state as drivers such as drought, fire suppression, interspecific competition, and excessive grazing contribute to alterations in soil properties and herbaceous cover. Cover loss and surface soil erosion are initial indicators of transition followed by a decrease in black grama with a subsequent increase of dropseeds, threeawns, mesquite, and snakeweed. Snakeweed has been documented to outcompete black grama especially under conditions of fire suppression and drought (McDaniel et al. 1984).

Key indicators of approach to transition:

- Loss of black grama cover
- Surface soil erosion
- Bare patch expansion
- Increased dropseed/threeawn and mesquite, snakeweed, or sand sage abundances

Transition to Historic Plant Community (1b): Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community.

Shrub-Dominated State: The shrub-dominated state results from a severe loss of grass cover. This state's primary species is sand sage. Shinnery oak and mesquite also occur; however, grass cover is limited to intershrub distribution. Sand sage stabilizes light sandy soils from wind erosion, which enhances protected grass/forb cover (Davis and Bonham 1979). However, shinnery oak also responds to the sandy soils with dense stands due to an aggressive rhizome system. Shinnery oak's extensive root system promotes competitive exclusion of grasses and forbs. Sand sage, shinnery oak, and mesquite can be controlled with herbicide (Herbel et al. 1979, Pettit 1986).

Transition to Shrub-Dominated (2a): Severe loss of grass species with increased erosion and fire suppression will result in a transition to a shrub-dominated state with sand sage, Shin oak, and honey mesquite directly from the grassland-dominated state.

Key indicators of approach to transition:

- Severe loss of grass species cover
- Surface soil erosion
- Bare patch expansion
- Increased sand sage, shinnery oak, and mesquite abundance

Transition to Historic Plant Community (2b): Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community. In addition, seeding with native grass species will augment the transition to a grassland-dominated state.

Transition to Shrub-Dominated (3): If the grass/shrub site continues to lose grass cover with soil erosion, the site will transition to a shrub-dominated state with sand sage, shinnery oak, and honey mesquite.

Key indicators of approach to transition:

- Continual loss of dropseeds/threawns cover
- Surface soil erosion
- Bare patch expansion
- Increased sand sage, shinnery oak, and mesquite/dropseed/threawn and mesquite/snakeweed abundance

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

This Ecological Site provides habitat which supports a resident animal community that is characterized by pronghorn antelope, desert cottontail, spotted ground squirrel, black-tailed prairie dog, yellow faced pocket gopher, Ord's kangaroo rat, northern grasshopper mouse, southern plains woodrat, badger, roadrunner, meadowlark, burrowing owl, white necked raven, lesser prairie chicken, morning dove, scaled quail, Harris hawk, sie blotched lizard, marbled whiptail, Texas horned lizard, western diamondback rattlesnake, dusty hognose snake and ornate box turtle.

Where mesquite has invaded, most resident birds and scissor-tailed flycatcher, morning dove and Swainson's hawk, nest. Vesper and grasshopper sparrows utilize the site during migration.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group
Berino	B
Kinco	A
Maljamar	B
Pajarito	B

Recreational Uses:

This site offers recreation potential for hiking, borseback riding, nature observation, photography and hunting. During years of abundant spring moisture, this site displays a colorful array of wildflowers during May and June.

Wood Products:

This site has no potential for wood products.

Other Products:

This site is suitable for grazing by all kinds and classes of livestock at any time of year. In cases where this site has been invaded by brush species it is especially suited for goats.

Mismanagement of this site will cause a decrease in species such as the bluestems, blsck grama, bush muhly, plains bristlegrass, New Mexico feathergrass, Arizona cottontop and fourwing saltbush. A corresponding increase in the dropseeds, windmill grass, fall witchgrass, silver bluestem, sand sagebrush, shinary oak and ephedra will occur. This will also cause an increase in bare ground which will increase soil erodibility. This site will respond well to a system of management that rotates the season of use.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	2.3 – 3.5
75 – 51	3.0 – 4.5
50 – 26	4.6 – 9.0
25 – 0	9.1 +

Plant Preference by Animal Kind:

	Code	Species Preference	Code
Stems	S	None Selected	N/S
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruit/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Animal Kind: Livestock

Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
little bluestem	Schizachyrium scoparium	EP	D	D	D	D	P	P	P	P	P	D	D	D
sand bluestem	Andropogon hallii	EP	D	D	D	D	P	P	P	P	P	D	D	D
black grama	Bouteloua eripoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
bush muhly	Mulenbergia porteri	EP	P	P	P	P	P	P	P	P	P	P	P	P
sand dropseed	Sporobolus cryptandrus	EP	U	U	U	D	D	D	D	D	D	U	U	U
sand sagebrush	Artemisia filifolia	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
shinnery oak	Quercus havardii	EP	E	E	T	T	T	U	U	U	U	U	U	E
fourwind saltbush	Atriplex canescens	EP	P	P	P	D	D	D	D	D	D	P	P	P
globemallow	Sphaeralcea	EP	N/S	N/S	N/S	N/S	P	D	D	D	P	P	P	

Supporting InformationAssociated Sites:

<u>Site Name</u>	<u>Site ID</u>	<u>Site Narrative</u>
Deep Sand	R042XC005NM	
Sandy	R042XC004NM	

Similiar Sites:

<u>Site Name</u>	<u>Site ID</u>	<u>Site Narrative</u>
------------------	----------------	-----------------------

State Correlation:

This site has been correlated with the following states: Texas

<u>Data Source</u>	<u>Number of Records</u>	<u>Sample Period</u>	<u>State</u>	<u>County</u>
--------------------	------------------------------	----------------------	--------------	---------------

Type Locality:Relationship to Other Established Classifications:Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Eddy County, Lea County, and Chaves County.

Characteristic soils are:	Maljamar fine sand	Pyote loamy fine sand
Berino fine sand	Parjarito loamy fine sand	Wickett loamy fine sand
Berino Loamy fine sand	Palomas fine sand	Wink loamy fine sand
Kinco loamy fine sand	Pyote fine sand	Wink loamy sand

Literature Cited

- Ansley, R. J.; Jacoby, P. W. 1998. Manipulation of fire intensity to achieve mesquite management goals in north Texas. In: Pruden, Teresa L.; Brennan, Leonard A., eds. Fire in ecosystem management: shifting the paradigm from suppression to prescription: Proceedings, Tall Timbers fire ecology conference; 1996 May 7-10; Boise, ID. No. 20. Tallahassee, FL: Tall Timbers Research Station: 195-204.
- Ansley, R. J.; Jones, D. L.; Tunnell, T. R.; [and others]. 1998. Honey mesquite canopy responses to single winter fires: relation to herbaceous fuel, weather and fire temperature. *International Journal of Wildland Fire* **8**(4):241-252.
- Britton, Carlton M.; Wright, Henry A. 1971. Correlation of weather and fuel variables to mesquite damage by fire. *Journal of Range Management* **24**:136-141.
- Davis, Joseph H., III and Bonham, Charles D. 1979. Interference of sand sagebrush canopy with needleandthread. *Journal of Range Management* **32**(5):384-386.
- Herbel, C. H, Steger, R, Gould, W. L. 1974. Managing semidesert ranges of the Southwest Circular 456. Las Cruces, NM: New Mexico State University, Cooperative Extension Service. 48 p.
- McDaniel, Kirk C.; Pieper, Rex D.; Loomis, Lyn E.; Osman, Abdelgader A. 1984. Taxonomy and ecology of perennial snakeweeds in New Mexico. Bulletin 711. Las Cruces, NM: New Mexico State University, Agricultural Experiment Station. 34 p.
- McPherson, Guy R. 1995. The role of fire in the desert grasslands. In: McClaran, Mitchel P.; Van Devender, Thomas R., eds. The desert grassland. Tucson, AZ: The University of Arizona Press: 130-151.
- Pettit, Russell D. 1986. Sand shinnery oak: control and management. Management Note 8. Lubbock, TX: Texas Tech University, College of Agricultural Sciences, Department of Range and Wildlife Management. 5 p.

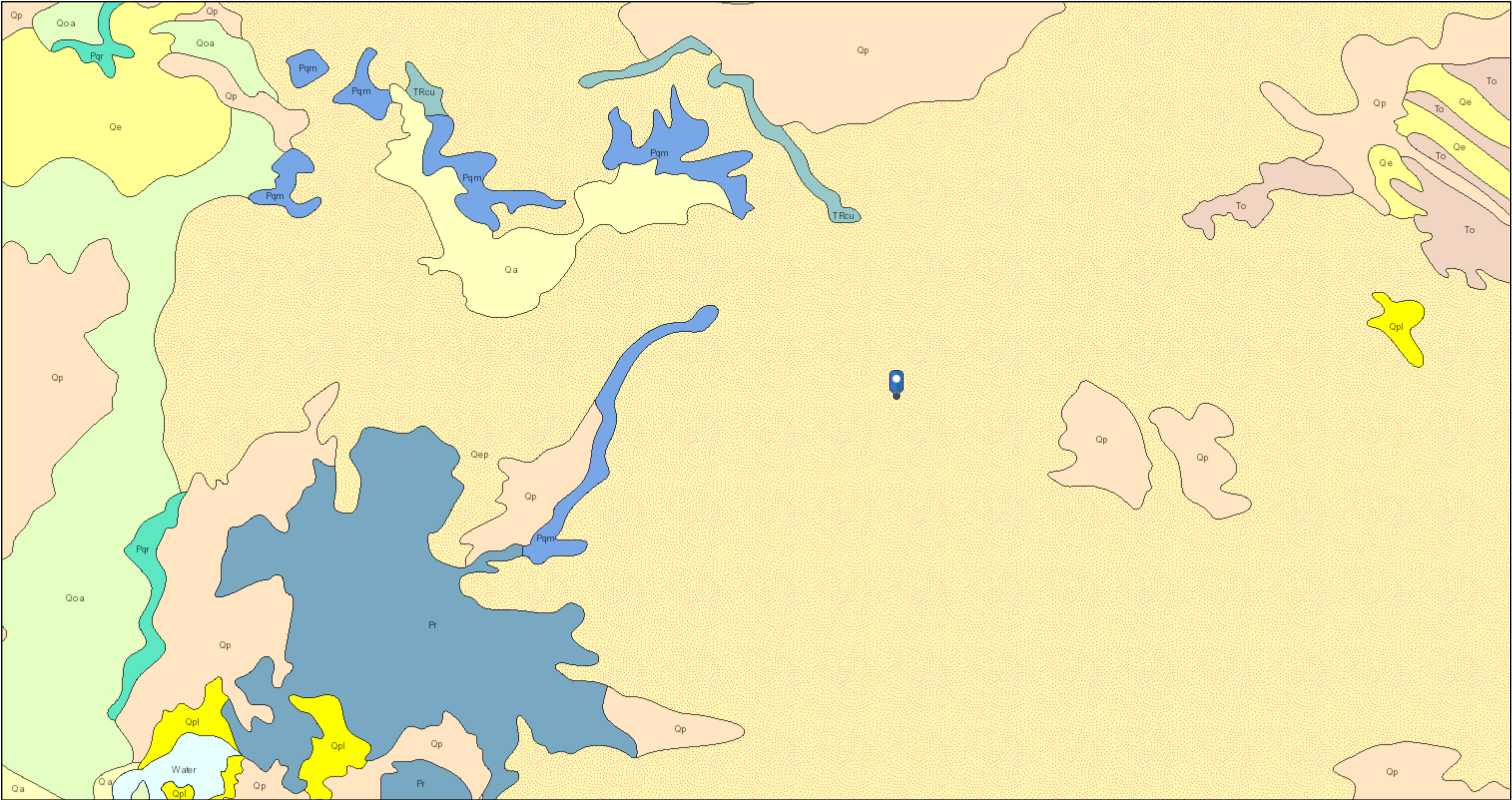
Site Description Approval:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	07/12/1979	Don Sylvester	07/12/1979

Site Description Revision:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
David Trujillo	04/30/03	George Chavez	04/30/03

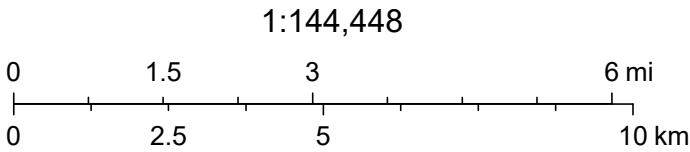
Llama Lateral



9/27/2022, 12:41:39 PM

- Lithologic Units
- Playa—Alluvium and evaporite deposits (Holocene)
 - Water—Perennial standing water
 - Qa—Alluvium (Holocene to upper Pleistocene)
 - Ql—Landslide deposits and colluvium (Holocene to Pleistocene) — Landslide deposits on western flanks of Socorro Mountains not shown for clarity
 - Qpl—Lacustrine and playa deposits (Holocene) — Includes associated alluvial and eolian deposits of major lake basins
 - Qp—Piedmont alluvial deposits (Holocene to lower Pleistocene)
 - Qe—Eolian deposits (Holocene to middle Pleistocene)

Qeg—Gypsiferous eolian deposits (Holocene to middle Pleistocene)



Esri, NASA, NGA, USGS, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census

ATTACHMENT 6



Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Llama Lateral Confirmatory Notification nAPP22234522474 messages

Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Mon, Nov 28, 2022 at 7:29 AM

To: "Enviro, OCD, EMNRD" <OCD.Enviro@state.nm.us>, spills@slo.state.nm.us

Cc: mpeppin@vertex.ca, sreynolds@targaresources.com

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled confirmatory sampling to be conducted for the following release:

nAPP2223452247 DOR: 8/18/2022 Site Name: Llama Lateral 8" pipeline

This work will be completed on behalf of Lucid Energy Delaware, LLC.

On Wednesday, November 30, 2022, at approximately 8:00 a.m., Sally Carttar will be on site to conduct confirmatory sampling. She can be reached at 575-361-3561. If you need directions to the site, please do not hesitate to contact her. If you have any questions or concerns regarding this notification, please give me a call at 575-361-9880.

Thank you,

Monica Peppin, A.S.

Project Manager

Vertex Resource Services Inc.

3101 Boyd Drive,

Carlsbad, NM 88220

P 575.725.5001 Ext. 711**C 575.361.9880****F**www.vertex.ca

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Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>

Mon, Nov 28, 2022 at 11:06 AM

To: Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Hamlet, Robert, EMNRD" <Robert.Hamlet@emnrd.nm.gov>

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Jocelyn Harimon • Environmental Specialist

Environmental Bureau

EMNRD - Oil Conservation Division

1220 South St. Francis Drive | Santa Fe, NM 87505

(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov

[http:// www.emnrd.nm.gov](http://www.emnrd.nm.gov)



From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Monday, November 28, 2022 7:29 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; spills@slo.state.nm.us
Cc: mpeppin@vertex.ca; sreynolds@targaresources.com
Subject: [EXTERNAL] Llama Lateral Confirmatory Notification nAPP2223452247

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

[Quoted text hidden]

Dhugal Hanton <vertexresourcegroupusa@gmail.com>
To: "Enviro, OCD, EMNRD" <OCD.Enviro@emnrd.nm.gov>
Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Hamlet, Robert, EMNRD" <Robert.Hamlet@emnrd.nm.gov>, sreynolds@targaresources.com, spills@slo.state.nm.us

Tue, Nov 29, 2022 at 12:00 PM

Good afternoon,

I would like to submit additional days to this sample notification to make it continuous through Friday December 2, 2022, in the case it take more than one day to complete confirmatory sampling.

Thank you,

Monica Peppin
[Quoted text hidden]

Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
To: Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Tue, Nov 29, 2022 at 1:22 PM

Thank you for the update.

[Quoted text hidden]

Monica Peppin

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: December 9, 2022 1:10 PM
To: Enviro, OCD, EMNRD; spills@slo.state.nm.us
Cc: Monica Peppin; sreynolds@targaresources.com
Subject: Extension Request nAPP2223452247 Llama Lateral

All,

Please accept this email as notification and extension request for an additional 60 days for the Llama Lateral 8" pipeline release. Microblaze treatment has been applied and confirmatory samples collected still show slightly elevated TPH levels above criteria.

The additional days will give the in-situ Microblaze treatment to lower these levels of TPH still present in the overspray area.

nAPP2223452247 DOR: 8/18/2022 Site Name: Llama Lateral 8" pipeline

Thank you,

Monica Peppin, A.Sc.
Project Manager

Vertex Resource Services Inc.
3101 Boyd Drive,
Carlsbad, NM 88220

P 575.725.5001 Ext. 711
C 575.361.9880
F

www.vertex.ca

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Monica Peppin

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: December 29, 2022 2:39 PM
To: Enviro, OCD, EMNRD; spills@slo.state.nm.us
Cc: Monica Peppin; sreynolds@targaresources.com
Subject: Llama Lateral Confirmatory Notification nAPP2223452247

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled confirmatory sampling to be conducted for the following release:

nAPP2223452247 DOR: 8/18/2022 Site Name: Llama Lateral 8" pipeline

This work will be completed on behalf of Lucid Energy Delaware, LLC.

On Thursday, January 5, 2022 through Friday January 6, 2022, at approximately 8:00 a.m., Lakin Pullman will be on site to conduct continuous confirmatory sampling. He can be reached at 701-495-1722. If you need directions to the site, please do not hesitate to contact him. If you have any questions or concerns regarding this notification, please give me a call at 575-361-9880.

Thank you,

Monica Peppin, A.S.
Project Manager

Vertex Resource Services Inc.
3101 Boyd Drive,
Carlsbad, NM 88220

P 575.725.5001 Ext. 711
C 575.361.9880
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Monica Peppin

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: January 5, 2023 1:47 PM
To: Enviro, OCD, EMNRD; spills@slo.state.nm.us
Cc: sreynolds@targaresources.com; Monica Peppin
Subject: Llama Lateral Confirmatory Notification nAPP2223452247

All,

Please accept this email as 48-hr notification that Vertex Resource Services has rescheduled confirmatory sampling to be conducted for the following release:

nAPP2223452247 DOR: 8/18/2022 Site Name: Llama Lateral 8" pipeline

This work will be completed on behalf of Lucid Energy Delaware, LLC.

On Wednesday, January 11, 2022 through Friday January 13, 2022, at approximately 8:00 a.m., Hunter Klein will be on site to conduct continuous confirmatory sampling. He can be reached at 575-263-3124. If you need directions to the site, please do not hesitate to contact him. If you have any questions or concerns regarding this notification, please give me a call at 575-361-9880.

Thank you,

Monica Peppin, A.S.
Project Manager

Vertex Resource Services Inc.
3101 Boyd Drive,
Carlsbad, NM 88220

P 575.725.5001 Ext. 711
C 575.361.9880
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Monica Peppin

From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Sent: January 13, 2023 3:03 PM
To: Monica Peppin
Cc: Dhugal Hanton; sreynolds@targaresources.com; Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD
Subject: (Extension Approval) nAPP2223452247 Llama Lateral

RE: Incident #NAPP2223452247

Monica,

Your request for an extension to **February 16th, 2023** is approved. Please include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet • Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave. | Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
<http://www.emnrd.state.nm.us/OCD/>



From: Monica Peppin <mpeppin@vertex.ca>
Sent: Friday, January 13, 2023 2:13 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Cc: sreynolds@targaresources.com
Subject: RE: [EXTERNAL] Extension Request nAPP2223452247 Llama Lateral

Yes sir I will do. Can we request an additional 30 days? This will ensure that I have all lab results and reports to submit with the report and if any additional remediation is needed, it can be scheduled within this timeframe.

Thank you,

MP

From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Sent: January 13, 2023 1:50 PM
To: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Cc: Monica Peppin <mpeppin@vertex.ca>; sreynolds@targaresources.com
Subject: RE: [EXTERNAL] Extension Request nAPP2223452247 Llama Lateral

Monica,

How long of an extension are you requesting? Please, send all future extension requests to OCD.Enviro@emnrd.nm.gov mailbox. Thank you

Robert Hamlet • Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave. | Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
<http://www.emnrd.state.nm.us/OCD/>



From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Friday, January 13, 2023 1:39 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: mpeppin@vertex.ca; sreynolds@targaresources.com
Subject: Re: [EXTERNAL] Extension Request nAPP2223452247 Llama Lateral

Good afternoon Robert,

We are currently waiting on our final confirmation sample laboratory analysis reports and our final report is due on Monday January 16, 2022. Can we request an additional extension for the final report at Llama Lateral?

I appreciate your time.

Thank you,

Monica Peppin

On Fri, Dec 9, 2022 at 1:31 PM Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov> wrote:

Monica,

The Spill Rule requires that the OCD receive information characterizing the release within 90 days of discovery. A remediation plan was due for the release on 11/16/2022. An extension needs to be requested before the 90 day window closes. The OCD will grant a onetime extension of 60 days. Please, have the report loaded to the payment portal no later than 1/16/2023. Include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet • Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division

506 W. Texas Ave. | Artesia, NM 88210

575.909.0302 | robert.hamlet@state.nm.us

<http://www.emnrd.state.nm.us/OCD/>



From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Friday, December 9, 2022 1:11 PM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Subject: FW: [EXTERNAL] Extension Request nAPP2223452247 Llama Lateral

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Friday, December 9, 2022 1:10 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; spills@slo.state.nm.us
Cc: mpeppin@vertex.ca; sreynolds@targaresources.com
Subject: [EXTERNAL] Extension Request nAPP2223452247 Llama Lateral

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All,

Please accept this email as notification and extension request for an additional 60 days for the Llama Lateral 8" pipeline release. Microblaze treatment has been applied and confirmatory samples collected still show slightly elevated TPH levels above criteria.

The additional days will give the in-situ Microblaze treatment to lower these levels of TPH still present in the overspray area.

nAPP2223452247 DOR: 8/18/2022 Site Name: Llama Lateral 8" pipeline

Thank you,

Monica Peppin, A.Sc.

Project Manager

Vertex Resource Services Inc.
3101 Boyd Drive,
Carlsbad, NM 88220

P 575.725.5001 Ext. 711

C 575.361.9880

F

www.vertex.ca

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Monica Peppin

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: January 24, 2023 1:38 PM
To: Enviro, OCD, EMNRD; spills@slo.state.nm.us
Cc: Monica Peppin; sreynolds@targaresources.com
Subject: Llama Lateral Confirmatory Notification nAPP2223452247

All,

Please accept this email as 48-hr notification that Vertex Resource Services has rescheduled confirmatory sampling to be conducted for the following release:

nAPP2223452247 DOR: 8/18/2022 Site Name: Llama Lateral 8" pipeline

This work will be completed on behalf of Lucid Energy Delaware, LLC.

On Friday, January 27, 2022, at approximately 8:00 a.m., Hunter Klein will be on site to conduct additional confirmatory sampling. He can be reached at 575-263-3124. If you need directions to the site, please do not hesitate to contact him. If you have any questions or concerns regarding this notification, please give me a call at 575-361-9880.

Thank you,

Monica Peppin, A.S.
Project Manager

Vertex Resource Services Inc.
3101 Boyd Drive,
Carlsbad, NM 88220

P 575.725.5001 Ext. 711
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ATTACHMENT 7

Report to:

Monica Peppin



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Targa

Project Name: Llama Lateral 22E-03312

Work Order: E210007

Job Number: 21102-0001

Received: 10/4/2022

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
10/5/22

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.
Envirotech Inc. holds the NM SDWA certification for data reported. (Lab #NM00979)

Date Reported: 10/5/22

Monica Peppin
12600 WCR 91
Midland, TX 79707



Project Name: Llama Lateral 22E-03312
Workorder: E210007
Date Received: 10/4/2022 11:00:00AM

Monica Peppin,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 10/4/2022 11:00:00AM, under the Project Name: Llama Lateral 22E-03312.

The analytical test results summarized in this report with the Project Name: Llama Lateral 22E-03312 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

Alexa Michaels
Sample Custody Officer
Office: 505-632-1881
labadmin@envirotech-inc.com

Field Offices:

Southern New Mexico Area
Lynn Jarboe
Technical Representative/Client Services
Office: 505-421-LABS(5227)
Cell: 505-320-4759
ljjarboe@envirotech-inc.com

West Texas Midland/Odessa Area
Rayny Hagan
Technical Representative
Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

Targa	Project Name:	Llama Lateral 22E-03312	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	10/05/22 16:46

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH22-01 4'	E210007-01A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-01 5'	E210007-02A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-01 6'	E210007-03A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-01 7'	E210007-04A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-02 0'	E210007-05A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-02 1'	E210007-06A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-02 2'	E210007-07A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-02 3'	E210007-08A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-03 0	E210007-09A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-03 1	E210007-10A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-03 2'	E210007-11A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-03 3'	E210007-12A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-04 0'	E210007-13A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-04 1'	E210007-14A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-04 2'	E210007-15A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-04 3'	E210007-16A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-05 0'	E210007-17A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-05 1'	E210007-18A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-05 2'	E210007-19A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-05 3'	E210007-20A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-06 0'	E210007-21A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-06 1'	E210007-22A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-06 2'	E210007-23A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-07 0'	E210007-24A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-07 1'	E210007-25A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.
BH22-07 2'	E210007-26A	Soil	10/02/22	10/04/22	Glass Jar, 4 oz.



Sample Data

Targa 12600 WCR 91 Midland TX, 79707	Project Name: Llama Lateral 22E-03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 10/5/2022 4:46:45PM
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BH22-01 4'

E210007-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
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Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: IY		Batch: 2241038	
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	0.0905	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	0.878	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	0.400	0.0500	1	10/04/22	10/04/22	
Total Xylenes	1.28	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	148 %	70-130		10/04/22	10/04/22	S3
Surrogate: 1,2-Dichloroethane-d4	95.9 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	120 %	70-130		10/04/22	10/04/22	

Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2241038	
Gasoline Range Organics (C6-C10)	313	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	148 %	70-130		10/04/22	10/04/22	S3
Surrogate: 1,2-Dichloroethane-d4	95.9 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	120 %	70-130		10/04/22	10/04/22	

Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2241052	
Diesel Range Organics (C10-C28)	10400	2500	100	10/04/22	10/04/22	
Oil Range Organics (C28-C36)	ND	5000	100	10/04/22	10/04/22	
Surrogate: n-Nonane	214 %	50-200		10/04/22	10/04/22	S5

Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: KL		Batch: 2241040	
Chloride	598	20.0	1	10/04/22	10/04/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

BH22-01 5'

E210007-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	97.1 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	93.8 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	104 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	97.1 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	93.8 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	104 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/04/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/04/22	
Surrogate: n-Nonane	110 %	50-200		10/04/22	10/04/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	461	20.0	1	10/04/22	10/04/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

BH22-02 0'

E210007-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	86.1 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	91.4 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	107 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	86.1 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	91.4 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	107 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/04/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/04/22	
Surrogate: n-Nonane	110 %	50-200		10/04/22	10/04/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	ND	20.0	1	10/04/22	10/04/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

BH22-02 1'

E210007-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene		102 %	70-130	10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4		91.0 %	70-130	10/04/22	10/04/22	
Surrogate: Toluene-d8		110 %	70-130	10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene		102 %	70-130	10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4		91.0 %	70-130	10/04/22	10/04/22	
Surrogate: Toluene-d8		110 %	70-130	10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/04/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/04/22	
Surrogate: n-Nonane		109 %	50-200	10/04/22	10/04/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	ND	20.0	1	10/04/22	10/04/22	



Sample Data

Targa 12600 WCR 91 Midland TX, 79707	Project Name: Llama Lateral 22E-03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 10/5/2022 4:46:45PM
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BH22-02 2'

E210007-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	99.5 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	88.8 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	96.1 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	99.5 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	88.8 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	96.1 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/04/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/04/22	
Surrogate: n-Nonane	105 %	50-200		10/04/22	10/04/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	ND	20.0	1	10/04/22	10/04/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

BH22-02 3'

E210007-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	98.8 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	89.6 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	97.0 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	98.8 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	89.6 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	97.0 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/04/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/04/22	
Surrogate: n-Nonane	110 %	50-200		10/04/22	10/04/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	ND	20.0	1	10/04/22	10/05/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

BH22-03 0

E210007-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	98.2 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	90.4 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	96.9 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	98.2 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	90.4 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	96.9 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/05/22	
Surrogate: n-Nonane	106 %	50-200		10/04/22	10/05/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	ND	20.0	1	10/04/22	10/05/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

BH22-03 1

E210007-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	97.1 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	90.7 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	96.2 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	97.1 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	90.7 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	96.2 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/05/22	
Surrogate: n-Nonane	108 %	50-200		10/04/22	10/05/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	ND	20.0	1	10/04/22	10/05/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

BH22-03 2'

E210007-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	94.9 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	99.2 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	96.0 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	94.9 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	99.2 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	96.0 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/05/22	
Surrogate: n-Nonane	110 %	50-200		10/04/22	10/05/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	ND	20.0	1	10/04/22	10/05/22	



Sample Data

Targa
12600 WCR 91
Midland TX, 79707

Project Name: Llama Lateral 22E-03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
10/5/2022 4:46:45PM

BH22-03 3'

E210007-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	95.6 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	96.1 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	95.6 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	96.1 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/05/22	
Surrogate: n-Nonane	106 %	50-200		10/04/22	10/05/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	24.5	20.0	1	10/04/22	10/05/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

BH22-04 0'

E210007-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	94.9 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	95.9 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	94.9 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	95.9 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/05/22	
Surrogate: n-Nonane	103 %	50-200		10/04/22	10/05/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	ND	20.0	1	10/04/22	10/05/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

BH22-04 1'

E210007-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	98.1 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	99.4 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	99.6 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	98.1 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	99.4 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	99.6 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/05/22	
Surrogate: n-Nonane	106 %	50-200		10/04/22	10/05/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	ND	20.0	1	10/04/22	10/05/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

BH22-04 2'

E210007-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	96.1 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	95.3 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	96.1 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	95.3 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/05/22	
Surrogate: n-Nonane	107 %	50-200		10/04/22	10/05/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	ND	20.0	1	10/04/22	10/05/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

BH22-04 3'

E210007-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
<i>Surrogate: Bromofluorobenzene</i>	95.2 %	70-130		10/04/22	10/04/22	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	98.8 %	70-130		10/04/22	10/04/22	
<i>Surrogate: Toluene-d8</i>	96.7 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
<i>Surrogate: Bromofluorobenzene</i>	95.2 %	70-130		10/04/22	10/04/22	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	98.8 %	70-130		10/04/22	10/04/22	
<i>Surrogate: Toluene-d8</i>	96.7 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/05/22	
<i>Surrogate: n-Nonane</i>	104 %	50-200		10/04/22	10/05/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	ND	20.0	1	10/04/22	10/05/22	



Sample Data

Targa 12600 WCR 91 Midland TX, 79707	Project Name: Llama Lateral 22E-03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 10/5/2022 4:46:45PM
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BH22-05 0'

E210007-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	96.4 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	96.1 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	35.8	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	96.4 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	96.1 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	19000	2500	100	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	8220	5000	100	10/04/22	10/05/22	
Surrogate: n-Nonane	118 %	50-200		10/04/22	10/05/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	186	20.0	1	10/04/22	10/05/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

BH22-05 1'

E210007-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
<i>Surrogate: Bromofluorobenzene</i>		105 %	70-130	10/04/22	10/04/22	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		89.4 %	70-130	10/04/22	10/04/22	
<i>Surrogate: Toluene-d8</i>		110 %	70-130	10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
<i>Surrogate: Bromofluorobenzene</i>		105 %	70-130	10/04/22	10/04/22	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		89.4 %	70-130	10/04/22	10/04/22	
<i>Surrogate: Toluene-d8</i>		110 %	70-130	10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	134	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	86.1	50.0	1	10/04/22	10/05/22	
<i>Surrogate: n-Nonane</i>		109 %	50-200	10/04/22	10/05/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	49.4	20.0	1	10/04/22	10/05/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

BH22-05 2'

E210007-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	95.9 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	95.9 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	105 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	95.9 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	95.9 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	105 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	44.0	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/05/22	
Surrogate: n-Nonane	109 %	50-200		10/04/22	10/05/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	95.3	20.0	1	10/04/22	10/05/22	



Sample Data

Targa 12600 WCR 91 Midland TX, 79707	Project Name: Llama Lateral 22E-03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 10/5/2022 4:46:45PM
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BH22-05 3'

E210007-20

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	96.2 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	96.2 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	109 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241038
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
Surrogate: Bromofluorobenzene	96.2 %	70-130		10/04/22	10/04/22	
Surrogate: 1,2-Dichloroethane-d4	96.2 %	70-130		10/04/22	10/04/22	
Surrogate: Toluene-d8	109 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2241052
Diesel Range Organics (C10-C28)	72.8	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/05/22	
Surrogate: n-Nonane	105 %	50-200		10/04/22	10/05/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2241040
Chloride	151	20.0	1	10/04/22	10/05/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

BH22-06 0'

E210007-21

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg		Analyst: IY		Batch: 2241039
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		102 %	70-130	10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: IY		Batch: 2241039
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		83.8 %	70-130	10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: JL		Batch: 2241035
Diesel Range Organics (C10-C28)	470	250	10	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	500	10	10/04/22	10/05/22	
<i>Surrogate: n-Nonane</i>		154 %	50-200	10/04/22	10/05/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: KL		Batch: 2241041
Chloride	34.6	20.0	1	10/04/22	10/05/22	



Sample Data

Targa
12600 WCR 91
Midland TX, 79707

Project Name: Llama Lateral 22E-03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
10/5/2022 4:46:45PM

BH22-06 1'

E210007-22

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241039
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241039
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		82.8 %	70-130	10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2241035
Diesel Range Organics (C10-C28)	59.5	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/05/22	
<i>Surrogate: n-Nonane</i>						
		113 %	50-200	10/04/22	10/05/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2241041
Chloride	ND	20.0	1	10/04/22	10/05/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

BH22-06 2'

E210007-23

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: IY		Batch: 2241039	
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		103 %	70-130	10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2241039	
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		84.4 %	70-130	10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2241035	
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/05/22	
<i>Surrogate: n-Nonane</i>		112 %	50-200	10/04/22	10/05/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: KL		Batch: 2241041	
Chloride	ND	20.0	1	10/04/22	10/05/22	



Sample Data

Targa	Project Name:	Llama Lateral 22E-03312	Reported: 10/5/2022 4:46:45PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BH22-07 0'

E210007-24

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: IY		Batch: 2241039	
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		102 %	70-130	10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2241039	
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		83.9 %	70-130	10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2241035	
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/05/22	
<i>Surrogate: n-Nonane</i>		108 %	50-200	10/04/22	10/05/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: KL		Batch: 2241041	
Chloride	ND	20.0	1	10/04/22	10/05/22	



Sample Data

Targa
12600 WCR 91
Midland TX, 79707

Project Name: Llama Lateral 22E-03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
10/5/2022 4:46:45PM

BH22-07 1'

E210007-25

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241039
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2241039
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		84.6 %	70-130	10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2241035
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/05/22	
<i>Surrogate: n-Nonane</i>						
		108 %	50-200	10/04/22	10/05/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2241041
Chloride	ND	20.0	1	10/04/22	10/05/22	



Sample Data

Targa 12600 WCR 91 Midland TX, 79707	Project Name: Llama Lateral 22E-03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 10/5/2022 4:46:45PM
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BH22-07 2'

E210007-26

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: IY		Batch: 2241039	
Benzene	ND	0.0250	1	10/04/22	10/04/22	
Ethylbenzene	ND	0.0250	1	10/04/22	10/04/22	
Toluene	ND	0.0250	1	10/04/22	10/04/22	
o-Xylene	ND	0.0250	1	10/04/22	10/04/22	
p,m-Xylene	ND	0.0500	1	10/04/22	10/04/22	
Total Xylenes	ND	0.0250	1	10/04/22	10/04/22	
Surrogate: 4-Bromochlorobenzene-PID	102 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2241039	
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/22	10/04/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID	82.8 %	70-130		10/04/22	10/04/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2241035	
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/22	10/05/22	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/22	10/05/22	
Surrogate: n-Nonane	109 %	50-200		10/04/22	10/05/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: KL		Batch: 2241041	
Chloride	ND	20.0	1	10/04/22	10/05/22	



QC Summary Data

Targa	Project Name:	Llama Lateral 22E-03312	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

Volatile Organic Compounds by EPA 8260B

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2241038-BLK1)

Prepared: 10/04/22 Analyzed: 10/04/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	0.486		0.500		97.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.488		0.500		97.6	70-130			
Surrogate: Toluene-d8	0.526		0.500		105	70-130			

LCS (2241038-BS1)

Prepared: 10/04/22 Analyzed: 10/04/22

Benzene	2.12	0.0250	2.50		84.7	70-130			
Ethylbenzene	2.16	0.0250	2.50		86.3	70-130			
Toluene	2.13	0.0250	2.50		85.2	70-130			
o-Xylene	2.03	0.0250	2.50		81.1	70-130			
p,m-Xylene	4.05	0.0500	5.00		81.1	70-130			
Total Xylenes	6.08	0.0250	7.50		81.1	70-130			
Surrogate: Bromofluorobenzene	0.490		0.500		98.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.466		0.500		93.1	70-130			
Surrogate: Toluene-d8	0.525		0.500		105	70-130			

LCS Dup (2241038-BSD1)

Prepared: 10/04/22 Analyzed: 10/04/22

Benzene	2.31	0.0250	2.50		92.3	70-130	8.63	23	
Ethylbenzene	2.35	0.0250	2.50		94.0	70-130	8.61	27	
Toluene	2.30	0.0250	2.50		91.9	70-130	7.61	24	
o-Xylene	2.21	0.0250	2.50		88.3	70-130	8.47	27	
p,m-Xylene	4.41	0.0500	5.00		88.2	70-130	8.48	27	
Total Xylenes	6.62	0.0250	7.50		88.3	70-130	8.48	27	
Surrogate: Bromofluorobenzene	0.491		0.500		98.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.465		0.500		92.9	70-130			
Surrogate: Toluene-d8	0.521		0.500		104	70-130			



QC Summary Data

Targa	Project Name:	Llama Lateral 22E-03312	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2241039-BLK1)

Prepared: 10/04/22 Analyzed: 10/04/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	8.19		8.00		102	70-130			

LCS (2241039-BS1)

Prepared: 10/04/22 Analyzed: 10/04/22

Benzene	4.95	0.0250	5.00		99.0	70-130			
Ethylbenzene	4.12	0.0250	5.00		82.3	70-130			
Toluene	4.35	0.0250	5.00		87.0	70-130			
o-Xylene	4.18	0.0250	5.00		83.7	70-130			
p,m-Xylene	8.36	0.0500	10.0		83.6	70-130			
Total Xylenes	12.5	0.0250	15.0		83.6	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.11		8.00		101	70-130			

LCS Dup (2241039-BSD1)

Prepared: 10/04/22 Analyzed: 10/04/22

Benzene	4.44	0.0250	5.00		88.8	70-130	10.8	20	
Ethylbenzene	3.69	0.0250	5.00		73.9	70-130	10.8	20	
Toluene	3.90	0.0250	5.00		78.1	70-130	10.8	20	
o-Xylene	3.76	0.0250	5.00		75.2	70-130	10.6	20	
p,m-Xylene	7.53	0.0500	10.0		75.3	70-130	10.5	20	
Total Xylenes	11.3	0.0250	15.0		75.2	70-130	10.6	20	
Surrogate: 4-Bromochlorobenzene-PID	8.19		8.00		102	70-130			



QC Summary Data

Targa	Project Name:	Llama Lateral 22E-03312	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2241038-BLK1)

Prepared: 10/04/22 Analyzed: 10/04/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.486		0.500		97.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.488		0.500		97.6	70-130			
Surrogate: Toluene-d8	0.526		0.500		105	70-130			

LCS (2241038-BS2)

Prepared: 10/04/22 Analyzed: 10/04/22

Gasoline Range Organics (C6-C10)	64.1	20.0	50.0		128	70-130			
Surrogate: Bromofluorobenzene	0.486		0.500		97.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.488		0.500		97.5	70-130			
Surrogate: Toluene-d8	0.533		0.500		107	70-130			

LCS Dup (2241038-BSD2)

Prepared: 10/04/22 Analyzed: 10/04/22

Gasoline Range Organics (C6-C10)	52.6	20.0	50.0		105	70-130	19.7	20	
Surrogate: Bromofluorobenzene	0.478		0.500		95.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.487		0.500		97.3	70-130			
Surrogate: Toluene-d8	0.523		0.500		105	70-130			



QC Summary Data

Targa	Project Name:	Llama Lateral 22E-03312	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2241039-BLK1) Prepared: 10/04/22 Analyzed: 10/04/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.68		8.00		83.5	70-130			

LCS (2241039-BS2) Prepared: 10/04/22 Analyzed: 10/04/22

Gasoline Range Organics (C6-C10)	52.1	20.0	50.0		104	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.82		8.00		85.3	70-130			

LCS Dup (2241039-BSD2) Prepared: 10/04/22 Analyzed: 10/04/22

Gasoline Range Organics (C6-C10)	51.3	20.0	50.0		103	70-130	1.51	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.96		8.00		87.1	70-130			



QC Summary Data

Targa	Project Name:	Llama Lateral 22E-03312	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2241035-BLK1)					Prepared: 10/04/22 Analyzed: 10/04/22				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	56.6		50.0		113	50-200			

LCS (2241035-BS1)					Prepared: 10/04/22 Analyzed: 10/04/22				
Diesel Range Organics (C10-C28)	223	25.0	250		89.2	38-132			
Surrogate: n-Nonane	56.2		50.0		112	50-200			

Matrix Spike (2241035-MS1)					Source: E210002-06		Prepared: 10/04/22 Analyzed: 10/04/22		
Diesel Range Organics (C10-C28)	238	25.0	250	ND	95.0	38-132			
Surrogate: n-Nonane	54.2		50.0		108	50-200			

Matrix Spike Dup (2241035-MSD1)					Source: E210002-06		Prepared: 10/04/22 Analyzed: 10/04/22		
Diesel Range Organics (C10-C28)	233	25.0	250	ND	93.1	38-132	2.05	20	
Surrogate: n-Nonane	56.6		50.0		113	50-200			



QC Summary Data

Targa	Project Name:	Llama Lateral 22E-03312	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2241052-BLK1)					Prepared: 10/04/22 Analyzed: 10/04/22				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	55.2		50.0		110	50-200			

LCS (2241052-BS1)					Prepared: 10/04/22 Analyzed: 10/04/22				
Diesel Range Organics (C10-C28)	256	25.0	250		102	38-132			
Surrogate: n-Nonane	54.1		50.0		108	50-200			

Matrix Spike (2241052-MS1)					Source: E210007-10		Prepared: 10/04/22 Analyzed: 10/04/22		
Diesel Range Organics (C10-C28)	263	25.0	250	ND	105	38-132			
Surrogate: n-Nonane	53.9		50.0		108	50-200			

Matrix Spike Dup (2241052-MSD1)					Source: E210007-10		Prepared: 10/04/22 Analyzed: 10/04/22		
Diesel Range Organics (C10-C28)	258	25.0	250	ND	103	38-132	2.24	20	
Surrogate: n-Nonane	53.1		50.0		106	50-200			



QC Summary Data

Targa	Project Name:	Llama Lateral 22E-03312	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

Anions by EPA 300.0/9056A

Analyst: KL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2241040-BLK1)					Prepared: 10/04/22 Analyzed: 10/05/22				
Chloride	ND	20.0							
LCS (2241040-BS1)					Prepared: 10/04/22 Analyzed: 10/05/22				
Chloride	252	20.0	250		101	90-110			
LCS Dup (2241040-BSD1)					Prepared: 10/04/22 Analyzed: 10/05/22				
Chloride	262	20.0	250		105	90-110	3.70	20	



QC Summary Data

Targa	Project Name:	Llama Lateral 22E-03312	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	10/5/2022 4:46:45PM

Anions by EPA 300.0/9056A

Analyst: KL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2241041-BLK1)					Prepared: 10/04/22 Analyzed: 10/05/22				
Chloride	ND	20.0							
LCS (2241041-BS1)					Prepared: 10/04/22 Analyzed: 10/05/22				
Chloride	253	20.0	250		101	90-110			
LCS Dup (2241041-BSD1)					Prepared: 10/04/22 Analyzed: 10/05/22				
Chloride	255	20.0	250		102	90-110	0.732	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Targa	Project Name:	Llama Lateral 22E-03312	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	10/05/22 16:46

- S3 Surrogate spike recovery was outside acceptance limits. LCS spike recovery was acceptable.
- S5 Surrogate spike recovery exceeded acceptance limits due to interfering target and/or non-target analytes.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Client: Targa Resources (Vertex)
 Project: Llama lateral 22E-03312
 Sampler: L. Pullman
 Phone: _____
 Email(s): m.peppin@vertex.ca mgant@targaresources.com
 Project Manager: Marice Peppin

RUSH?

1d

3d

48 HR

Lab Use Only

Lab WO#

PE210007

Job Number

21102-0001

1 of 3

Analysis and Method

lab Only

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTEX by 8021	TPH by 8021	Chloride by 300.0	Lab Number	Correct Cont/PrsrV
BH22-01 4'	10/2	8:15	soil	1 4oz jar	✓	✓	✓		1	
BH22-01 5'		8:20							2	
BH22-01 6'		8:25							3	
BH22-01 7'		8:30							4	
BH22-02 0'		8:40							5	
BH22-02 1'		8:45							6	
BH22-02 2'		8:50							7	
BH22-02 3'		8:55							8	
BH22-03 0		9:05							9	
BH22-03 1		9:10							10	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only
				10/3/22	8:39	**Received on Ice <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1 _____ T2 _____ T3 _____
	10-3-22	4:51		10/4/22	11:00	AVG Temp °C 4

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☐ Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Notes/Billing info:

Direct bill Targa Michael Gant



5796 US Highway 64, Farmington, NM 87401

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

 envirotech-inc.com
 laboratory@envirotech-inc.com

Client: Targa Resources (Vertex)
 Project: Llama lateral 22E-03312
 Sampler: Lakin Pullman
 Phone: _____
 Email(s): _____
 Project Manager: Monica Pappin

RUSH?

1d

3d

48 Hrs

Page

Lab Use Only		Analysis and Method								Lab Only	
Lab WO#	Job Number	GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0					Lab Number	N/Y (s) Correct Cont/Prsrv
PE210007	21102-0001	✓	✓	✓						11	
										12	
										13	
										14	
										15	
										16	
										17	
										18	
										19	
										20	

2 of 3

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative
BH22-03 2'	10/2	9:15	Soil	1 4 oz jar
BH22-03 3'		9:20		
BH22-04 0'		9:45		
BH22-04 1'		9:50		
BH22-04 2'		9:55		
BH22-04 3'		10:00		
BH22-05 0'		10:05		
BH22-05 1'		10:10		
BH22-05 2'		10:15		
BH22-05 3'		10:20		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only
<i>[Signature]</i>			<i>[Signature]</i>	10/3/22	3:30	**Received on Ice <input checked="" type="radio"/> Y <input type="radio"/> N
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1 _____ T2 _____ T3 _____
<i>[Signature]</i>	10/3/22	4:17	<i>[Signature]</i>	10/4/22	11:00	AVG Temp °C <u>4</u>

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☐ Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Notes/Billing info:

Direct bill



5796 US Highway 64, Farmington, NM 87401

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fx (800) 362-1879

 envirotech-inc.com
 laboratory@envirotech-inc.com

Client: Targa Resources
 Project: Llama Lateral 22E-03312
 Sampler: L. Pullman
 Phone: _____
 Email(s): _____
 Project Manager: Monica Peppin

RUSH?
☐ 1d
☐ 3d
48HR

Lab Use Only		Analysis and Method						lab Only		
Lab WO# <u>PE210007</u>		MRO	BTEX by 8021	TPH by 418.1	Chloride by 300.0				Lab Number	N/A (s) Correct Cont/Prsrv
Job Number <u>21102-0001</u>										
Page <u>3</u> of <u>3</u>										

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0								Lab Number	Correct Cont/Prsrv
BH22-06 0'	10/2	2:35	Soil	1 4oz jar	✓	✓	✓									21	
BH22-06 1'		2:40														22	
BH22-06 2'		2:45														23	
BH22-07 0'		1:00														24	
BH22-07 1'		1:05														25	
BH22-07 2'		1:10														26	

Relinquished by: (Signature) <u>[Signature]</u>	Date <u>10/3/22</u>	Time <u>2:30</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>10/3/22</u>	Time <u>2:30</u>	Lab Use Only **Received on Ice <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
Relinquished by: (Signature) <u>[Signature]</u>	Date <u>10/3/22</u>	Time <u>11:00</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>10/4/22</u>	Time <u>11:00</u>	T1 _____	T2 _____
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____						AVG Temp °C <u>4</u>	

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☐ Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Notes/Billing info:

Direct bill



5796 US Highway 64, Farmington, NM 87401
 Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865
 Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
 laboratory@envirotech-inc.com

Envirotech Analytical Laboratory

Printed: 10/4/2022 11:14:31AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Targa	Date Received:	10/04/22 11:00	Work Order ID:	E210007
Phone:	(432) 999-8675	Date Logged In:	10/03/22 17:31	Logged In By:	Alexa Michaels
Email:	m.peppin@vertex.ca	Due Date:	10/05/22 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: UpsComments/Resolution

Samples -03 & -04 are ON HOLD until further notice per client request on COC.

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:

Monica Peppin



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Vertex Resource Services Inc.

Project Name: Llama Lateral 22E - 03312

Work Order: E212030

Job Number: 21102-0001

Received: 12/5/2022

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
12/8/22

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.
Envirotech Inc. holds the NM SDWA certification for data reported. (Lab #NM00979)

Date Reported: 12/8/22

Monica Peppin
3101 Boyd Drive
Carlsbad, NM 88220



Project Name: Llama Lateral 22E - 03312
Workorder: E212030
Date Received: 12/5/2022 8:20:00AM

Monica Peppin,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/5/2022 8:20:00AM, under the Project Name: Llama Lateral 22E - 03312.

The analytical test results summarized in this report with the Project Name: Llama Lateral 22E - 03312 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

Alexa Michaels
Sample Custody Officer
Office: 505-632-1881
labadmin@envirotech-inc.com

Field Offices:

Southern New Mexico Area
Lynn Jarboe
Technical Representative/Client Services
Office: 505-421-LABS(5227)
Cell: 505-320-4759
ljjarboe@envirotech-inc.com

West Texas Midland/Odessa Area
Rayny Hagan
Technical Representative
Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral 22E - 03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 12/08/22 14:09
------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------	-----------------------------

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BS22 - 01 0.25'	E212030-01A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 02 0.25'	E212030-02A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 03 0.25'	E212030-03A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 04 0.25'	E212030-04A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 05 0.25'	E212030-05A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 06 0.25'	E212030-06A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 07 0.25'	E212030-07A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 08 0.25'	E212030-08A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 09 0.25'	E212030-09A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 10 0.25'	E212030-10A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 11 0.25'	E212030-11A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 12 0.25'	E212030-12A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 13 0.25'	E212030-13A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 14 0.25'	E212030-14A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 15 0.25'	E212030-15A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 16 0.25'	E212030-16A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 17 0.25'	E212030-17A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 18 0.25'	E212030-18A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 19 0.25'	E212030-19A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 20 0.25'	E212030-20A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral 22E - 03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 12/8/2022 2:09:11PM
------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------	-----------------------------------------

BS22 - 01 0.25'

E212030-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	96.1 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	95.0 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2250051
Diesel Range Organics (C10-C28)	44.4	25.0	1	12/07/22	12/07/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/07/22	12/07/22	
<i>Surrogate: n-Nonane</i>	120 %	50-200		12/07/22	12/07/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: KL			Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/07/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 02 0.25'

E212030-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.3 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	93.9 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	35.9	25.0	1	12/07/22	12/07/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/07/22	12/07/22	
<i>Surrogate: n-Nonane</i>						
	121 %	50-200		12/07/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 03 0.25'

E212030-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.1 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.2 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	73.7	25.0	1	12/07/22	12/07/22	
Oil Range Organics (C28-C36)	80.6	50.0	1	12/07/22	12/07/22	
<i>Surrogate: n-Nonane</i>						
	105 %	50-200		12/07/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral 22E - 03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 12/8/2022 2:09:11PM
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BS22 - 04 0.25'

E212030-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2250020	
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	97.6 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2250020	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	97.3 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2250051	
Diesel Range Organics (C10-C28)	80.3	25.0	1	12/07/22	12/07/22	
Oil Range Organics (C28-C36)	92.9	50.0	1	12/07/22	12/07/22	
<i>Surrogate: n-Nonane</i>	103 %	50-200		12/07/22	12/07/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: KL		Batch: 2250047	
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 05 0.25'

E212030-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.4 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	92.5 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	75.9	25.0	1	12/07/22	12/07/22	
Oil Range Organics (C28-C36)	96.4	50.0	1	12/07/22	12/07/22	
<i>Surrogate: n-Nonane</i>						
	89.4 %	50-200		12/07/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 06 0.25'

E212030-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.4 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.0 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	65.0	25.0	1	12/07/22	12/07/22	
Oil Range Organics (C28-C36)	85.8	50.0	1	12/07/22	12/07/22	
<i>Surrogate: n-Nonane</i>						
	102 %	50-200		12/07/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 07 0.25'

E212030-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.6 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	91.7 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	52.1	25.0	1	12/07/22	12/07/22	
Oil Range Organics (C28-C36)	66.4	50.0	1	12/07/22	12/07/22	
<i>Surrogate: n-Nonane</i>						
	103 %	50-200		12/07/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 08 0.25'

E212030-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.2 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	92.2 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	47.8	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	65.9	50.0	1	12/07/22	12/08/22	
<i>Surrogate: n-Nonane</i>						
	102 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 09 0.25'

E212030-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.1 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.1 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	95.5	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	122	50.0	1	12/07/22	12/08/22	
<i>Surrogate: n-Nonane</i>						
	101 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 10 0.25'

E212030-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.3 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	91.9 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	144	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	194	50.0	1	12/07/22	12/08/22	
<i>Surrogate: n-Nonane</i>						
	101 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 11 0.25'

E212030-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.2 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.2 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	94.9	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	133	50.0	1	12/07/22	12/08/22	
<i>Surrogate: n-Nonane</i>						
	102 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 12 0.25'

E212030-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		91.7 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	41.0	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	58.3	50.0	1	12/07/22	12/08/22	
<i>Surrogate: n-Nonane</i>						
		105 %	50-200	12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 13 0.25'

E212030-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		88.1 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	54.8	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	110	50.0	1	12/07/22	12/08/22	
<i>Surrogate: n-Nonane</i>						
		106 %	50-200	12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 14 0.25'

E212030-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		100 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		92.2 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	118	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	160	50.0	1	12/07/22	12/08/22	
<i>Surrogate: n-Nonane</i>						
		103 %	50-200	12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 15 0.25'

E212030-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		85.4 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	57.5	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	81.6	50.0	1	12/07/22	12/08/22	
<i>Surrogate: n-Nonane</i>						
		103 %	50-200	12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 16 0.25'

E212030-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		103 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		94.4 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	48.2	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	69.1	50.0	1	12/07/22	12/08/22	
<i>Surrogate: n-Nonane</i>						
		103 %	50-200	12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 17 0.25'

E212030-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		89.7 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	85.4	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	110	50.0	1	12/07/22	12/08/22	
<i>Surrogate: n-Nonane</i>						
		102 %	50-200	12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 18 0.25'

E212030-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		89.0 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	104	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	135	50.0	1	12/07/22	12/08/22	
<i>Surrogate: n-Nonane</i>						
		103 %	50-200	12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 19 0.25'

E212030-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		94.7 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	49.3	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	67.6	50.0	1	12/07/22	12/08/22	
<i>Surrogate: n-Nonane</i>						
		104 %	50-200	12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:09:11PM

BS22 - 20 0.25'

E212030-20

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2250020
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		90.2 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250051
Diesel Range Organics (C10-C28)	176	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	222	50.0	1	12/07/22	12/08/22	
<i>Surrogate: n-Nonane</i>						
		103 %	50-200	12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: KL		Batch: 2250047
Chloride	ND	20.0	1	12/07/22	12/08/22	



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral 22E - 03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 12/8/2022 2:09:11PM
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Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2250020-BLK1)

Prepared: 12/05/22 Analyzed: 12/07/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.80		8.00		97.5	70-130			

LCS (2250020-BS1)

Prepared: 12/05/22 Analyzed: 12/07/22

Benzene	4.52	0.0250	5.00		90.5	70-130			
Ethylbenzene	4.64	0.0250	5.00		92.8	70-130			
Toluene	4.75	0.0250	5.00		94.9	70-130			
o-Xylene	4.78	0.0250	5.00		95.7	70-130			
p,m-Xylene	9.39	0.0500	10.0		93.9	70-130			
Total Xylenes	14.2	0.0250	15.0		94.5	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.83		8.00		97.8	70-130			

Matrix Spike (2250020-MS1)

Source: E212030-03

Prepared: 12/05/22 Analyzed: 12/07/22

Benzene	4.52	0.0250	5.00	ND	90.3	54-133			
Ethylbenzene	4.63	0.0250	5.00	ND	92.6	61-133			
Toluene	4.73	0.0250	5.00	ND	94.7	61-130			
o-Xylene	4.74	0.0250	5.00	ND	94.9	63-131			
p,m-Xylene	9.37	0.0500	10.0	ND	93.7	63-131			
Total Xylenes	14.1	0.0250	15.0	ND	94.1	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.67		8.00		95.9	70-130			

Matrix Spike Dup (2250020-MSD1)

Source: E212030-03

Prepared: 12/05/22 Analyzed: 12/07/22

Benzene	4.50	0.0250	5.00	ND	90.0	54-133	0.296	20	
Ethylbenzene	4.61	0.0250	5.00	ND	92.2	61-133	0.418	20	
Toluene	4.73	0.0250	5.00	ND	94.5	61-130	0.163	20	
o-Xylene	4.74	0.0250	5.00	ND	94.8	63-131	0.137	20	
p,m-Xylene	9.32	0.0500	10.0	ND	93.2	63-131	0.531	20	
Total Xylenes	14.1	0.0250	15.0	ND	93.7	63-131	0.399	20	
Surrogate: 4-Bromochlorobenzene-PID	8.00		8.00		100	70-130			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral 22E - 03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 12/8/2022 2:09:11PM
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Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2250020-BLK1)

Prepared: 12/05/22 Analyzed: 12/07/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.25		8.00		90.6	70-130			

LCS (2250020-BS2)

Prepared: 12/05/22 Analyzed: 12/07/22

Gasoline Range Organics (C6-C10)	48.9	20.0	50.0		97.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.81		8.00		97.7	70-130			

Matrix Spike (2250020-MS2)

Source: E212030-03

Prepared: 12/05/22 Analyzed: 12/07/22

Gasoline Range Organics (C6-C10)	52.3	20.0	50.0	ND	105	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.00		8.00		100	70-130			

Matrix Spike Dup (2250020-MSD2)

Source: E212030-03

Prepared: 12/05/22 Analyzed: 12/07/22

Gasoline Range Organics (C6-C10)	46.3	20.0	50.0	ND	92.6	70-130	12.1	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.61		8.00		95.2	70-130			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral 22E - 03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 12/8/2022 2:09:11PM
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Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2250051-BLK1)					Prepared: 12/07/22 Analyzed: 12/07/22				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	63.3		50.0		127	50-200			

LCS (2250051-BS1)					Prepared: 12/07/22 Analyzed: 12/07/22				
Diesel Range Organics (C10-C28)	225	25.0	250		90.0	38-132			
Surrogate: n-Nonane	49.7		50.0		99.4	50-200			

Matrix Spike (2250051-MS1)					Source: E212030-15		Prepared: 12/07/22 Analyzed: 12/07/22		
Diesel Range Organics (C10-C28)	274	25.0	250	57.5	86.8	38-132			
Surrogate: n-Nonane	48.9		50.0		97.7	50-200			

Matrix Spike Dup (2250051-MSD1)					Source: E212030-15		Prepared: 12/07/22 Analyzed: 12/07/22		
Diesel Range Organics (C10-C28)	335	25.0	250	57.5	111	38-132	19.8	20	
Surrogate: n-Nonane	49.9		50.0		99.8	50-200			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral 22E - 03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 12/8/2022 2:09:11PM
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Anions by EPA 300.0/9056A

Analyst: KL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2250047-BLK1)

Prepared: 12/07/22 Analyzed: 12/08/22

Chloride ND 20.0

LCS (2250047-BS1)

Prepared: 12/07/22 Analyzed: 12/07/22

Chloride 254 20.0 250 102 90-110

Matrix Spike (2250047-MS1)

Source: E212030-01

Prepared: 12/07/22 Analyzed: 12/07/22

Chloride 259 20.0 250 ND 104 80-120

Matrix Spike Dup (2250047-MSD1)

Source: E212030-01

Prepared: 12/07/22 Analyzed: 12/08/22

Chloride 252 20.0 250 ND 101 80-120 2.57 20

QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



Definitions and Notes

Vertex Resource Services Inc.	Project Name:	Llama Lateral 22E - 03312	
3101 Boyd Drive	Project Number:	21102-0001	Reported:
Carlsbad NM, 88220	Project Manager:	Monica Peppin	12/08/22 14:09

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Client: Vertex (Targa)
 Project: Llama lateral 22E-03312
 Sampler: SPC
 Phone: on file
 Email(s): cc scarttar@vertex.ca
 Project Manager: Monica Peppin

RUSH?

☐ 1d
☐ 3d

Lab Use Only		Analysis and Method								lab Only	
Lab WO#		GRO/DRO by 801.5	BTEX by 802.1	TPH by 418.1	Chloride by 300.0					Lab Number	N/A (s) / Correct Cont/Prsrv
Job Number											
PE212030											
21102-0001											
1 of 5											

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 801.5	BTEX by 802.1	TPH by 418.1	Chloride by 300.0				Lab Number	Correct Cont/Prsrv
BS22-01 0.25'	11/30/22	0900	S	1 4oz jar								1	
BS22-02 0.25'		0905										2	
BS22-03 0.25'		0910										3	
BS22-04 0.25'		0915										4	
BS22-05 0.25'		0920										5	
BS22-06 0.25'		0925										6	
BS22-07 0.25'		0930										7	
BS22-08 0.25'		0935										8	
BS22-09 0.25'		0940										9	
BS22-10 0.25'		0945										10	

Relinquished by: (Signature) <u>Sally Carttar</u>	Date <u>12/1/22</u>	Time <u>1731</u>	Received by: (Signature) <u>Michelle Cuyler</u>	Date <u>12-02-22</u>	Time <u>0900</u>	Lab Use Only **Received on Ice <input checked="" type="checkbox"/> / N	
Relinquished by: (Signature) <u>Michelle Cuyler</u>	Date <u>12-3-22</u>	Time <u>1800</u>	Received by: (Signature) <u>Carttar</u>	Date <u>12/5/22</u>	Time <u>8:20</u>	T1 _____	T2 _____
						T3 _____	
						AVG Temp °C <u>4</u>	

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☐ Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Notes/Billing info:

Request PO from S Reynolds



5760 US Highway 94 Farmington, NM 87401
 3030 Spring Hill - Menado Street Suite 115 - Durango, CO 81301

PH: 505-822-8511 FX: 505-822-1867
 PH: 970-244-8616 FX: 970-267-1876

envirotech-inc.com
 laboratory@envirotech-inc.com

Client: Vertex (Targa)
 Project: Llama lateral 22E-03312
 Sampler: SPC
 Phone: on file
 Email(s): cc: scarttar@vertex.ca
 Project Manager: Monica Peppin

RUSH?

☐ 1d
☐ 3d

Lab Use Only		Analysis and Method								Lab Only	
Lab WO#		GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0					Lab Number	N/A (s) / Correct Cont/Prsrv
Job Number											
2102-0001											

Page 2 of 5

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0												
BS22-11 0.25'	11/30/22	0950	S	1 4oz jar																11
BS22-12 0.25'		0955																		12
BS22-13 0.25'		10:00																		13
BS22-14 0.25'		10:05																		14
BS22-15 0.25'		1010																		15
BS22-16 0.25'		1015																		16
BS22-17 0.25'		1020																		17
BS22-18 0.25'		1025																		18
BS22-19 0.25'		1030																		19
BS22-20 0.25'		1035																		20

Relinquished by: (Signature)			Date	Time	Received by: (Signature)			Date	Time	Lab Use Only		
Sally Carttar			12/1/22	1732	Michelle Cuyales			12-02-22	0900	**Received on Ice <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N		
Michelle Cuyales			12-3-22	1800	Cathy Chet			12/5/22	8:20	T1 _____ T2 _____ T3 _____		
										AVG Temp °C <u>4</u>		

Sample Matrix: S - Soil, Sg - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☐ Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Notes/Billing info:

Request PO from S Reynolds



3100 Highway 54 Farmington, VT 05401
 (802) 338-8800 Fax: (802) 338-8801
 1000 Spring Hill Road, Suite 100, Farmington, VT 05401

Ph: (802) 338-8800 Fax: (802) 338-8801
 Ph: (802) 338-8801 Fax: (802) 338-8801

envirotech-inc.com
 laboratory@envirotech-inc.com

Envirotech Analytical Laboratory

Printed: 12/5/2022 12:41:12PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Vertex Resource Services Inc.	Date Received:	12/05/22 08:20	Work Order ID:	E212030
Phone:	(575) 748-0176	Date Logged In:	12/05/22 09:28	Logged In By:	Caitlin Christian
Email:	mpeppin@vertex.ca	Due Date:	12/09/22 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? No

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: na

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:

Monica Peppin



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Vertex Resource Services Inc.

Project Name: Llama Lateral 22E - 03312

Work Order: E212031

Job Number: 21102-0001

Received: 12/5/2022

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
12/8/22

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.
Envirotech Inc. holds the NM SDWA certification for data reported. (Lab #NM00979)

Date Reported: 12/8/22

Monica Peppin
3101 Boyd Drive
Carlsbad, NM 88220



Project Name: Llama Lateral 22E - 03312
Workorder: E212031
Date Received: 12/5/2022 8:20:00AM

Monica Peppin,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/5/2022 8:20:00AM, under the Project Name: Llama Lateral 22E - 03312.

The analytical test results summarized in this report with the Project Name: Llama Lateral 22E - 03312 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

Alexa Michaels
Sample Custody Officer
Office: 505-632-1881
labadmin@envirotech-inc.com

Field Offices:

Southern New Mexico Area
Lynn Jarboe
Technical Representative/Client Services
Office: 505-421-LABS(5227)
Cell: 505-320-4759
ljjarboe@envirotech-inc.com

West Texas Midland/Odessa Area
Rayny Hagan
Technical Representative
Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral 22E - 03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 12/08/22 14:51
------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------	-----------------------------

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BS22 - 21 0.25'	E212031-01A	Soil	11/30/22	12/05/22	Glass Jar, 4 oz.
BS22 - 22 0.25'	E212031-02A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 23 0.25'	E212031-03A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 24 0.25'	E212031-04A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 25 0.25'	E212031-05A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 26 0.25'	E212031-06A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 27 0.25'	E212031-07A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 28 0.25'	E212031-08A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 29 0.25'	E212031-09A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 30 0.25'	E212031-10A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 31 0.25'	E212031-11A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 32 0.25'	E212031-12A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 33 0.25'	E212031-13A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 34 0.25'	E212031-14A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 35 0.25'	E212031-15A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 36 0.25'	E212031-16A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 37 0.25'	E212031-17A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 38 0.25'	E212031-18A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 39 0.25'	E212031-19A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 40 0.25'	E212031-20A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
BS22 - 41 2'	E212031-21A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
WS22 - 01 0 - 2'	E212031-22A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
WS22 - 02 0 - 2'	E212031-23A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
WS22 - 03 0 - 0.25'	E212031-24A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
WS22 - 04 0 - 0.25'	E212031-25A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.
WS22 - 05 0 - 0.25'	E212031-26A	Soil	12/01/22	12/05/22	Glass Jar, 4 oz.



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral 22E - 03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 12/8/2022 2:51:31PM
------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------	----------------------------------

BS22 - 21 0.25'

E212031-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	96.0 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	99.4 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	102 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	96.0 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	99.4 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	102 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	168	25.0	1	12/07/22	12/07/22	
Oil Range Organics (C28-C36)	429	50.0	1	12/07/22	12/07/22	
Surrogate: n-Nonane	109 %	50-200		12/07/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	ND	20.0	1	12/05/22	12/07/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 22 0.25'

E212031-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	97.7 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	93.6 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	101 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	97.7 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	93.6 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	101 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	120	25.0	1	12/07/22	12/07/22	
Oil Range Organics (C28-C36)	305	50.0	1	12/07/22	12/07/22	
Surrogate: n-Nonane	107 %	50-200		12/07/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	ND	20.0	1	12/05/22	12/07/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 23 0.25'

E212031-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	97.3 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	99.3 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	104 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	97.3 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	99.3 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	104 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	205	25.0	1	12/07/22	12/07/22	
Oil Range Organics (C28-C36)	499	50.0	1	12/07/22	12/07/22	
Surrogate: n-Nonane	107 %	50-200		12/07/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	32.1	20.0	1	12/05/22	12/07/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 24 0.25'

E212031-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	97.5 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	97.6 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	103 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	97.5 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	97.6 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	103 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	94.3	25.0	1	12/07/22	12/07/22	
Oil Range Organics (C28-C36)	260	50.0	1	12/07/22	12/07/22	
Surrogate: n-Nonane	107 %	50-200		12/07/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	ND	20.0	1	12/05/22	12/07/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 25 0.25'

E212031-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	98.1 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	95.6 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	101 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	98.1 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	95.6 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	101 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	74.2	25.0	1	12/07/22	12/07/22	
Oil Range Organics (C28-C36)	212	50.0	1	12/07/22	12/07/22	
Surrogate: n-Nonane	107 %	50-200		12/07/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	ND	20.0	1	12/05/22	12/07/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 26 0.25'

E212031-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	96.1 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	92.6 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	104 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	96.1 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	92.6 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	104 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	82.9	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	234	50.0	1	12/07/22	12/08/22	
Surrogate: n-Nonane	106 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	21.9	20.0	1	12/05/22	12/07/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 27 0.25'

E212031-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	98.4 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	92.7 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	101 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	98.4 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	92.7 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	101 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	234	50.0	2	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	636	100	2	12/07/22	12/08/22	
Surrogate: n-Nonane	104 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	ND	20.0	1	12/05/22	12/07/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 28 0.25'

E212031-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	97.5 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	100 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	102 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	97.5 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	100 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	102 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	412	50.0	2	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	1060	100	2	12/07/22	12/08/22	
Surrogate: n-Nonane	104 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	ND	20.0	1	12/05/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 29 0.25'

E212031-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	97.8 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	94.8 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	100 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	97.8 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	94.8 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	100 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	85.3	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	253	50.0	1	12/07/22	12/08/22	
Surrogate: n-Nonane	109 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	35.2	20.0	1	12/05/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 30 0.25'

E212031-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	96.9 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	94.9 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	104 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	96.9 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	94.9 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	104 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	162	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	356	50.0	1	12/07/22	12/08/22	
Surrogate: n-Nonane	107 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	21.2	20.0	1	12/05/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 31 0.25'

E212031-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	95.8 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	97.1 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	101 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	95.8 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	97.1 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	101 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	94.3	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	231	50.0	1	12/07/22	12/08/22	
Surrogate: n-Nonane	106 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	ND	20.0	1	12/05/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 32 0.25'

E212031-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	97.1 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	96.0 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	104 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	97.1 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	96.0 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	104 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	55.7	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	151	50.0	1	12/07/22	12/08/22	
Surrogate: n-Nonane	107 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	ND	20.0	1	12/05/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 33 0.25'

E212031-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	98.7 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	95.5 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	100 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	98.7 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	95.5 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	100 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	70.1	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	150	50.0	1	12/07/22	12/08/22	
Surrogate: n-Nonane	109 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	ND	20.0	1	12/05/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 34 0.25'

E212031-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	95.5 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	99.2 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	104 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	95.5 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	99.2 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	104 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	43.8	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	111	50.0	1	12/07/22	12/08/22	
Surrogate: n-Nonane	108 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	22.9	20.0	1	12/05/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 35 0.25'

E212031-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	98.9 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	99.0 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	102 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	98.9 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	99.0 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	102 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	152	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	394	50.0	1	12/07/22	12/08/22	
Surrogate: n-Nonane	107 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	ND	20.0	1	12/05/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 36 0.25'

E212031-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene		100 %	70-130	12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4		96.5 %	70-130	12/05/22	12/07/22	
Surrogate: Toluene-d8		99.1 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene		100 %	70-130	12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4		96.5 %	70-130	12/05/22	12/07/22	
Surrogate: Toluene-d8		99.1 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	249	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	669	50.0	1	12/07/22	12/08/22	
Surrogate: n-Nonane		108 %	50-200	12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	25.8	20.0	1	12/05/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 37 0.25'

E212031-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	96.8 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	100 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	103 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	96.8 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	100 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	103 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	ND	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/07/22	12/08/22	
Surrogate: n-Nonane	111 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	ND	20.0	1	12/05/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 38 0.25'

E212031-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	95.6 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	97.9 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	105 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	95.6 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	97.9 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	105 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	ND	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/07/22	12/08/22	
Surrogate: n-Nonane	111 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	ND	20.0	1	12/05/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 39 0.25'

E212031-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	97.9 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	100 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	100 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene	97.9 %	70-130		12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4	100 %	70-130		12/05/22	12/07/22	
Surrogate: Toluene-d8	100 %	70-130		12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	ND	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/07/22	12/08/22	
Surrogate: n-Nonane	114 %	50-200		12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	ND	20.0	1	12/05/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 40 0.25'

E212031-20

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene		101 %	70-130	12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4		99.7 %	70-130	12/05/22	12/07/22	
Surrogate: Toluene-d8		102 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250021
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
Surrogate: Bromofluorobenzene		101 %	70-130	12/05/22	12/07/22	
Surrogate: 1,2-Dichloroethane-d4		99.7 %	70-130	12/05/22	12/07/22	
Surrogate: Toluene-d8		102 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250050
Diesel Range Organics (C10-C28)	126	25.0	1	12/07/22	12/08/22	
Oil Range Organics (C28-C36)	178	50.0	1	12/07/22	12/08/22	
Surrogate: n-Nonane		123 %	50-200	12/07/22	12/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2250025
Chloride	36.8	20.0	1	12/05/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

BS22 - 41 2'

E212031-21

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250019
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250019
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		94.2 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250045
Diesel Range Organics (C10-C28)	101	25.0	1	12/06/22	12/07/22	
Oil Range Organics (C28-C36)	186	50.0	1	12/06/22	12/07/22	
<i>Surrogate: n-Nonane</i>						
		106 %	50-200	12/06/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2250048
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

WS22 - 01 0 - 2'

E212031-22

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250019
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250019
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		97.2 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250045
Diesel Range Organics (C10-C28)	ND	25.0	1	12/06/22	12/07/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/06/22	12/07/22	
<i>Surrogate: n-Nonane</i>						
		104 %	50-200	12/06/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2250048
Chloride	27.1	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

WS22 -02 0 - 2'

E212031-23

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250019
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250019
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		98.4 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250045
Diesel Range Organics (C10-C28)	ND	25.0	1	12/06/22	12/07/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/06/22	12/07/22	
<i>Surrogate: n-Nonane</i>						
		110 %	50-200	12/06/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2250048
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

WS22 - 03 0 - 0.25'

E212031-24

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250019
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250019
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		98.1 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250045
Diesel Range Organics (C10-C28)	ND	25.0	1	12/06/22	12/07/22	
Oil Range Organics (C28-C36)	54.8	50.0	1	12/06/22	12/07/22	
<i>Surrogate: n-Nonane</i>						
		104 %	50-200	12/06/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2250048
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

WS22 - 04 0 - 0.25'

E212031-25

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250019
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		103 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250019
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		97.0 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250045
Diesel Range Organics (C10-C28)	271	50.0	2	12/06/22	12/07/22	
Oil Range Organics (C28-C36)	595	100	2	12/06/22	12/07/22	
<i>Surrogate: n-Nonane</i>						
		101 %	50-200	12/06/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2250048
Chloride	ND	20.0	1	12/07/22	12/08/22	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral 22E - 03312
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
12/8/2022 2:51:31PM

WS22 - 05 0 - 0.25'

E212031-26

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250019
Benzene	ND	0.0250	1	12/05/22	12/07/22	
Ethylbenzene	ND	0.0250	1	12/05/22	12/07/22	
Toluene	ND	0.0250	1	12/05/22	12/07/22	
o-Xylene	ND	0.0250	1	12/05/22	12/07/22	
p,m-Xylene	ND	0.0500	1	12/05/22	12/07/22	
Total Xylenes	ND	0.0250	1	12/05/22	12/07/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		104 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2250019
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/22	12/07/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		98.1 %	70-130	12/05/22	12/07/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2250045
Diesel Range Organics (C10-C28)	111	25.0	1	12/06/22	12/07/22	
Oil Range Organics (C28-C36)	318	50.0	1	12/06/22	12/07/22	
<i>Surrogate: n-Nonane</i>						
		105 %	50-200	12/06/22	12/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2250048
Chloride	ND	20.0	1	12/07/22	12/08/22	



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral 22E - 03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 12/8/2022 2:51:31PM
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Volatile Organic Compounds by EPA 8260B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2250021-BLK1)

Prepared: 12/05/22 Analyzed: 12/07/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	0.502		0.500		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.505		0.500		101	70-130			
Surrogate: Toluene-d8	0.503		0.500		101	70-130			

LCS (2250021-BS1)

Prepared: 12/05/22 Analyzed: 12/07/22

Benzene	2.43	0.0250	2.50		97.2	70-130			
Ethylbenzene	2.49	0.0250	2.50		99.7	70-130			
Toluene	2.50	0.0250	2.50		99.9	70-130			
o-Xylene	2.60	0.0250	2.50		104	70-130			
p,m-Xylene	4.99	0.0500	5.00		99.8	70-130			
Total Xylenes	7.59	0.0250	7.50		101	70-130			
Surrogate: Bromofluorobenzene	0.494		0.500		98.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.498		0.500		99.5	70-130			
Surrogate: Toluene-d8	0.508		0.500		102	70-130			

Matrix Spike (2250021-MS1)

Source: E212031-04

Prepared: 12/05/22 Analyzed: 12/07/22

Benzene	2.64	0.0250	2.50	ND	105	48-131			
Ethylbenzene	2.72	0.0250	2.50	ND	109	45-135			
Toluene	2.73	0.0250	2.50	ND	109	48-130			
o-Xylene	2.86	0.0250	2.50	ND	114	43-135			
p,m-Xylene	5.47	0.0500	5.00	ND	109	43-135			
Total Xylenes	8.33	0.0250	7.50	ND	111	43-135			
Surrogate: Bromofluorobenzene	0.502		0.500		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.489		0.500		97.7	70-130			
Surrogate: Toluene-d8	0.508		0.500		102	70-130			

Matrix Spike Dup (2250021-MSD1)

Source: E212031-04

Prepared: 12/05/22 Analyzed: 12/07/22

Benzene	2.42	0.0250	2.50	ND	96.9	48-131	8.42	23	
Ethylbenzene	2.53	0.0250	2.50	ND	101	45-135	7.41	27	
Toluene	2.54	0.0250	2.50	ND	102	48-130	7.07	24	
o-Xylene	2.66	0.0250	2.50	ND	107	43-135	7.01	27	
p,m-Xylene	5.08	0.0500	5.00	ND	102	43-135	7.44	27	
Total Xylenes	7.74	0.0250	7.50	ND	103	43-135	7.30	27	
Surrogate: Bromofluorobenzene	0.499		0.500		99.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.480		0.500		95.9	70-130			
Surrogate: Toluene-d8	0.512		0.500		102	70-130			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral 22E - 03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 12/8/2022 2:51:31PM
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Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2250019-BLK1)

Prepared: 12/05/22 Analyzed: 12/06/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	8.45		8.00		106	70-130			

LCS (2250019-BS1)

Prepared: 12/05/22 Analyzed: 12/06/22

Benzene	4.92	0.0250	5.00		98.5	70-130			
Ethylbenzene	5.08	0.0250	5.00		102	70-130			
Toluene	5.16	0.0250	5.00		103	70-130			
o-Xylene	5.23	0.0250	5.00		105	70-130			
p,m-Xylene	10.3	0.0500	10.0		103	70-130			
Total Xylenes	15.5	0.0250	15.0		104	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.54		8.00		107	70-130			

Matrix Spike (2250019-MS1)

Source: E212027-02

Prepared: 12/05/22 Analyzed: 12/07/22

Benzene	4.65	0.0250	5.00	0.0494	92.0	54-133			
Ethylbenzene	4.91	0.0250	5.00	0.338	91.5	61-133			
Toluene	4.89	0.0250	5.00	0.133	95.2	61-130			
o-Xylene	5.13	0.0250	5.00	0.976	83.1	63-131			
p,m-Xylene	10.1	0.0500	10.0	2.03	80.8	63-131			
Total Xylenes	15.2	0.0250	15.0	3.01	81.6	63-131			
Surrogate: 4-Bromochlorobenzene-PID	8.78		8.00		110	70-130			

Matrix Spike Dup (2250019-MSD1)

Source: E212027-02

Prepared: 12/05/22 Analyzed: 12/07/22

Benzene	4.80	0.0250	5.00	0.0494	95.0	54-133	3.18	20	
Ethylbenzene	5.14	0.0250	5.00	0.338	96.1	61-133	4.53	20	
Toluene	5.09	0.0250	5.00	0.133	99.1	61-130	3.93	20	
o-Xylene	5.44	0.0250	5.00	0.976	89.3	63-131	5.82	20	
p,m-Xylene	10.7	0.0500	10.0	2.03	86.9	63-131	5.90	20	
Total Xylenes	16.2	0.0250	15.0	3.01	87.7	63-131	5.87	20	
Surrogate: 4-Bromochlorobenzene-PID	8.80		8.00		110	70-130			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral 22E - 03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 12/8/2022 2:51:31PM
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Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2250019-BLK1) Prepared: 12/05/22 Analyzed: 12/06/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.73		8.00		96.6	70-130			

LCS (2250019-BS2) Prepared: 12/05/22 Analyzed: 12/06/22

Gasoline Range Organics (C6-C10)	52.3	20.0	50.0		105	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.83		8.00		97.9	70-130			

Matrix Spike (2250019-MS2) Source: E212027-02 Prepared: 12/05/22 Analyzed: 12/07/22

Gasoline Range Organics (C6-C10)	71.1	20.0	50.0	71.9	NR	70-130			M2
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.83		8.00		97.9	70-130			

Matrix Spike Dup (2250019-MSD2) Source: E212027-02 Prepared: 12/05/22 Analyzed: 12/07/22

Gasoline Range Organics (C6-C10)	82.6	20.0	50.0	71.9	21.4	70-130	14.9	20	M2
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.83		8.00		97.9	70-130			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral 22E - 03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 12/8/2022 2:51:31PM
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Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2250021-BLK1)

Prepared: 12/05/22 Analyzed: 12/07/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.502		0.500		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.505		0.500		101	70-130			
Surrogate: Toluene-d8	0.503		0.500		101	70-130			

LCS (2250021-BS2)

Prepared: 12/05/22 Analyzed: 12/07/22

Gasoline Range Organics (C6-C10)	59.5	20.0	50.0		119	70-130			
Surrogate: Bromofluorobenzene	0.494		0.500		98.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.480		0.500		96.0	70-130			
Surrogate: Toluene-d8	0.502		0.500		100	70-130			

Matrix Spike (2250021-MS2)

Source: E212031-04

Prepared: 12/05/22 Analyzed: 12/07/22

Gasoline Range Organics (C6-C10)	55.4	20.0	50.0	ND	111	70-130			
Surrogate: Bromofluorobenzene	0.504		0.500		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.486		0.500		97.2	70-130			
Surrogate: Toluene-d8	0.496		0.500		99.1	70-130			

Matrix Spike Dup (2250021-MSD2)

Source: E212031-04

Prepared: 12/05/22 Analyzed: 12/07/22

Gasoline Range Organics (C6-C10)	56.8	20.0	50.0	ND	114	70-130	2.61	20	
Surrogate: Bromofluorobenzene	0.492		0.500		98.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.485		0.500		97.0	70-130			
Surrogate: Toluene-d8	0.504		0.500		101	70-130			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral 22E - 03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 12/8/2022 2:51:31PM
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Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2250045-BLK1)					Prepared: 12/06/22 Analyzed: 12/06/22				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	55.2		50.0		110	50-200			

LCS (2250045-BS1)					Prepared: 12/06/22 Analyzed: 12/06/22				
Diesel Range Organics (C10-C28)	246	25.0	250		98.5	38-132			
Surrogate: n-Nonane	54.3		50.0		109	50-200			

Matrix Spike (2250045-MS1)					Source: E212040-24		Prepared: 12/06/22 Analyzed: 12/06/22		
Diesel Range Organics (C10-C28)	251	25.0	250	ND	100	38-132			
Surrogate: n-Nonane	54.6		50.0		109	50-200			

Matrix Spike Dup (2250045-MSD1)					Source: E212040-24		Prepared: 12/06/22 Analyzed: 12/06/22		
Diesel Range Organics (C10-C28)	261	25.0	250	ND	104	38-132	3.81	20	
Surrogate: n-Nonane	54.0		50.0		108	50-200			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral 22E - 03312 Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 12/8/2022 2:51:31PM
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Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2250050-BLK1) Prepared: 12/07/22 Analyzed: 12/07/22

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	60.1		50.0		120	50-200			

LCS (2250050-BS1) Prepared: 12/07/22 Analyzed: 12/07/22

Diesel Range Organics (C10-C28)	246	25.0	250		98.4	38-132			
Surrogate: n-Nonane	53.0		50.0		106	50-200			

Matrix Spike (2250050-MS1) Source: E212031-05 Prepared: 12/07/22 Analyzed: 12/07/22

Diesel Range Organics (C10-C28)	322	25.0	250	74.2	99.3	38-132			
Surrogate: n-Nonane	54.5		50.0		109	50-200			

Matrix Spike Dup (2250050-MSD1) Source: E212031-05 Prepared: 12/07/22 Analyzed: 12/07/22

Diesel Range Organics (C10-C28)	381	25.0	250	74.2	123	38-132	16.6	20	
Surrogate: n-Nonane	56.0		50.0		112	50-200			



QC Summary Data

Vertex Resource Services Inc.	Project Name:	Llama Lateral 22E - 03312	Reported:
3101 Boyd Drive	Project Number:	21102-0001	
Carlsbad NM, 88220	Project Manager:	Monica Peppin	12/8/2022 2:51:31PM

Anions by EPA 300.0/9056A

Analyst: RAS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2250025-BLK1)					Prepared: 12/05/22 Analyzed: 12/07/22				
Chloride	ND	20.0							
LCS (2250025-BS1)					Prepared: 12/05/22 Analyzed: 12/07/22				
Chloride	264	20.0	250		105	90-110			
LCS Dup (2250025-BSD1)					Prepared: 12/05/22 Analyzed: 12/07/22				
Chloride	262	20.0	250		105	90-110	0.572	20	



QC Summary Data

Vertex Resource Services Inc.	Project Name:	Llama Lateral 22E - 03312	Reported:
3101 Boyd Drive	Project Number:	21102-0001	
Carlsbad NM, 88220	Project Manager:	Monica Peppin	12/8/2022 2:51:31PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2250048-BLK1)					Prepared: 12/07/22 Analyzed: 12/08/22				
Chloride	ND	20.0							
LCS (2250048-BS1)					Prepared: 12/07/22 Analyzed: 12/08/22				
Chloride	253	20.0	250		101	90-110			
Matrix Spike (2250048-MS1)					Source: E212028-01		Prepared: 12/07/22 Analyzed: 12/08/22		
Chloride	599	20.0	250	358	96.1	80-120			
Matrix Spike Dup (2250048-MSD1)					Source: E212028-01		Prepared: 12/07/22 Analyzed: 12/08/22		
Chloride	583	20.0	250	358	89.9	80-120	2.62	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Vertex Resource Services Inc.	Project Name:	Llama Lateral 22E - 03312	
3101 Boyd Drive	Project Number:	21102-0001	Reported:
Carlsbad NM, 88220	Project Manager:	Monica Peppin	12/08/22 14:51

- M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Client: Vertex (Targa)
 Project: Llama lateral 22E-03312
 Sampler: SPC
 Phone: on file
 Email(s): cc: scarlett@vertex.ca
 Project Manager:

RUSH?

☐ 1d
☐ 3d

Page

Lab Use Only		Analysis and Method								Lab Only	
Lab WO# PE212031		GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0					Lab Number	N/A (s) Correct Cont/Prsiv
Job Number 21102-0001											
3 of 5											

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0							Lab Number	N/A (s) Correct Cont/Prsiv
BS22-21 0.25'	11/30/22	1040	S	1 4oz jar											1	
BS22-22 0.25'	12/1/22	0900													2	
BS22-23 0.25'		0905													3	
BS22-24 0.25'		0910													4	
BS22-25 0.25'		0915													5	
BS22-26 0.25'		0920													6	
BS22-27 0.25'		0925													7	
BS22-28 0.25'		1245													8	
BS22-29 0.25'		0935													9	
BS22-30 0.25'		1250													10	

Relinquished by: (Signature) <u>Sally Carttar</u>	Date <u>12/1/22</u>	Time <u>1732</u>	Received by: (Signature) <u>Michelle Guyde</u>	Date <u>12-2-22</u>	Time <u>0900</u>	Lab Use Only	
Relinquished by: (Signature) <u>Michelle Guyde</u>	Date <u>12-3-22</u>	Time <u>1800</u>	Received by: (Signature) <u>Carttar</u>	Date <u>12/5/22</u>	Time <u>8:20</u>	**Received on Ice <input checked="" type="checkbox"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>	

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☐ Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Notes/Billing info:

Request PO from S Reynolds



5700 US Highway 94 Farmington, NM 87401
 Three Springs - 447 Menado Street Suite 1152 Grants NM 87040

PH: 505-612-0915 FX: 505-612-1867
 PH: 505-456-0675 FX: 505-362-1270

envirotech inc.com
 laboratory@envirotech-inc.com

Client: Vertex (Targa)
 Project: Llama lateral 22E-03312
 Sampler: SPC
 Phone: on file
 Email(s): cc: scarttar@vertex.ca
 Project Manager: Monica Peppin

RUSH?

☐ 1d
☐ 3d

Lab Use Only		Analysis and Method				lab Only	
Lab WO#		GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0		
Job Number							
21102-0001							
Page 4 of 5							

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPEReservative	GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0			Lab Number	Correct Cont/Prsiv (s)
BS22-31 0.25'	12/1/22	1255	S	1 40g jar							11	+
BS22-32 0.25'		0950									12	
BS22-33 0.25'		0955									13	
BS22-34 0.25'		1000									14	
BS22-35 0.25'		1005									15	
BS22-36 0.25'		1010									16	
BS22-37 0.25'		1015									17	
BS22-38 0.25'		1020									18	
BS22-39 0.25'		1025									19	
BS22-40 0.25'		1030									20	

Relinquished by: (Signature) <u>Sally Carttar</u>	Date <u>12/1/22</u>	Time <u>1732</u>	Received by: (Signature) <u>Michelle Guy</u>	Date <u>12-2-22</u>	Time <u>0900</u>	Lab Use Only **Received on Ice <input checked="" type="checkbox"/> N
Relinquished by: (Signature) <u>Michelle Guy</u>	Date <u>12-3-22</u>	Time <u>1800</u>	Received by: (Signature) <u>Michelle Guy</u>	Date <u>12/5/22</u>	Time <u>8:20</u>	T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

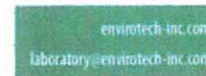
**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

<input type="checkbox"/> Sample(s) dropped off after hours to a secure drop off area.	Chain of Custody	Notes/Billing info: <u>Request PO from S Reynolds</u>
---------------------------------------------------------------------------------------	------------------	----------------------------------------------------------



5160 Highway 44 Farmington, VT 05402
 Phone: 802-338-8800 Fax: 802-338-8801
 Email: info@envirotech.com

PH: 802-338-8800 FAX: 802-338-8801
 PH: 802-338-8800 FAX: 802-338-8801



Client: Vertex (Targa)
 Project: Llama lateral 22E-03312
 Sampler: SPC
 Phone: on file
 Email(s): cc: scarttar@vertex.ca
 Project Manager: Monica Peppin

RUSH?

☐ 1d
☐ 3d

Page

Lab Use Only		Analysis and Method								lab Only	
Lab WO# <u>PE212031</u>		GRO/DRO by 8015	BTX by 8021	TPH by 418.1	Chloride by 300.0					Lab Number	Correct Cont/Prsrv (s) N/A
Job Number <u>21102-0001</u>											
5 of 5											

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTX by 8021	TPH by 418.1	Chloride by 300.0										
BS22-41 ^{2'} 0-2'	12/1/22	1035	S	1 4oz jar														H 21
WS22-01 0-2'		10:40																12 22
WS22-02 0-2'		10:50																13 23
WS22-03 0- ^{0.25'} 0-2'		10:55																14 24
WS22-04 0- ^{0.25'} 0-2'		1100																15 25
WS22-05 0- ^{0.25'} 0-2'		1105																16 26

Relinquished by: (Signature) <u>Sally Carttar</u>		Date <u>12/1/22</u>	Time <u>1732</u>	Received by: (Signature) <u>Michelle Camp</u>		Date <u>12-2-22</u>	Time <u>0900</u>	Lab Use Only **Received on Ice <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N				
Relinquished by: (Signature) <u>Michelle Gungala</u>		Date <u>12-3-22</u>	Time <u>1800</u>	Received by: (Signature) <u>Carla Chat</u>		Date <u>12/5/22</u>	Time <u>8:20</u>	T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>				

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☐ Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

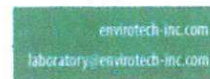
Notes/Billing info:

Request PO from S Reynolds



17000 Highway 4, Farmington, MN 55020
 Phone: 507-251-0000 Fax: 507-251-0001
 Email: info@envirotech.com Website: www.envirotech.com

PH: 507-251-0000 FAX: 507-251-0001
 Email: info@envirotech.com Website: www.envirotech.com



Envirotech Analytical Laboratory

Printed: 12/5/2022 12:45:20PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Vertex Resource Services Inc.	Date Received:	12/05/22 08:20	Work Order ID:	E212031
Phone:	(575) 748-0176	Date Logged In:	12/05/22 09:30	Logged In By:	Caitlin Christian
Email:	mpeppin@vertex.ca	Due Date:	12/09/22 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/Resolution

Project Llama Lateral 22E - 00312 has been separated into 2 reports due to sample volume.
Workorders are as follows: E212030 & E212031.

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? No

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: na

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:

Monica Peppin



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Targa

Project Name: Llama Lateral

Work Order: E301075

Job Number: 21102-0001

Received: 1/14/2023

Revision: 2

Report Reviewed By:

Walter Hinchman
Laboratory Director
1/20/23

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.
Envirotech Inc. holds the NM SDWA certification for data reported. (Lab #NM00979)

Date Reported: 1/20/23

Monica Peppin
12600 WCR 91
Midland, TX 79707



Project Name: Llama Lateral
Workorder: E301075
Date Received: 1/14/2023 8:00:00AM

Monica Peppin,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 1/14/2023 8:00:00AM, under the Project Name: Llama Lateral.

The analytical test results summarized in this report with the Project Name: Llama Lateral apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

Alexa Michaels
Sample Custody Officer
Office: 505-632-1881
labadmin@envirotech-inc.com

Field Offices:

Southern New Mexico Area
Lynn Jarboe
Technical Representative/Client Services
Office: 505-421-LABS(5227)
Cell: 505-320-4759
ljjarboe@envirotech-inc.com

West Texas Midland/Odessa Area
Rayny Hagan
Technical Representative
Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

Targa	Project Name:	Llama Lateral	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	01/20/23 13:10

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BS22 - 03 0.5'	E301075-01A	Soil	01/10/23	01/14/23	Glass Jar, 4 oz.
BS22 - 04 0.5'	E301075-02A	Soil	01/10/23	01/14/23	Glass Jar, 4 oz.
BS22 - 05 0.5'	E301075-03A	Soil	01/10/23	01/14/23	Glass Jar, 4 oz.
BS22 - 06 0.5'	E301075-04A	Soil	01/10/23	01/14/23	Glass Jar, 4 oz.
BS22 - 07 0.5'	E301075-05A	Soil	01/10/23	01/14/23	Glass Jar, 4 oz.
BS22 - 08 0.5'	E301075-06A	Soil	01/10/23	01/14/23	Glass Jar, 4 oz.
BS22 - 09 0.5'	E301075-07A	Soil	01/10/23	01/14/23	Glass Jar, 4 oz.
BS22 - 10 0.5'	E301075-08A	Soil	01/10/23	01/14/23	Glass Jar, 4 oz.
BS22 - 11 0.5'	E301075-09A	Soil	01/10/23	01/14/23	Glass Jar, 4 oz.
BS22 - 13 0.5'	E301075-10A	Soil	01/11/23	01/14/23	Glass Jar, 4 oz.
BS22 - 24 0.5'	E301075-11A	Soil	01/11/23	01/14/23	Glass Jar, 4 oz.
BS22 - 25 0.5'	E301075-12A	Soil	01/11/23	01/14/23	Glass Jar, 4 oz.
BS22 - 26 0.5'	E301075-13A	Soil	01/12/23	01/14/23	Glass Jar, 4 oz.
BS22 - 27 0.5'	E301075-14A	Soil	01/12/23	01/14/23	Glass Jar, 4 oz.
BS22 - 28 0.5'	E301075-15A	Soil	01/12/23	01/14/23	Glass Jar, 4 oz.
BS22 - 29 0.5'	E301075-16A	Soil	01/12/23	01/14/23	Glass Jar, 4 oz.
BS22 - 30 0.5'	E301075-17A	Soil	01/12/23	01/14/23	Glass Jar, 4 oz.
BS22 - 31 0.5'	E301075-18A	Soil	01/12/23	01/14/23	Glass Jar, 4 oz.
BS22 - 32 0.5'	E301075-19A	Soil	01/12/23	01/14/23	Glass Jar, 4 oz.
BS22 - 33 0.5'	E301075-20A	Soil	01/12/23	01/14/23	Glass Jar, 4 oz.
BS22 - 14 0.5'	E301075-21A	Soil	01/11/23	01/14/23	Glass Jar, 4 oz.
BS22 - 15 0.5'	E301075-22A	Soil	01/11/23	01/14/23	Glass Jar, 4 oz.
BS22 - 16 0.5'	E301075-23A	Soil	01/11/23	01/14/23	Glass Jar, 4 oz.
BS22 - 17 0.5'	E301075-24A	Soil	01/11/23	01/14/23	Glass Jar, 4 oz.
BS22 - 18 0.5'	E301075-25A	Soil	01/11/23	01/14/23	Glass Jar, 4 oz.
BS22 - 19 0.5'	E301075-26A	Soil	01/11/23	01/14/23	Glass Jar, 4 oz.
BS22 - 20 0.5'	E301075-27A	Soil	01/11/23	01/14/23	Glass Jar, 4 oz.
BS22 - 21 0.5'	E301075-28A	Soil	01/11/23	01/14/23	Glass Jar, 4 oz.
BS22 - 22 0.5'	E301075-29A	Soil	01/11/23	01/14/23	Glass Jar, 4 oz.
BS22 - 23 0.5'	E301075-30A	Soil	01/11/23	01/14/23	Glass Jar, 4 oz.
BS22 - 34 0.5'	E301075-31A	Soil	01/13/23	01/14/23	Glass Jar, 4 oz.
BS22 - 35 0.5'	E301075-32A	Soil	01/13/23	01/14/23	Glass Jar, 4 oz.
BS22 - 36 0.5'	E301075-33A	Soil	01/13/23	01/14/23	Glass Jar, 4 oz.
BS22 - 40 0.5'	E301075-34A	Soil	01/13/23	01/14/23	Glass Jar, 4 oz.
BS22 - 41 2.5'	E301075-35A	Soil	01/13/23	01/14/23	Glass Jar, 4 oz.
WS22 - 04 0.5'	E301075-36A	Soil	01/13/23	01/14/23	Glass Jar, 4 oz.
WS22 - 05 0.5'	E301075-37A	Soil	01/13/23	01/14/23	Glass Jar, 4 oz.



Sample Data

Targa	Project Name:	Llama Lateral	Reported: 1/20/2023 1:10:32PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BS22 - 03 0.5'
E301075-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
Surrogate: 4-Bromochlorobenzene-PID	98.4 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	89.4 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	26.1	25.0	1	01/16/23	01/19/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/19/23	
Surrogate: n-Nonane	112 %	50-200		01/16/23	01/19/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa
12600 WCR 91
Midland TX, 79707

Project Name: Llama Lateral
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
1/20/2023 1:10:32PM

BS22 - 04 0.5'

E301075-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2303005
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.5 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2303005
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.7 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303012
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/19/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/19/23	
<i>Surrogate: n-Nonane</i>						
	113 %	50-200		01/16/23	01/19/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303008
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa	Project Name:	Llama Lateral	Reported: 1/20/2023 1:10:32PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BS22 - 05 0.5'

E301075-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	98.4 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	89.2 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	67.8	25.0	1	01/16/23	01/19/23	
Oil Range Organics (C28-C36)	176	50.0	1	01/16/23	01/19/23	
<i>Surrogate: n-Nonane</i>	114 %	50-200		01/16/23	01/19/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa
12600 WCR 91
Midland TX, 79707

Project Name: Llama Lateral
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
1/20/2023 1:10:32PM

BS22 - 06 0.5'

E301075-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2303005
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.8 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2303005
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.6 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303012
Diesel Range Organics (C10-C28)	44.7	25.0	1	01/16/23	01/19/23	
Oil Range Organics (C28-C36)	103	50.0	1	01/16/23	01/19/23	
<i>Surrogate: n-Nonane</i>						
	115 %	50-200		01/16/23	01/19/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303008
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa	Project Name:	Llama Lateral	Reported: 1/20/2023 1:10:32PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BS22 - 07 0.5'

E301075-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	98.5 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	89.5 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/19/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/19/23	
<i>Surrogate: n-Nonane</i>	117 %	50-200		01/16/23	01/19/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa
12600 WCR 91
Midland TX, 79707

Project Name: Llama Lateral
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
1/20/2023 1:10:32PM

BS22 - 08 0.5'

E301075-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.4 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.1 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/19/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/19/23	
<i>Surrogate: n-Nonane</i>						
	105 %	50-200		01/16/23	01/19/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa
12600 WCR 91
Midland TX, 79707

Project Name: Llama Lateral
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
1/20/2023 1:10:32PM

BS22 - 09 0.5'

E301075-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2303005
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.8 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2303005
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.9 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303012
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/19/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/19/23	
<i>Surrogate: n-Nonane</i>						
	106 %	50-200		01/16/23	01/19/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303008
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa	Project Name:	Llama Lateral	Reported: 1/20/2023 1:10:32PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BS22 - 10 0.5'

E301075-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		100 %	70-130	01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		88.1 %	70-130	01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	51.0	25.0	1	01/16/23	01/19/23	
Oil Range Organics (C28-C36)	112	50.0	1	01/16/23	01/19/23	
<i>Surrogate: n-Nonane</i>		105 %	50-200	01/16/23	01/19/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa
12600 WCR 91
Midland TX, 79707

Project Name: Llama Lateral
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
1/20/2023 1:10:32PM

BS22 - 11 0.5'

E301075-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2303005
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2303005
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		87.7 %	70-130	01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303012
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/19/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/19/23	
<i>Surrogate: n-Nonane</i>						
		104 %	50-200	01/16/23	01/19/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303008
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa	Project Name:	Llama Lateral	Reported: 1/20/2023 1:10:32PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BS22 - 13 0.5'

E301075-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	99.2 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	88.4 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
<i>Surrogate: n-Nonane</i>	102 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa
12600 WCR 91
Midland TX, 79707

Project Name: Llama Lateral
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
1/20/2023 1:10:32PM

BS22 - 24 0.5'

E301075-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.4 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.1 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
<i>Surrogate: n-Nonane</i>						
	105 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa	Project Name:	Llama Lateral	Reported: 1/20/2023 1:10:32PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BS22 - 25 0.5'

E301075-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	96.9 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	90.5 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
<i>Surrogate: n-Nonane</i>	104 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa	Project Name:	Llama Lateral	Reported: 1/20/2023 1:10:32PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BS22 - 26 0.5'

E301075-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
Surrogate: 4-Bromochlorobenzene-PID	99.4 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	89.3 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	115	25.0	1	01/16/23	01/19/23	
Oil Range Organics (C28-C36)	176	50.0	1	01/16/23	01/19/23	
Surrogate: n-Nonane	106 %	50-200		01/16/23	01/19/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	134	20.0	1	01/16/23	01/16/23	



Sample Data

Targa	Project Name:	Llama Lateral	Reported: 1/20/2023 1:10:32PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BS22 - 27 0.5'

E301075-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	97.5 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	91.8 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
<i>Surrogate: n-Nonane</i>	106 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa	Project Name:	Llama Lateral	Reported: 1/20/2023 1:10:32PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BS22 - 28 0.5'

E301075-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	98.5 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	88.2 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
<i>Surrogate: n-Nonane</i>	105 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa	Project Name:	Llama Lateral	Reported: 1/20/2023 1:10:32PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BS22 - 29 0.5'

E301075-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/18/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/18/23	
Toluene	ND	0.0250	1	01/16/23	01/18/23	
o-Xylene	ND	0.0250	1	01/16/23	01/18/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/18/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/18/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	98.6 %	70-130		01/16/23	01/18/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/18/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	89.9 %	70-130		01/16/23	01/18/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
<i>Surrogate: n-Nonane</i>	106 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	38.4	20.0	1	01/16/23	01/16/23	



Sample Data

Targa	Project Name:	Llama Lateral	Reported: 1/20/2023 1:10:32PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BS22 - 30 0.5'

E301075-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/18/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/18/23	
Toluene	ND	0.0250	1	01/16/23	01/18/23	
o-Xylene	ND	0.0250	1	01/16/23	01/18/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/18/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/18/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	98.2 %	70-130		01/16/23	01/18/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/18/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	91.4 %	70-130		01/16/23	01/18/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
<i>Surrogate: n-Nonane</i>	104 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa
12600 WCR 91
Midland TX, 79707

Project Name: Llama Lateral
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
1/20/2023 1:10:32PM

BS22 - 31 0.5'

E301075-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/18/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/18/23	
Toluene	ND	0.0250	1	01/16/23	01/18/23	
o-Xylene	ND	0.0250	1	01/16/23	01/18/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/18/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/18/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.8 %	70-130		01/16/23	01/18/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/18/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	87.4 %	70-130		01/16/23	01/18/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
<i>Surrogate: n-Nonane</i>						
	105 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa	Project Name:	Llama Lateral	Reported: 1/20/2023 1:10:32PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BS22 - 32 0.5'

E301075-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/18/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/18/23	
Toluene	ND	0.0250	1	01/16/23	01/18/23	
o-Xylene	ND	0.0250	1	01/16/23	01/18/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/18/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/18/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	96.5 %	70-130		01/16/23	01/18/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/18/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	90.7 %	70-130		01/16/23	01/18/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
<i>Surrogate: n-Nonane</i>	107 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa	Project Name:	Llama Lateral	Reported: 1/20/2023 1:10:32PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BS22 - 33 0.5'

E301075-20

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Benzene	ND	0.0250	1	01/16/23	01/18/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/18/23	
Toluene	ND	0.0250	1	01/16/23	01/18/23	
o-Xylene	ND	0.0250	1	01/16/23	01/18/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/18/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/18/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	98.6 %	70-130		01/16/23	01/18/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2303005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/18/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	91.6 %	70-130		01/16/23	01/18/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303012	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
<i>Surrogate: n-Nonane</i>	106 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303008	
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa	Project Name:	Llama Lateral	Reported: 1/20/2023 1:10:32PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BS22 - 14 0.5'

E301075-21

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Benzene	ND	0.0250	1	01/16/23	01/16/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/16/23	
Toluene	ND	0.0250	1	01/16/23	01/16/23	
o-Xylene	ND	0.0250	1	01/16/23	01/16/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/16/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/16/23	
Surrogate: Bromofluorobenzene	97.6 %	70-130		01/16/23	01/16/23	
Surrogate: 1,2-Dichloroethane-d4	100 %	70-130		01/16/23	01/16/23	
Surrogate: Toluene-d8	102 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/16/23	
Surrogate: Bromofluorobenzene	97.6 %	70-130		01/16/23	01/16/23	
Surrogate: 1,2-Dichloroethane-d4	100 %	70-130		01/16/23	01/16/23	
Surrogate: Toluene-d8	102 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303011
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
Surrogate: n-Nonane	98.3 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303009
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa	Project Name:	Llama Lateral	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	1/20/2023 1:10:32PM

BS22 - 15 0.5'

E301075-22

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Benzene	ND	0.0250	1	01/16/23	01/16/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/16/23	
Toluene	ND	0.0250	1	01/16/23	01/16/23	
o-Xylene	ND	0.0250	1	01/16/23	01/16/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/16/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/16/23	
Surrogate: Bromofluorobenzene	96.7 %	70-130		01/16/23	01/16/23	
Surrogate: 1,2-Dichloroethane-d4	100 %	70-130		01/16/23	01/16/23	
Surrogate: Toluene-d8	97.1 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/16/23	
Surrogate: Bromofluorobenzene	96.7 %	70-130		01/16/23	01/16/23	
Surrogate: 1,2-Dichloroethane-d4	100 %	70-130		01/16/23	01/16/23	
Surrogate: Toluene-d8	97.1 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303011
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
Surrogate: n-Nonane	104 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303009
Chloride	ND	20.0	1	01/16/23	01/16/23	



Sample Data

Targa 12600 WCR 91 Midland TX, 79707	Project Name: Llama Lateral Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 1/20/2023 1:10:32PM
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BS22 - 16 0.5'

E301075-23

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Benzene	ND	0.0250	1	01/16/23	01/16/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/16/23	
Toluene	ND	0.0250	1	01/16/23	01/16/23	
o-Xylene	ND	0.0250	1	01/16/23	01/16/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/16/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/16/23	
Surrogate: Bromofluorobenzene	96.1 %	70-130		01/16/23	01/16/23	
Surrogate: 1,2-Dichloroethane-d4	96.4 %	70-130		01/16/23	01/16/23	
Surrogate: Toluene-d8	101 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/16/23	
Surrogate: Bromofluorobenzene	96.1 %	70-130		01/16/23	01/16/23	
Surrogate: 1,2-Dichloroethane-d4	96.4 %	70-130		01/16/23	01/16/23	
Surrogate: Toluene-d8	101 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303011
Diesel Range Organics (C10-C28)	38.5	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
Surrogate: n-Nonane	103 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303009
Chloride	ND	20.0	1	01/16/23	01/17/23	



Sample Data

Targa 12600 WCR 91 Midland TX, 79707	Project Name: Llama Lateral Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 1/20/2023 1:10:32PM
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BS22 - 17 0.5'

E301075-24

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Benzene	ND	0.0250	1	01/16/23	01/16/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/16/23	
Toluene	ND	0.0250	1	01/16/23	01/16/23	
o-Xylene	ND	0.0250	1	01/16/23	01/16/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/16/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/16/23	
Surrogate: Bromofluorobenzene	97.2 %	70-130		01/16/23	01/16/23	
Surrogate: 1,2-Dichloroethane-d4	99.2 %	70-130		01/16/23	01/16/23	
Surrogate: Toluene-d8	97.8 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/16/23	
Surrogate: Bromofluorobenzene	97.2 %	70-130		01/16/23	01/16/23	
Surrogate: 1,2-Dichloroethane-d4	99.2 %	70-130		01/16/23	01/16/23	
Surrogate: Toluene-d8	97.8 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303011
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
Surrogate: n-Nonane	104 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303009
Chloride	ND	20.0	1	01/16/23	01/17/23	



Sample Data

Targa 12600 WCR 91 Midland TX, 79707	Project Name: Llama Lateral Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 1/20/2023 1:10:32PM
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BS22 - 18 0.5'

E301075-25

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Benzene	ND	0.0250	1	01/16/23	01/16/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/16/23	
Toluene	ND	0.0250	1	01/16/23	01/16/23	
o-Xylene	ND	0.0250	1	01/16/23	01/16/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/16/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/16/23	
Surrogate: Bromofluorobenzene	99.0 %	70-130		01/16/23	01/16/23	
Surrogate: 1,2-Dichloroethane-d4	98.8 %	70-130		01/16/23	01/16/23	
Surrogate: Toluene-d8	98.6 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/16/23	
Surrogate: Bromofluorobenzene	99.0 %	70-130		01/16/23	01/16/23	
Surrogate: 1,2-Dichloroethane-d4	98.8 %	70-130		01/16/23	01/16/23	
Surrogate: Toluene-d8	98.6 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303011
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
Surrogate: n-Nonane	105 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303009
Chloride	ND	20.0	1	01/16/23	01/17/23	



Sample Data

Targa 12600 WCR 91 Midland TX, 79707	Project Name: Llama Lateral Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 1/20/2023 1:10:32PM
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BS22 - 19 0.5'

E301075-26

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Benzene	ND	0.0250	1	01/16/23	01/16/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/16/23	
Toluene	ND	0.0250	1	01/16/23	01/16/23	
o-Xylene	ND	0.0250	1	01/16/23	01/16/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/16/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/16/23	
Surrogate: Bromofluorobenzene	97.6 %	70-130		01/16/23	01/16/23	
Surrogate: 1,2-Dichloroethane-d4	97.3 %	70-130		01/16/23	01/16/23	
Surrogate: Toluene-d8	100 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/16/23	
Surrogate: Bromofluorobenzene	97.6 %	70-130		01/16/23	01/16/23	
Surrogate: 1,2-Dichloroethane-d4	97.3 %	70-130		01/16/23	01/16/23	
Surrogate: Toluene-d8	100 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303011
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
Surrogate: n-Nonane	104 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303009
Chloride	ND	20.0	1	01/16/23	01/17/23	



Sample Data

Targa	Project Name:	Llama Lateral	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	1/20/2023 1:10:32PM

BS22 - 20 0.5'

E301075-27

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: IY		Batch: 2303006	
Benzene	ND	0.0250	1	01/16/23	01/16/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/16/23	
Toluene	ND	0.0250	1	01/16/23	01/16/23	
o-Xylene	ND	0.0250	1	01/16/23	01/16/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/16/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/16/23	
<i>Surrogate: Bromofluorobenzene</i>	98.2 %	70-130		01/16/23	01/16/23	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	94.5 %	70-130		01/16/23	01/16/23	
<i>Surrogate: Toluene-d8</i>	101 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2303006	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/16/23	
<i>Surrogate: Bromofluorobenzene</i>	98.2 %	70-130		01/16/23	01/16/23	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	94.5 %	70-130		01/16/23	01/16/23	
<i>Surrogate: Toluene-d8</i>	101 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303011	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
<i>Surrogate: n-Nonane</i>	106 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303009	
Chloride	ND	20.0	1	01/16/23	01/17/23	



Sample Data

Targa	Project Name:	Llama Lateral	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	1/20/2023 1:10:32PM

BS22 - 21 0.5'

E301075-28

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: IY		Batch: 2303006	
Benzene	ND	0.0250	1	01/16/23	01/16/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/16/23	
Toluene	ND	0.0250	1	01/16/23	01/16/23	
o-Xylene	ND	0.0250	1	01/16/23	01/16/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/16/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/16/23	
<i>Surrogate: Bromofluorobenzene</i>	97.4 %	70-130		01/16/23	01/16/23	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	99.7 %	70-130		01/16/23	01/16/23	
<i>Surrogate: Toluene-d8</i>	100 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2303006	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/16/23	
<i>Surrogate: Bromofluorobenzene</i>	97.4 %	70-130		01/16/23	01/16/23	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	99.7 %	70-130		01/16/23	01/16/23	
<i>Surrogate: Toluene-d8</i>	100 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303011	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
<i>Surrogate: n-Nonane</i>	98.6 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303009	
Chloride	ND	20.0	1	01/16/23	01/17/23	



Sample Data

Targa	Project Name:	Llama Lateral	Reported: 1/20/2023 1:10:32PM
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	

BS22 - 22 0.5'

E301075-29

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2303006	
Benzene	ND	0.0250	1	01/16/23	01/16/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/16/23	
Toluene	ND	0.0250	1	01/16/23	01/16/23	
o-Xylene	ND	0.0250	1	01/16/23	01/16/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/16/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/16/23	
Surrogate: Bromofluorobenzene	97.9 %	70-130		01/16/23	01/16/23	
Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		01/16/23	01/16/23	
Surrogate: Toluene-d8	97.2 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2303006	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/16/23	
Surrogate: Bromofluorobenzene	97.9 %	70-130		01/16/23	01/16/23	
Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		01/16/23	01/16/23	
Surrogate: Toluene-d8	97.2 %	70-130		01/16/23	01/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2303011	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
Surrogate: n-Nonane	104 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: BA		Batch: 2303009	
Chloride	ND	20.0	1	01/16/23	01/17/23	



Sample Data

Targa	Project Name:	Llama Lateral	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	1/20/2023 1:10:32PM

BS22 - 23 0.5'

E301075-30

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
Surrogate: Bromofluorobenzene	97.7 %	70-130		01/16/23	01/17/23	
Surrogate: 1,2-Dichloroethane-d4	95.1 %	70-130		01/16/23	01/17/23	
Surrogate: Toluene-d8	99.2 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
Surrogate: Bromofluorobenzene	97.7 %	70-130		01/16/23	01/17/23	
Surrogate: 1,2-Dichloroethane-d4	95.1 %	70-130		01/16/23	01/17/23	
Surrogate: Toluene-d8	99.2 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303011
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
Surrogate: n-Nonane	102 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303009
Chloride	ND	20.0	1	01/16/23	01/17/23	



Sample Data

Targa
12600 WCR 91
Midland TX, 79707

Project Name: Llama Lateral
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
1/20/2023 1:10:32PM

BS22 - 34 0.5'

E301075-31

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
Surrogate: Bromofluorobenzene	96.6 %	70-130		01/16/23	01/17/23	
Surrogate: 1,2-Dichloroethane-d4	100 %	70-130		01/16/23	01/17/23	
Surrogate: Toluene-d8	98.8 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
Surrogate: Bromofluorobenzene	96.6 %	70-130		01/16/23	01/17/23	
Surrogate: 1,2-Dichloroethane-d4	100 %	70-130		01/16/23	01/17/23	
Surrogate: Toluene-d8	98.8 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303011
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
Surrogate: n-Nonane	96.1 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303009
Chloride	ND	20.0	1	01/16/23	01/17/23	



Sample Data

Targa
12600 WCR 91
Midland TX, 79707

Project Name: Llama Lateral
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
1/20/2023 1:10:32PM

BS22 - 35 0.5'

E301075-32

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
Surrogate: Bromofluorobenzene	99.1 %	70-130		01/16/23	01/17/23	
Surrogate: 1,2-Dichloroethane-d4	99.6 %	70-130		01/16/23	01/17/23	
Surrogate: Toluene-d8	98.7 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
Surrogate: Bromofluorobenzene	99.1 %	70-130		01/16/23	01/17/23	
Surrogate: 1,2-Dichloroethane-d4	99.6 %	70-130		01/16/23	01/17/23	
Surrogate: Toluene-d8	98.7 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303011
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
Surrogate: n-Nonane	100 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303009
Chloride	ND	20.0	1	01/16/23	01/17/23	



Sample Data

Targa
12600 WCR 91
Midland TX, 79707

Project Name: Llama Lateral
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
1/20/2023 1:10:32PM

BS22 - 36 0.5'

E301075-33

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
Surrogate: Bromofluorobenzene	97.3 %	70-130		01/16/23	01/17/23	
Surrogate: 1,2-Dichloroethane-d4	98.8 %	70-130		01/16/23	01/17/23	
Surrogate: Toluene-d8	98.7 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
Surrogate: Bromofluorobenzene	97.3 %	70-130		01/16/23	01/17/23	
Surrogate: 1,2-Dichloroethane-d4	98.8 %	70-130		01/16/23	01/17/23	
Surrogate: Toluene-d8	98.7 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303011
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
Surrogate: n-Nonane	103 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303009
Chloride	ND	20.0	1	01/16/23	01/17/23	



Sample Data

Targa 12600 WCR 91 Midland TX, 79707	Project Name: Llama Lateral Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 1/20/2023 1:10:32PM
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BS22 - 40 0.5'

E301075-34

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
Surrogate: Bromofluorobenzene	98.1 %	70-130		01/16/23	01/17/23	
Surrogate: 1,2-Dichloroethane-d4	99.1 %	70-130		01/16/23	01/17/23	
Surrogate: Toluene-d8	102 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
Surrogate: Bromofluorobenzene	98.1 %	70-130		01/16/23	01/17/23	
Surrogate: 1,2-Dichloroethane-d4	99.1 %	70-130		01/16/23	01/17/23	
Surrogate: Toluene-d8	102 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303011
Diesel Range Organics (C10-C28)	32.6	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
Surrogate: n-Nonane	103 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303009
Chloride	45.6	20.0	1	01/16/23	01/17/23	



Sample Data

Targa 12600 WCR 91 Midland TX, 79707	Project Name: Llama Lateral Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 1/20/2023 1:10:32PM
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BS22 - 41 2.5'

E301075-35

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
Surrogate: Bromofluorobenzene	98.6 %	70-130		01/16/23	01/17/23	
Surrogate: 1,2-Dichloroethane-d4	97.2 %	70-130		01/16/23	01/17/23	
Surrogate: Toluene-d8	98.0 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2303006
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
Surrogate: Bromofluorobenzene	98.6 %	70-130		01/16/23	01/17/23	
Surrogate: 1,2-Dichloroethane-d4	97.2 %	70-130		01/16/23	01/17/23	
Surrogate: Toluene-d8	98.0 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2303011
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
Surrogate: n-Nonane	101 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2303009
Chloride	ND	20.0	1	01/16/23	01/17/23	



Sample Data

Targa	Project Name:	Llama Lateral	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	1/20/2023 1:10:32PM

WS22 - 04 0.5'

E301075-36

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Analyst: IY		Batch: 2303006	
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
<i>Surrogate: Bromofluorobenzene</i>	98.2 %	70-130		01/16/23	01/17/23	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	99.4 %	70-130		01/16/23	01/17/23	
<i>Surrogate: Toluene-d8</i>	97.7 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2303006	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
<i>Surrogate: Bromofluorobenzene</i>	98.2 %	70-130		01/16/23	01/17/23	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	99.4 %	70-130		01/16/23	01/17/23	
<i>Surrogate: Toluene-d8</i>	97.7 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: RAS		Batch: 2303011	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
<i>Surrogate: n-Nonane</i>	102 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2303009	
Chloride	ND	20.0	1	01/16/23	01/17/23	



Sample Data

Targa
12600 WCR 91
Midland TX, 79707

Project Name: Llama Lateral
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
1/20/2023 1:10:32PM

WS22 - 05 0.5'

E301075-37

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2303006	
Benzene	ND	0.0250	1	01/16/23	01/17/23	
Ethylbenzene	ND	0.0250	1	01/16/23	01/17/23	
Toluene	ND	0.0250	1	01/16/23	01/17/23	
o-Xylene	ND	0.0250	1	01/16/23	01/17/23	
p,m-Xylene	ND	0.0500	1	01/16/23	01/17/23	
Total Xylenes	ND	0.0250	1	01/16/23	01/17/23	
Surrogate: Bromofluorobenzene	94.6 %	70-130		01/16/23	01/17/23	
Surrogate: 1,2-Dichloroethane-d4	97.8 %	70-130		01/16/23	01/17/23	
Surrogate: Toluene-d8	99.3 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2303006	
Gasoline Range Organics (C6-C10)	ND	20.0	1	01/16/23	01/17/23	
Surrogate: Bromofluorobenzene	94.6 %	70-130		01/16/23	01/17/23	
Surrogate: 1,2-Dichloroethane-d4	97.8 %	70-130		01/16/23	01/17/23	
Surrogate: Toluene-d8	99.3 %	70-130		01/16/23	01/17/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2303011	
Diesel Range Organics (C10-C28)	ND	25.0	1	01/16/23	01/20/23	
Oil Range Organics (C28-C36)	ND	50.0	1	01/16/23	01/20/23	
Surrogate: n-Nonane	96.4 %	50-200		01/16/23	01/20/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: BA		Batch: 2303009	
Chloride	ND	20.0	1	01/16/23	01/17/23	



QC Summary Data

Targa	Project Name:	Llama Lateral	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	1/20/2023 1:10:32PM

Volatile Organic Compounds by EPA 8260B

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2303006-BLK1)

Prepared: 01/16/23 Analyzed: 01/16/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	0.489		0.500		97.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.495		0.500		99.0	70-130			
Surrogate: Toluene-d8	0.493		0.500		98.5	70-130			

LCS (2303006-BS1)

Prepared: 01/16/23 Analyzed: 01/16/23

Benzene	2.57	0.0250	2.50		103	70-130			
Ethylbenzene	2.41	0.0250	2.50		96.2	70-130			
Toluene	2.42	0.0250	2.50		96.9	70-130			
o-Xylene	2.50	0.0250	2.50		100	70-130			
p,m-Xylene	4.84	0.0500	5.00		96.9	70-130			
Total Xylenes	7.35	0.0250	7.50		97.9	70-130			
Surrogate: Bromofluorobenzene	0.503		0.500		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.496		0.500		99.2	70-130			
Surrogate: Toluene-d8	0.500		0.500		100	70-130			

Matrix Spike (2303006-MS1)

Source: E301075-21

Prepared: 01/16/23 Analyzed: 01/16/23

Benzene	2.70	0.0250	2.50	ND	108	48-131			
Ethylbenzene	2.48	0.0250	2.50	ND	99.3	45-135			
Toluene	2.51	0.0250	2.50	ND	100	48-130			
o-Xylene	2.60	0.0250	2.50	ND	104	43-135			
p,m-Xylene	4.98	0.0500	5.00	ND	99.5	43-135			
Total Xylenes	7.58	0.0250	7.50	ND	101	43-135			
Surrogate: Bromofluorobenzene	0.499		0.500		99.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.492		0.500		98.4	70-130			
Surrogate: Toluene-d8	0.485		0.500		97.0	70-130			

Matrix Spike Dup (2303006-MSD1)

Source: E301075-21

Prepared: 01/16/23 Analyzed: 01/16/23

Benzene	2.45	0.0250	2.50	ND	98.1	48-131	9.71	23	
Ethylbenzene	2.30	0.0250	2.50	ND	92.2	45-135	7.40	27	
Toluene	2.33	0.0250	2.50	ND	93.3	48-130	7.47	24	
o-Xylene	2.41	0.0250	2.50	ND	96.3	43-135	7.71	27	
p,m-Xylene	4.63	0.0500	5.00	ND	92.7	43-135	7.12	27	
Total Xylenes	7.04	0.0250	7.50	ND	93.9	43-135	7.32	27	
Surrogate: Bromofluorobenzene	0.498		0.500		99.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.493		0.500		98.6	70-130			
Surrogate: Toluene-d8	0.495		0.500		98.9	70-130			



QC Summary Data

Targa	Project Name:	Llama Lateral	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	1/20/2023 1:10:32PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2303005-BLK1)

Prepared: 01/16/23 Analyzed: 01/17/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	8.00		8.00		100	70-130			

LCS (2303005-BS1)

Prepared: 01/16/23 Analyzed: 01/17/23

Benzene	4.41	0.0250	5.00		88.2	70-130			
Ethylbenzene	4.72	0.0250	5.00		94.4	70-130			
Toluene	4.77	0.0250	5.00		95.5	70-130			
o-Xylene	4.89	0.0250	5.00		97.8	70-130			
p,m-Xylene	9.57	0.0500	10.0		95.7	70-130			
Total Xylenes	14.5	0.0250	15.0		96.4	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.01		8.00		100	70-130			

Matrix Spike (2303005-MS1)

Source: E301075-01

Prepared: 01/16/23 Analyzed: 01/17/23

Benzene	4.83	0.0250	5.00	ND	96.7	54-133			
Ethylbenzene	5.15	0.0250	5.00	ND	103	61-133			
Toluene	5.24	0.0250	5.00	ND	105	61-130			
o-Xylene	5.33	0.0250	5.00	ND	107	63-131			
p,m-Xylene	10.4	0.0500	10.0	ND	104	63-131			
Total Xylenes	15.8	0.0250	15.0	ND	105	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.91		8.00		98.9	70-130			

Matrix Spike Dup (2303005-MSD1)

Source: E301075-01

Prepared: 01/16/23 Analyzed: 01/17/23

Benzene	4.59	0.0250	5.00	ND	91.8	54-133	5.21	20	
Ethylbenzene	4.91	0.0250	5.00	ND	98.1	61-133	4.94	20	
Toluene	4.96	0.0250	5.00	ND	99.1	61-130	5.65	20	
o-Xylene	5.07	0.0250	5.00	ND	101	63-131	5.02	20	
p,m-Xylene	9.93	0.0500	10.0	ND	99.3	63-131	4.95	20	
Total Xylenes	15.0	0.0250	15.0	ND	100	63-131	4.97	20	
Surrogate: 4-Bromochlorobenzene-PID	7.92		8.00		99.0	70-130			



QC Summary Data

Targa	Project Name:	Llama Lateral	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	1/20/2023 1:10:32PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2303005-BLK1) Prepared: 01/16/23 Analyzed: 01/17/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.95		8.00		86.8	70-130			

LCS (2303005-BS2) Prepared: 01/16/23 Analyzed: 01/17/23

Gasoline Range Organics (C6-C10)	46.3	20.0	50.0		92.6	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.35		8.00		91.9	70-130			

Matrix Spike (2303005-MS2) Source: E301075-01 Prepared: 01/16/23 Analyzed: 01/17/23

Gasoline Range Organics (C6-C10)	43.8	20.0	50.0	ND	87.6	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.23		8.00		90.4	70-130			

Matrix Spike Dup (2303005-MSD2) Source: E301075-01 Prepared: 01/16/23 Analyzed: 01/17/23

Gasoline Range Organics (C6-C10)	46.1	20.0	50.0	ND	92.3	70-130	5.23	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.35		8.00		91.8	70-130			



QC Summary Data

Targa	Project Name:	Llama Lateral	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	1/20/2023 1:10:32PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2303006-BLK1) Prepared: 01/16/23 Analyzed: 01/16/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.489		0.500		97.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.495		0.500		99.0	70-130			
Surrogate: Toluene-d8	0.493		0.500		98.5	70-130			

LCS (2303006-BS2) Prepared: 01/16/23 Analyzed: 01/16/23

Gasoline Range Organics (C6-C10)	58.7	20.0	50.0		117	70-130			
Surrogate: Bromofluorobenzene	0.491		0.500		98.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.507		0.500		101	70-130			
Surrogate: Toluene-d8	0.493		0.500		98.6	70-130			

Matrix Spike (2303006-MS2) Source: E301075-21 Prepared: 01/16/23 Analyzed: 01/16/23

Gasoline Range Organics (C6-C10)	51.0	20.0	50.0	ND	102	70-130			
Surrogate: Bromofluorobenzene	0.491		0.500		98.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.504		0.500		101	70-130			
Surrogate: Toluene-d8	0.490		0.500		98.0	70-130			

Matrix Spike Dup (2303006-MSD2) Source: E301075-21 Prepared: 01/16/23 Analyzed: 01/16/23

Gasoline Range Organics (C6-C10)	53.6	20.0	50.0	ND	107	70-130	4.90	20	
Surrogate: Bromofluorobenzene	0.491		0.500		98.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.475		0.500		95.0	70-130			
Surrogate: Toluene-d8	0.488		0.500		97.5	70-130			



QC Summary Data

Targa	Project Name:	Llama Lateral	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	1/20/2023 1:10:32PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: RAS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2303011-BLK1)					Prepared: 01/16/23 Analyzed: 01/20/23				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	54.9		50.0		110	50-200			

LCS (2303011-BS1)					Prepared: 01/16/23 Analyzed: 01/20/23				
Diesel Range Organics (C10-C28)	264	25.0	250		105	38-132			
Surrogate: n-Nonane	48.0		50.0		96.0	50-200			

Matrix Spike (2303011-MS1)					Source: E301075-27		Prepared: 01/16/23 Analyzed: 01/20/23		
Diesel Range Organics (C10-C28)	273	25.0	250	ND	109	38-132			
Surrogate: n-Nonane	48.9		50.0		97.7	50-200			

Matrix Spike Dup (2303011-MSD1)					Source: E301075-27		Prepared: 01/16/23 Analyzed: 01/20/23		
Diesel Range Organics (C10-C28)	267	25.0	250	ND	107	38-132	2.26	20	
Surrogate: n-Nonane	50.1		50.0		100	50-200			



QC Summary Data

Targa	Project Name:	Llama Lateral	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	1/20/2023 1:10:32PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: RAS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2303012-BLK1)

Prepared: 01/16/23 Analyzed: 01/19/23

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	59.1		50.0		118	50-200			

LCS (2303012-BS1)

Prepared: 01/16/23 Analyzed: 01/19/23

Diesel Range Organics (C10-C28)	254	25.0	250		102	38-132			
Surrogate: n-Nonane	49.6		50.0		99.1	50-200			

Matrix Spike (2303012-MS1)

Source: E301075-13

Prepared: 01/16/23 Analyzed: 01/19/23

Diesel Range Organics (C10-C28)	372	25.0	250	115	103	38-132			
Surrogate: n-Nonane	48.3		50.0		96.6	50-200			

Matrix Spike Dup (2303012-MSD1)

Source: E301075-13

Prepared: 01/16/23 Analyzed: 01/19/23

Diesel Range Organics (C10-C28)	370	25.0	250	115	102	38-132	0.619	20	
Surrogate: n-Nonane	48.7		50.0		97.3	50-200			



QC Summary Data

Targa	Project Name:	Llama Lateral	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	1/20/2023 1:10:32PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2303008-BLK1)					Prepared: 01/16/23 Analyzed: 01/16/23				
Chloride	ND	20.0							
LCS (2303008-BS1)					Prepared: 01/16/23 Analyzed: 01/16/23				
Chloride	248	20.0	250		99.3	90-110			
Matrix Spike (2303008-MS1)					Source: E301075-01		Prepared: 01/16/23 Analyzed: 01/16/23		
Chloride	258	20.0	250	ND	103	80-120			
Matrix Spike Dup (2303008-MSD1)					Source: E301075-01		Prepared: 01/16/23 Analyzed: 01/16/23		
Chloride	256	20.0	250	ND	102	80-120	0.836	20	



QC Summary Data

Targa	Project Name:	Llama Lateral	Reported:
12600 WCR 91	Project Number:	21102-0001	
Midland TX, 79707	Project Manager:	Monica Peppin	1/20/2023 1:10:32PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2303009-BLK1)					Prepared: 01/16/23 Analyzed: 01/16/23				
Chloride	ND	20.0							
LCS (2303009-BS1)					Prepared: 01/16/23 Analyzed: 01/16/23				
Chloride	256	20.0	250		103	90-110			
Matrix Spike (2303009-MS1)					Source: E301075-21		Prepared: 01/16/23 Analyzed: 01/16/23		
Chloride	259	20.0	250	ND	104	80-120			
Matrix Spike Dup (2303009-MSD1)					Source: E301075-21		Prepared: 01/16/23 Analyzed: 01/16/23		
Chloride	257	20.0	250	ND	103	80-120	0.495	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Targa	Project Name:	Llama Lateral	
12600 WCR 91	Project Number:	21102-0001	Reported:
Midland TX, 79707	Project Manager:	Monica Peppin	01/20/23 13:10

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Client: Targa Resources (Vertex)
 Project: Llama Lateral
 Sampler: Hunter Klein (H.K.)
 Phone: (575) 361-9884
 Email(s): mpeppin@vertex.ca
 Project Manager:

RUSH?

☐ 1d
☐ 3d

Lab Use Only		Analysis and Method				lab Only	
Lab WO#		GRO/DRO by 8015	BTX by 8021	TPH by 418.1	Chloride by 300.0	Lab Number	N/A (s) / Prsrv
Job Number							
21102-0001							
1 of 4							

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTX by 8021	TPH by 418.1	Chloride by 300.0	Lab Number	Correct Cont/Prsrv
BS22-03 0.5'	1/10/23	8:00	Soil	4oz	X	X	X	X	1	
BS22-04 0.5'	1/10/23	8:05	Soil	4oz	X	X	X	X	2	
BS22-05 0.5'	1/10/23	8:10	Soil	4oz	X	X	X	X	3	
BS22-06 0.5'	1/10/23	8:15	Soil	4oz	X	X	X	X	4	
BS22-07 0.5'	1/10/23	8:40	Soil	4oz	X	X	X	X	5	
BS22-08 0.5'	1/10/23	8:45	Soil	4oz	X	X	X	X	6	
BS22-09 0.5'	1/10/23	8:50	Soil	4oz	X	X	X	X	7	
BS22-10 0.5'	1/10/23	8:55	Soil	4oz	X	X	X	X	8	
BS22-11 0.5'	1/10/23	9:00	Soil	4oz	X	X	X	X	9	
BS22-13 0.5'	1/11/23	8:00	Soil	4oz	X	X	X	X	10	

Relinquished by: (Signature) <u>Hunter Klein</u>	Date <u>1/13/23</u>	Time <u>14:12</u>	Received by: (Signature) <u>Michelle Cuyk</u>	Date <u>1-13-23</u>	Time <u>1412</u>	Lab Use Only	
Relinquished by: (Signature) <u>Michelle Cuyk</u>	Date <u>1-13-23</u>	Time <u>1700</u>	Received by: (Signature) <u>Lorena</u>	Date <u>1-13-23</u>	Time <u>1800</u>	**Received on Ice <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>	

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

<input type="checkbox"/> Sample(s) dropped off after hours to a secure drop off area.	Chain of Custody <u>Roddy: [Signature]</u> 1-14-23 8:00am	Notes/Billing info:
---------------------------------------------------------------------------------------	--------------------------------------------------------------	---------------------



3100 US Highway 64 Farmington, NM 87401
 Phone: (505) 424-0075 Fax: (505) 424-1807
 Email: info@envirotech-inc.com Website: www.envirotech-inc.com

PH: 505-424-0075 FX: 505-424-1807
 PH: 505-424-0075 FX: 505-424-1807



Client: Targa Resources (Vertex)
 Project: Hama Lateral
 Sampler: Hunter Klein (H.K.)
 Phone: (575) 361-9880
 Email(s): mpeppin@vertex.ca
 Project Manager:

RUSH?

☐ 1d☐ 3d

Lab Use Only		Analysis and Method								Lab Only		
Lab WO#		GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0						Lab Number	N/A (s) Prsrv
Job Number												
PE301075												
21102-0001												

Page 2 of 4

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0								Lab Number	Correct Cont/Prsrv
BS22-24 0.5'	1/11/23	10:15	Soil	4oz	X	X	X	X								11	
BS22-25 0.5'	1/11/23	10:20	Soil	4oz	X	X	X	X								12	
BS22-26 0.5'	1/12/23	8:00	Soil	4oz	X	X	X	X								13	
BS22-27 0.5'	1/12/23	8:05	Soil	4oz	X	X	X	X								14	
BS22-28 0.5'	1/12/23	8:10	Soil	4oz	X	X	X	X								15	
BS22-29 0.5'	1/12/23	8:15	Soil	4oz	X	X	X	X								16	
BS22-30 0.5'	1/12/23	8:20	Soil	4oz	X	X	X	X								17	
BS22-31 0.5'	1/12/23	8:25	Soil	4oz	X	X	X	X								18	
BS22-32 0.5'	1/12/23	8:30	Soil	4oz	X	X	X	X								19	
BS22-33 0.5'	1/12/23	8:35	Soil	4oz	X	X	X	X								20	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only	
<i>Hunter Klein</i>	1/13/23	14:13	<i>Michelle Cuy</i>	1-13-23	14:12	**Received on Ice <input checked="" type="checkbox"/> N	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1 _____ T2 _____ T3 _____	
<i>Michelle Cuy</i>	1-13-23	1700	<i>Lozano</i>	1-13-23	1800	AVG Temp °C <u>4</u>	

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

<input type="checkbox"/> Sample(s) dropped off after hours to a secure drop off area.	Chain of Custody	Notes/Billing info:
	<i>Road by: Ali</i> 1-14-23 8:00am	



5796 US Highway 64, Farmington, NM 87401

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

 envirotech-inc.com
 laboratory@envirotech-inc.com

Client: Targa Resources (Vertex)
 Project: Ulama Lateral
 Sampler: Hunter Klein (H.K.)
 Phone: (575) 361-9880
 Email(s): mpeppin@vertex.ca
 Project Manager:

RUSH?

☐ 1d
☐ 3d

Page 3 of 4

Lab Use Only		Analysis and Method								Lab Only	
Lab WO#		GRO/DRO by 8015	BTX by 8021	TPH by 8028	Chloride by 300.0					Lab Number	N/A (s) / Prsrv
Job Number											
PE30075											
21102-0001											

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTX by 8021	TPH by 8028	Chloride by 300.0							Lab Number	Correct Cont/Prsrv
BS22-14 0.5'	1/11/23	8:05	Soil	4oz	X	X	X	X							21	
BS22-15 0.5'	1/11/23	8:10	Soil	4oz	X	X	X	X							22	
BS22-16 0.5'	1/11/23	8:15	Soil	4oz	X	X	X	X							23	
BS22-17 0.5'	1/11/23	8:20	Soil	4oz	X	X	X	X							24	
BS22-18 0.5'	1/11/23	8:25	Soil	4oz	X	X	X	X							25	
BS22-19 0.5'	1/11/23	8:30	Soil	4oz	X	X	X	X							26	
BS22-20 0.5'	1/11/23	8:35	Soil	4oz	X	X	X	X							27	
BS22-21 0.5'	1/11/23	10:00	Soil	4oz	X	X	X	X							28	
BS22-22 0.5'	1/11/23	10:05	Soil	4oz	X	X	X	X							29	
BS22-23 0.5'	1/11/23	10:10	Soil	4oz	X	X	X	X							30	

Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	Lab Use Only		
<u>Hunter Klein</u>		1/13/23	14:13	<u>Michelle Gyle</u>		1-13-23	1412	**Received on Ice <input checked="" type="radio"/> Y / <input type="radio"/> N		
<u>Michelle Gyle</u>		1-13-23	1700	<u>Lozano Lin</u>		1-13-23	1800	T1 _____ T2 _____ T3 _____		
								AVG Temp °C <u>4</u>		

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

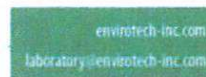
**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

<input type="checkbox"/> Sample(s) dropped off after hours to a secure drop off area.	Chain of Custody Received by: <u>Ally</u> 1-14-23	Notes/Billing info: 8:00am
---------------------------------------------------------------------------------------	------------------------------------------------------	-------------------------------



5710 US Highway 64 Farmington, NM 87401
 Three Springs • 66 Westside Street Suite 111 Durango, CO 81301

Ph: 505 622 0513 • Fx: 505 622 1662
 Ph: 970 258 0613 • Fx: 970 262 1879



Client: Targa Resources (Vertex)
 Project: Llama Lateral
 Sampler: Hunter Klein (H.K.)
 Phone: (575) 361-9880
 Email(s): mpeppin@vertex.ca
 Project Manager:

RUSH?

☐ 1d
☐ 3d

Lab Use Only		Analysis and Method								Lab Only	
Lab WO#		GRO/DRO by 8015	BTEX by 8021	TPH by 418.4	Chloride by 300.0					Lab Number	N/A (s) / Prsrv
Job Number											
PE301075											
21102-0001											

Page 4 of 4

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTEX by 8021	TPH by 418.4	Chloride by 300.0									Lab Number	Correct Cont/Prsrv
BS22-34 0.5'	1/13/23	8:00	Soil	4oz	X	X	X	✓									31	
BS22-35 0.5'	1/13/23	8:05	Soil	4oz	X	X	X	✓									32	
BS22-36 0.5'	1/13/23	8:10	Soil	4oz	X	X	X	✓									33	
BS22-40 0.5'	1/13/23	8:15	Soil	4oz	X	X	X	✓									34	
BS22-41 0.5' 2.5'	1/13/23	8:20	Soil	4oz	X	X	X	✓									35	
WS22-04 0.5'	1/13/23	8:25	Soil	4oz	X	X	X	✓									36	
WS22-05 0.5'	1/13/23	8:30	Soil	4oz	X	X	X	✓									37	

Relinquished by: (Signature) <i>Hunter Klein</i>	Date 1/13/23	Time 14:13	Received by: (Signature) <i>Michelle Curb</i>	Date 1-13-23	Time 1412	Lab Use Only	
Relinquished by: (Signature) <i>Michelle Curb</i>	Date 1-13-23	Time 1700	Received by: (Signature) <i>Lorenz</i>	Date 1-13-23	Time 1800	**Received on Ice <input checked="" type="radio"/> Y / <input type="radio"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>	

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☐ Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Notes/Billing info:

 Road by: *Alvin* 1-14-23 8:00am


5796 US Highway 64, Farmington, NM 87401

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

 envirotech-inc.com
 laboratory@envirotech-inc.com

Envirotech Analytical Laboratory

Printed: 1/16/2023 10:33:52AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Targa	Date Received:	01/14/23 08:00	Work Order ID:	E301075
Phone:	(432) 999-8675	Date Logged In:	01/16/23 08:21	Logged In By:	Caitlin Christian
Email:	m.peppin@vertex.ca	Due Date:	01/20/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? No

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:

Monica Peppin



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Vertex Resource Services Inc.

Project Name: Llama Lateral

Work Order: E302020

Job Number: 21102-0001

Received: 2/4/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
2/6/23

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.
Envirotech Inc. holds the NM SDWA certification for data reported. (Lab #NM00979)

Date Reported: 2/6/23

Monica Peppin
3101 Boyd Drive
Carlsbad, NM 88220



Project Name: Llama Lateral
Workorder: E302020
Date Received: 2/4/2023 6:30:00AM

Monica Peppin,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 2/4/2023 6:30:00AM, under the Project Name: Llama Lateral.

The analytical test results summarized in this report with the Project Name: Llama Lateral apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

Alexa Michaels
Sample Custody Officer
Office: 505-632-1881
labadmin@envirotech-inc.com

Field Offices:

Southern New Mexico Area
Lynn Jarboe
Technical Representative/Client Services
Office: 505-421-LABS(5227)
Cell: 505-320-4759
ljjarboe@envirotech-inc.com

West Texas Midland/Odessa Area
Rayny Hagan
Technical Representative
Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 02/06/23 12:09
------------------------------------------------------------------------	---------------------------------------------------------------------------------------------	-----------------------------

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BS22 - 05 0.5'	E302020-01A	Soil	01/27/23	02/04/23	Glass Jar, 4 oz.
BS22 - 06 0.5'	E302020-02A	Soil	01/27/23	02/04/23	Glass Jar, 4 oz.
BS22 - 10 0.5'	E302020-03A	Soil	01/27/23	02/04/23	Glass Jar, 4 oz.
BS22 - 26 0.5'	E302020-04A	Soil	01/27/23	02/04/23	Glass Jar, 4 oz.



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 2/6/2023 12:09:50PM
------------------------------------------------------------------------	---------------------------------------------------------------------------------------------	----------------------------------

BS22 - 05 0.5'

E302020-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2305070
Benzene	ND	0.0250	1	02/04/23	02/04/23	
Ethylbenzene	ND	0.0250	1	02/04/23	02/04/23	
Toluene	ND	0.0250	1	02/04/23	02/04/23	
o-Xylene	ND	0.0250	1	02/04/23	02/04/23	
p,m-Xylene	ND	0.0500	1	02/04/23	02/04/23	
Total Xylenes	ND	0.0250	1	02/04/23	02/04/23	
Surrogate: Bromofluorobenzene	93.9 %	70-130		02/04/23	02/04/23	
Surrogate: 1,2-Dichloroethane-d4	99.3 %	70-130		02/04/23	02/04/23	
Surrogate: Toluene-d8	102 %	70-130		02/04/23	02/04/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2305070
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/04/23	02/04/23	
Surrogate: Bromofluorobenzene	93.9 %	70-130		02/04/23	02/04/23	
Surrogate: 1,2-Dichloroethane-d4	99.3 %	70-130		02/04/23	02/04/23	
Surrogate: Toluene-d8	102 %	70-130		02/04/23	02/04/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2306001
Diesel Range Organics (C10-C28)	ND	25.0	1	02/06/23	02/06/23	
Oil Range Organics (C28-C36)	ND	50.0	1	02/06/23	02/06/23	
Surrogate: n-Nonane	111 %	50-200		02/06/23	02/06/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2305073
Chloride	ND	20.0	1	02/04/23	02/04/23	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
2/6/2023 12:09:50PM

BS22 - 06 0.5'

E302020-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2305070
Benzene	ND	0.0250	1	02/04/23	02/04/23	
Ethylbenzene	ND	0.0250	1	02/04/23	02/04/23	
Toluene	ND	0.0250	1	02/04/23	02/04/23	
o-Xylene	ND	0.0250	1	02/04/23	02/04/23	
p,m-Xylene	ND	0.0500	1	02/04/23	02/04/23	
Total Xylenes	ND	0.0250	1	02/04/23	02/04/23	
Surrogate: Bromofluorobenzene	93.3 %	70-130		02/04/23	02/04/23	
Surrogate: 1,2-Dichloroethane-d4	95.1 %	70-130		02/04/23	02/04/23	
Surrogate: Toluene-d8	102 %	70-130		02/04/23	02/04/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2305070
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/04/23	02/04/23	
Surrogate: Bromofluorobenzene	93.3 %	70-130		02/04/23	02/04/23	
Surrogate: 1,2-Dichloroethane-d4	95.1 %	70-130		02/04/23	02/04/23	
Surrogate: Toluene-d8	102 %	70-130		02/04/23	02/04/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2306001
Diesel Range Organics (C10-C28)	ND	25.0	1	02/06/23	02/06/23	
Oil Range Organics (C28-C36)	ND	50.0	1	02/06/23	02/06/23	
Surrogate: n-Nonane	110 %	50-200		02/06/23	02/06/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2305073
Chloride	ND	20.0	1	02/04/23	02/04/23	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
2/6/2023 12:09:50PM

BS22 - 10 0.5'

E302020-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2305070
Benzene	ND	0.0250	1	02/04/23	02/04/23	
Ethylbenzene	ND	0.0250	1	02/04/23	02/04/23	
Toluene	ND	0.0250	1	02/04/23	02/04/23	
o-Xylene	ND	0.0250	1	02/04/23	02/04/23	
p,m-Xylene	ND	0.0500	1	02/04/23	02/04/23	
Total Xylenes	ND	0.0250	1	02/04/23	02/04/23	
Surrogate: Bromofluorobenzene	91.9 %	70-130		02/04/23	02/04/23	
Surrogate: 1,2-Dichloroethane-d4	97.3 %	70-130		02/04/23	02/04/23	
Surrogate: Toluene-d8	103 %	70-130		02/04/23	02/04/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2305070
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/04/23	02/04/23	
Surrogate: Bromofluorobenzene	91.9 %	70-130		02/04/23	02/04/23	
Surrogate: 1,2-Dichloroethane-d4	97.3 %	70-130		02/04/23	02/04/23	
Surrogate: Toluene-d8	103 %	70-130		02/04/23	02/04/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2306001
Diesel Range Organics (C10-C28)	ND	25.0	1	02/06/23	02/06/23	
Oil Range Organics (C28-C36)	ND	50.0	1	02/06/23	02/06/23	
Surrogate: n-Nonane	101 %	50-200		02/06/23	02/06/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2305073
Chloride	ND	20.0	1	02/04/23	02/04/23	



Sample Data

Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad NM, 88220

Project Name: Llama Lateral
Project Number: 21102-0001
Project Manager: Monica Peppin

Reported:
2/6/2023 12:09:50PM

BS22 - 26 0.5'

E302020-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2305070
Benzene	ND	0.0250	1	02/04/23	02/04/23	
Ethylbenzene	ND	0.0250	1	02/04/23	02/04/23	
Toluene	ND	0.0250	1	02/04/23	02/04/23	
o-Xylene	ND	0.0250	1	02/04/23	02/04/23	
p,m-Xylene	ND	0.0500	1	02/04/23	02/04/23	
Total Xylenes	ND	0.0250	1	02/04/23	02/04/23	
Surrogate: Bromofluorobenzene	91.5 %	70-130		02/04/23	02/04/23	
Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		02/04/23	02/04/23	
Surrogate: Toluene-d8	101 %	70-130		02/04/23	02/04/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2305070
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/04/23	02/04/23	
Surrogate: Bromofluorobenzene	91.5 %	70-130		02/04/23	02/04/23	
Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		02/04/23	02/04/23	
Surrogate: Toluene-d8	101 %	70-130		02/04/23	02/04/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2306001
Diesel Range Organics (C10-C28)	ND	25.0	1	02/06/23	02/06/23	
Oil Range Organics (C28-C36)	ND	50.0	1	02/06/23	02/06/23	
Surrogate: n-Nonane	102 %	50-200		02/06/23	02/06/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2305073
Chloride	ND	20.0	1	02/04/23	02/04/23	



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 2/6/2023 12:09:50PM
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Volatile Organic Compounds by EPA 8260B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2305070-BLK1)

Prepared: 02/04/23 Analyzed: 02/04/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	0.452		0.500		90.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.479		0.500		95.8	70-130			
Surrogate: Toluene-d8	0.504		0.500		101	70-130			

LCS (2305070-BS1)

Prepared: 02/04/23 Analyzed: 02/04/23

Benzene	2.55	0.0250	2.50		102	70-130			
Ethylbenzene	2.53	0.0250	2.50		101	70-130			
Toluene	2.61	0.0250	2.50		104	70-130			
o-Xylene	2.68	0.0250	2.50		107	70-130			
p,m-Xylene	5.13	0.0500	5.00		103	70-130			
Total Xylenes	7.82	0.0250	7.50		104	70-130			
Surrogate: Bromofluorobenzene	0.474		0.500		94.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.493		0.500		98.6	70-130			
Surrogate: Toluene-d8	0.510		0.500		102	70-130			

LCS Dup (2305070-BSD1)

Prepared: 02/04/23 Analyzed: 02/04/23

Benzene	2.47	0.0250	2.50		98.9	70-130	3.03	23	
Ethylbenzene	2.49	0.0250	2.50		99.5	70-130	1.58	27	
Toluene	2.54	0.0250	2.50		102	70-130	2.43	24	
o-Xylene	2.62	0.0250	2.50		105	70-130	2.28	27	
p,m-Xylene	5.03	0.0500	5.00		101	70-130	1.95	27	
Total Xylenes	7.66	0.0250	7.50		102	70-130	2.06	27	
Surrogate: Bromofluorobenzene	0.467		0.500		93.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.482		0.500		96.4	70-130			
Surrogate: Toluene-d8	0.516		0.500		103	70-130			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Llama Lateral Project Number: 21102-0001 Project Manager: Monica Peppin	Reported: 2/6/2023 12:09:50PM
------------------------------------------------------------------------	---------------------------------------------------------------------------------------------	--------------------------------------

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2305070-BLK1)

Prepared: 02/04/23 Analyzed: 02/04/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.452		0.500		90.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.479		0.500		95.8	70-130			
Surrogate: Toluene-d8	0.504		0.500		101	70-130			

LCS (2305070-BS2)

Prepared: 02/04/23 Analyzed: 02/04/23

Gasoline Range Organics (C6-C10)	56.2	20.0	50.0		112	70-130			
Surrogate: Bromofluorobenzene	0.463		0.500		92.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.492		0.500		98.3	70-130			
Surrogate: Toluene-d8	0.510		0.500		102	70-130			

LCS Dup (2305070-BSD2)

Prepared: 02/04/23 Analyzed: 02/04/23

Gasoline Range Organics (C6-C10)	59.0	20.0	50.0		118	70-130	4.92	20	
Surrogate: Bromofluorobenzene	0.457		0.500		91.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.495		0.500		98.9	70-130			
Surrogate: Toluene-d8	0.518		0.500		104	70-130			



QC Summary Data

Vertex Resource Services Inc.	Project Name:	Llama Lateral	Reported:
3101 Boyd Drive	Project Number:	21102-0001	
Carlsbad NM, 88220	Project Manager:	Monica Peppin	2/6/2023 12:09:50PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: RAS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2306001-BLK1)					Prepared: 02/06/23 Analyzed: 02/06/23				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	53.4		50.0		107	50-200			

LCS (2306001-BS1)					Prepared: 02/06/23 Analyzed: 02/06/23				
Diesel Range Organics (C10-C28)	281	25.0	250		112	38-132			
Surrogate: n-Nonane	57.9		50.0		116	50-200			

LCS Dup (2306001-BSD1)					Prepared: 02/06/23 Analyzed: 02/06/23				
Diesel Range Organics (C10-C28)	287	25.0	250		115	38-132	1.95	20	
Surrogate: n-Nonane	59.1		50.0		118	50-200			



QC Summary Data

Vertex Resource Services Inc.	Project Name:	Llama Lateral	Reported:
3101 Boyd Drive	Project Number:	21102-0001	
Carlsbad NM, 88220	Project Manager:	Monica Peppin	2/6/2023 12:09:50PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2305073-BLK1)					Prepared: 02/04/23 Analyzed: 02/04/23				
Chloride	ND	20.0							
LCS (2305073-BS1)					Prepared: 02/04/23 Analyzed: 02/04/23				
Chloride	255	20.0	250		102	90-110			
Matrix Spike (2305073-MS1)					Source: E302019-01		Prepared: 02/04/23 Analyzed: 02/04/23		
Chloride	270	20.0	250	27.7	96.9	80-120			
Matrix Spike Dup (2305073-MSD1)					Source: E302019-01		Prepared: 02/04/23 Analyzed: 02/04/23		
Chloride	269	20.0	250	27.7	96.7	80-120	0.205	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Vertex Resource Services Inc.	Project Name:	Llama Lateral	
3101 Boyd Drive	Project Number:	21102-0001	Reported:
Carlsbad NM, 88220	Project Manager:	Monica Peppin	02/06/23 12:09

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

laboratory@envirotech-inc.com

Envirotech Analytical Laboratory

Printed: 2/6/2023 8:58:08AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Vertex Resource Services Inc.	Date Received:	02/04/23 06:30	Work Order ID:	E302020
Phone:	(575) 748-0176	Date Logged In:	02/03/23 15:45	Logged In By:	Caitlin Christian
Email:	mpeppin@vertex.ca	Due Date:	02/06/23 17:00 (0 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? No

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 189465

CONDITIONS

Operator: Targa Northern Delaware, LLC. 110 W. 7th Street, Suite 2300 Tulsa, OK 74119	OGRID: 331548
	Action Number: 189465
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
scwells	Closure is approved. NOTE: for future remedial projects, any chemical used for treatment will require prior authorization by OCD.	1/26/2024