

PARTITION FEDERAL CLOSURE REQUEST

API NO. 30-015-43421 Unit Letter G, Section 24, Township 17S, Range 31E EDDY COUNTY, NEW MEXICO

DATE OF RELEASE: 03/15/2020 INCIDENT NO. NRM2008663010

02/11/25 Prepared by:



February 11, 2025

New Mexico Energy, Mineral & Natural Resources NMOCD District II C/O Mike Bratcher, Robert Hamlet & Jennifer Nobui 811 S. First Street Artesia, NM 88210

Mack Energy Corporation 11344 Lovington HWY Artesia, NM 88210

Subject: Closure Request for Mack Energy Corporation – Partition Federal

API No. 30-015-43421 Incident No. NRM2008663010 Unit Letter G, Section 24, Township 17 South, Range 31 East Eddy County, New Mexico

To Whom it May Concern:

Mack Energy has retained Energy Staffing Services, LLC (ESS) to conduct a spill assessment for the Partition Federal (hereafter referred to as the "Partition") for the crude oil release that occurred on March 15th, 2020. Vertex Resource Services INC. was the owner of records at the time of the release. Mack Energy provided the initial notification of the release to the New Mexico Oil Conservation Division (NMOCD), District II Office on March 16th, 2020. Mack Energy also submitted the initial C141 Release Notification, along with the spill calculator used to determine the volume of release (attached) on March 26th, 2020. The NMOCD accepted the C141 as record on March 30th, 2020, and assigned the incident number of NRM2008663010. (Notification of correspondence is attached).

This report provides the detailed description of the spill assessment, delineation, and remedial activities, which demonstrate that the closure criteria has been established in the 19.15.29.12 New Mexico Administrative Code (NMAC: New Mexico Oil Conservation Division 2018) have been met and all applicable regulations have been followed. This document is intended to serve as the final report to obtain approval from the NMOCD for the closure of the above-mentioned release.

Incident Description

On March 15th, 2020, a pipe fitting on the oil lact split open. This caused approximately 90 barrels of crude oil to be released onto the well pad. The release ran southwest off the well pad and into an adjacent pasture.

Upon discovery of the release, Vertex was dispatched to the site via Mack Energy where approximately 60 barrels of crude oil was able to be recovered. Due to Vertex being the owner of record at the time of the release, ESS does not have any initial site photos for this report.

Site Characterization

The release at the Partition occurred on Federal Land and is located at 32.823697 latitude and - 103.822709 longitude, 5.3 miles southwest of Maljamar, New Mexico. The legal description of the site is Unit Letter G, Section 24, Township 17 South, and Range 31 East. The site is located in Eddy County, New Mexico. Please see site schematic attached.

The Partition consists of production lines and is near production facilities and well pads. The area of the release occurred on the well pad and in the pasture area of the Partition. The elevation is 3,908 feet. The area is historically and primarily dominated by black grama, dropseed, little bluestem, and other perennial grasses and forbs. Please find the attached Rangeland and Vegetation Classification information attached.

The United States Department of Agriculture Natural Resources Conservation Services indicated that the spoil type of the Partition consists of 100% Kermit-Berino find sands. (Soil Map Attached). In the area of the Partition, the FEMA National Flood Hazard Layer indicates that there is 0.2% chance of a flood hazard with a 1% chance of a flood with an average depth of one foot or with drainage areas of less than one square mile. (See Map Attached).

There is "low potential" for Karst Geology to be present near the Partition, according to the *United States Department of the Interior, Bureau of Land Management*. Please find the Karst Map attached herein.

There is no surface water located near or around the Partition. The site is not near a continuously flowing watercourse and or lakebed within ½ a mile from the release. No other critical or community features were at the Partition site. (Attached Watercourse Map).

The nearest and most recent water well to the site according to the *New Mexico Office of the State Engineer* is RA13234 POD1, drilled in 2022 with a well depth of 104 feet and no groundwater data available. This well is located 1,237 yards from the site. The second well is RA13286 POD1, drilled in 2023 with a well depth of 101 feet and no groundwater data available, located 2,403 yards from the site. The third well is RA13324 POD1, drilled in 2023 with a well depth of 55 feet and no groundwater data available. This well is located 4,571 yards from the site. The fourth well is RA10175, drilled in 2002 with a well depth of 158 feet and no

groundwater data available, located 4,808 yards from the site. The fifth well is RA12020 POD1, drilled in 2013 with a well depth of 120 feet and a groundwater depth of 81 feet. This well is located 4,836 yards from the site. An extended groundwater search was conducted using the OSE POD Location Mapping System and has been determined that, no other well or groundwater were found within a ½ mile radius of the Partition release. Please find the NMOSE, OSE POD, and groundwater map attached to this report.

Closure Criteria Determination

The Closure Criteria for Soils impacted by a Release is shown in the chart below. With no groundwater data available within a ½ mile radius from the release point, being on Federal Land and with having "low karst potential", the site fell under <50' to groundwater. This is only due to not having any recent or available water depths.

DGW	Constituent	Method	Limit
≤ 50′	Chloride	EPA 300.0 OR SM4500 CLB	600 mg/kg
	TPH (GRO + DRO+ MRO)	EPA SW-846 METHOD 8015M	100 mg/kg
	GRO + DRO	EPA SW-846 METHOD 8015M	50 mg/kg
	BTEX	EPA SW-846 METHOD 8021B OR 8260B	10 mg/kg
	Benzene	EPA SW-846 METHOD 8021B OR 8260B	10 mg/kg

Soil Remediation Action Levels

ESS has provided sufficient data that this release has impacted soil at the Partition release site and that the protocol is consistent with the remediation/abatement goals and objectives set forth in the NMOCD Closure Criteria for Soils Impacted by a Release, dated August 14, 2018. This document provided direction for Mack Energy's initial response actions, site assessment and sample procedures conducted by ESS Staff. We would like to present to you the following information concerning the delineation process for the release detailed herein.

Soil Sampling Procedures

Soil sampling for laboratory analysis was conducted according to the NMOCD – approved industry standards. Accepted NMOCD soil sampling procedures and laboratory analytical methods are as follows:

- Collect clean samples in airtight glass jars supplied by laboratory to conduct the analysis.
- Each sample jar was labelled with site and sample information.
- Samples were kept in and stored in a cool place and packed on ice.
- Promptly ship sample to the lab for analysis following the chain of custody procedures.

The following lab analysis method was used for each bottom hole (vertical) and sidewall sample (horizontal) was submitted to Envirotech Analytical Laboratory:

Volatile Organics by EPA 8021B

- Benzene, Toluene, Ethylbenzene, p.m. Xylene, o-Xylene and Total Xylenes
 Nonhalogenated Organics by EPA 8015D GRO
 - Gasoline Range Organics (C6-C10)

Nonhalogenated Organics by EPA 8015D – DRO/ORO

- Diesel Range Organics (C10-C28)
- Oil Range Organics (C28-C40)

Anions by EPA 300.0/9056A

Chloride

Release Investigation Data

On August 3rd, 2020, an initial release characterization was conducted by Vertex in which they obtained a total of 21 sample points across the release area. Each of the soil samples were field tested using an electrical conductivity (EC) meter, photoionization detector, and a PetroFlag unit.

On August 21st, 2020, Vertex submitted a remediation plan to Mack Energy in which they proposed that "areas identified with contaminant concentrations approaching, or above, the closure criteria to be remediated through excavation and removal of contaminated soil by use of mechanical equipment" and that remediation should "include excavation of the entire release footprint of approximately 7,180 square feet, to depths ranging between one and four feet below ground surface (bgs) as determined by the initial site characterization sampling".

On December 9th, 2020, Mack Energy submitted the remediation plan to the *State of New Mexico Oil Conservation Division (NMOCD)*.

The remediation plan was approved with conditions by the *NMOCD* on August 16th, 2021. The conditions stated were "the workplan/remediation plan is approved with the following conditions: Sidewall/floor samples need to comply with the strictest closure criteria limits 600 mg/kg for Chlorides and 100 mg/kg TPH".

On October 3rd, 2021, Mack Energy retained ESS to conduct the remaining delineation and remediation of the Partition. Upon review of the data collected by Vertex, it was determined that additional sampling would need to be conducted during the remediation process to verify concentration levels.

On November 17th, 2021, ESS arrived on site of the Partition, set delineation sample points, GPS'd each sample point, and began obtaining surface samples. Each surface sample was field tested, logged, then submitted to Envirotech Laboratory for confirmation. A total of 11 vertical sample points were placed along with 12 horizontal sample points. Each sample point was then sampled by use of hand auger and backhoe in 1' and 2' intervals. Bottom hole samples were then submitted to the lab for confirmation. Please see the delineation sample data below, with

lab data indicated in yellow. Attached to this report you will find the sample data, delineation sample map, and lab analysis.

SP ID	Depth	Titr	PID	L-BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL
SP1	SURFACE	320	L	ND	ND	ND	ND	ND	253
	21	160	– Ļ						
	4'	160	- L	ND	ND	ND	ND	ND	ND
SP2	SURFACE	80	Н	0.234	ND	8590	4440	13030	ND
	2'	80	L						
	4'	80	L	ND	ND	ND	ND	ND	ND
SP3	SURFACE	80	Н	ND	ND	6180	2560	8740	ND
	2'	80	L						
	4'	80	L	ND	ND	ND	ND	ND	ND
- TU-31				TO VENTUR					Turk of
SP4	SURFACE	160	L	ND	ND	ND	ND	ND	ND
	2'	160	L						
	4'	80	L	ND	ND	ND	ND	ND	ND
SP5	SURFACE	80	L	ND	ND	ND	ND	ND	ND
	21	80	L						
	4'	80	L	ND	ND	ND	ND	ND	ND
					100	ly fysia			
SP6	SSURFACE	160	L	ND	ND	ND	ND	ND	ND
	2'	80	L						
	4'	80	L	ND	ND	ND	ND	ND	ND
SP7	SURFACE	160	Н	ND	ND	70.6	133	203.6	ND
- 2	2'	160	L						
	4'	80	L	ND	ND	ND	ND	ND	225
SP8	SURFACE	80	L	ND	ND	ND	ND	ND	ND
	2'	80	L						
	4'	80	L	ND	ND	ND	ND	ND	ND
No.		RIMOIS IN							
SP9	SURFACE	160	L	ND	ND	ND	ND	ND	ND
	2'	80	L						
	4'	80	L	ND	ND	ND	ND	ND	ND
Market &									
SP10	SURFACE	80	L	ND	ND	ND	ND	ND	ND

	2'	80	L						
	4'	80	L	ND	ND	ND	ND	ND	ND
								THE RE	
SP11	SURFACE	80	L	ND	ND	ND	ND	ND	ND
	2'	- 80	L						
	4'	80	L	ND	ND	ND	ND	ND	ND
			The season			THE SAME	Bass (M)		
SW1	SURF	160	L	ND	ND	ND	ND	ND	ND
	1	160							
	2	160	L	ND	ND	ND	ND	ND	ND
				110	THE RES	415	210	110	N.S.
SW2	SURF	240	Ļ	ND	ND	ND	ND	ND	ND
	1	160							
	2	160	L Completely	ND	ND	ND	ND	ND	ND
100 3 3						115			
SW3	SURF	160	L	ND	ND	ND	ND	ND	59.2
	1	160							
S	2	160	L	ND	ND	ND	ND	ND	56.1
271 64		100						MILA VIII	
SW4	SURF	160	L	ND	ND	ND	ND	ND	53.6
	1	160							
	2	160	L	ND	ND	ND	ND	ND	51.4
SW5	SURF	160	L	ND	ND	ND	ND	ND	ND
3003	1	160	L	ND	IND	ND	ND	ND	IND
-	2	160	L	ND	ND	ND	ND	ND	ND
G PEG		100	K BJASSE	שאו	ND	IND	ND	ND	IND
SW6	SURF	160	L	ND	ND	ND	ND	ND	ND
3110	1	160		110	110	112	140	110	, N.J.
	2	160	L	ND	ND	ND	ND	ND	ND
			4.15.14					10250	1 14.79
SW7	SURF	160	L	ND	ND	ND	ND	ND	ND
	1	160							
	2	160	L	ND	ND	ND	ND	ND	ND
SW8	SURF	160	L	ND	ND	ND	ND	ND	ND
	1	160							
	2	160	L	ND	ND	ND	ND	ND	ND
5 0000								13.7.4° FI	
SW9	SURF	160	L	ND	ND	ND	ND	ND	ND
	1	160							

	2	160	L	ND	ND	ND	ND	ND	ND
71							Rail Land		
SW10	SURF	160	L	ND	ND	ND	ND	ND	ND
	1	160							
	2	160	Ł	ND	ND	ND	ND	ND	ND
						De A.F			
SW11	SURF	160	L	ND	ND	ND	ND	ND	ND
	1	160	L						
	2	160	Н	ND	ND	46.8	73.3	120.1	246
	3	240							
	4	160	L	ND	ND	ND	ND	ND	ND
SW12	SURF	160	Н	ND	ND	48.8	78.7	127.5	284
	1	160							
	2	160	Н	ND	ND	50	ND	50	ND
	3	320							
	4	160	L	ND	ND	ND	ND	ND	ND
G PATUR									

Please see the delineation photos attached herein. Due to the employee at the time work was being conducted is no longer being employed with ESS, delineation photos are limited for this report.

On July 21st, 2023, ESS notified the OCD for the start of the composite phase.

On August 9th, 2023, ESS crew began obtaining 200 square foot composites from the excavation area. A total of 73 bottom hole composites were obtained, field tested and submitted to the lab for confirmation. Please find the composite sample data below as well as attached to this report followed by the lab confirmation data.

SP ID	Depth	Titr	PID	L-BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL
COMP1	1	240	L	ND	ND	ND	ND	ND	25.2
COMP2	1	240	L	ND	ND	ND	ND	ND	25.3
			1 21 1						
COMP3	1	240	L	ND	ND	ND	ND	ND	25
COMP4	1	240	L	ND	ND	ND	ND	ND	24.9
COMP5	1	240	L	ND	ND	ND	ND	ND	25.4
					Kajirkin				
COMP6	1	160	L	ND	ND	ND	ND	ND	ND

What Silver	u lev							FY 572 5	
СОМР7	1	160	L	ND	ND	ND	ND	ND	ND
COMP8	1	160	L	ND	ND	ND	ND	ND	ND
СОМР9	1	160	L	ND	ND	ND	ND	ND	ND
COMP10	1	160	L	ND	ND	ND	ND	ND	ND
COMP11	1	160	L	ND	ND	ND	ND	ND	ND
COMP12	1	160	L	ND	ND	ND	ND	ND	ND
COMP13	1	160	L	ND	ND	ND	ND	ND	ND
COMP14	1	160	L	ND	ND	ND	ND	ND	ND
COMP15	1	160	L	ND	ND	ND	ND	ND	ND
COMP16	1	160	L	ND	ND	ND	ND	ND	ND
COMP17	1	160	L	ND	ND	ND	ND	ND	ND
COMP18	1	160	L	ND	ND	ND	ND	ND	ND
COMP19	1	160	L	ND	ND	ND	ND	ND	ND
COMP20	1	160	L	ND	ND	ND	ND	ND	ND
COMP21	1	240	L CHIA	ND	ND	ND	ND	ND	ND
COMP22	1	240	L	ND	ND	ND	ND	ND	ND
COMP23	1	240	L L	ND	ND	ND	ND	ND	ND
COMP24	1	240	L L	ND	ND	ND	ND	ND	ND
COMP25	1	240	L	ND	ND	ND	ND	ND	ND
COMP26	1	240	L	ND	ND	ND	ND	ND	ND

COMP27	1	240	L	ND	ND	ND	ND	ND	ND
COMP28	1	240	L	ND	ND	ND	ND	ND	ND
COMP29	1	240	L	ND	ND	ND	ND	ND	ND
COMP29	2011-18	240		NU	ND	NO SALU	ND	ND	ND
СОМР30	1	160	L	ND	ND	ND	ND	ND	ND
COMP31	1	160	L	ND	ND	ND	ND	ND	ND
COMP32	1	160	L	ND	ND	ND	ND	ND	76.2
СОМРЗЗ	1	160	L L	ND	ND	ND	ND	ND	ND
COMP34	1	160	L	ND	ND	ND	ND	ND	ND
COMP35	1	160	L	ND	ND	ND	ND	ND	ND
СОМР36	1	160	L	ND	ND	ND	ND	ND	ND
COMP37	1	160	L (c)	ND	ND	ND	ND	ND	ND
COMP38	1	160	L	ND	ND	ND	ND	ND	ND
COMP39	1	160	L L	ND	ND	ND	ND	ND	ND
COMP40	1	160	Avesti L	ND	ND	ND	ND	ND	ND
COMP41	1	160	L	ND	ND	ND	ND	ND	ND
COMP42	1	160	L	ND	ND	ND	ND	ND	ND
COMP43	1	160	L	ND	ND	ND	ND	ND	ND
СОМР44	1	160		ND	ND	ND	ND	ND	ND
COMP45	1	160	Girgin L	ND	ND	ND	ND	ND	ND
COIVIT 45		100		NU	IND		NO NO	NO THE	IND
COMP46	1	240	L	ND	ND	ND	ND	ND	ND
COMP47	1	240	L	ND	ND	ND	ND	ND	ND

		TEN STEE		Facilia					I BAY
COMP48	1	240	L	ND	ND	ND	ND	ND	ND
СОМР49	1	240	L	ND	ND	ND	ND	ND	ND
COMP50	1	240	L L	ND	ND	ND	ND	ND	ND
COMP51	1	240	L	ND	ND	ND	ND	ND	ND
COMP52	1	240	L	ND	ND	ND	ND	ND	ND
COMP53	1	240	L	ND	ND	ND	ND	ND	ND
COMP54	1	240		ND	ND	ND	ND	ND	ND
COMP55	1	240	L	ND	ND	ND	ND	ND	ND
COMP56	1	240	L	ND	ND	ND	ND	ND	ND
COMP57	1	240		ND	ND	ND	ND	ND	ND
COMP58	1	240	L	ND	ND	ND	ND	ND	ND
COMP59	1	240	L	ND	ND	ND	ND	ND	ND
SWCOMP1	1	240	L	ND	ND	ND	ND	ND	ND
SWCOMP2	1	240	L (iii //A)	ND	ND	ND	ND	ND	ND
SWCOMP3	1	240	L	ND	ND	ND	ND	ND	ND
SWCOMP4	1	240	L	ND	ND	ND	ND	ND	ND
SWCOMP5	1	240	L	ND	ND	ND	ND	ND	ND
SWCOMP6	1	240	L	ND	ND	ND	ND	ND	ND
SWCOMP7	1	240	L	ND	ND	ND	ND	ND	ND
SWCOMP8	1	240	L	ND	ND	ND	ND	ND	ND

SWCOMP9	1	240	L	ND	ND	ND	ND	ND	ND
SWCOMP10	1	240	L	ND	ND	ND	ND	ND	ND
SWCOMP11	1	240	L	ND	ND	ND	ND	ND	ND
				See In var				MERCH	B FR.
SWCOMP12	1	240	L	ND	ND	ND	ND	ND	ND
	37 57		FILIA						
SWCOMP13	1	240	L	ND	ND	ND	ND	ND	ND
				in most					
SWCOMP14	1	240	L	ND	ND	ND	ND	ND	ND
									TS-YS - S

Due to the employee at the time work was being conducted is no longer employed with ESS, there are no remediation photos available for this report.

During the remediation phase of the Partition, a total of 763 cubic yards of contaminated soil was excavated and hauled to Lea-Land Disposal. A total of 500 cubic yards of caliche and topsoil was pushed up and hauled from the landowners pit to location and native soil was utilized to finish backfilling the site. The backfill material was staged and transferred to the pad and pasture area where backfilling of the site occurred. The site was contoured back to its natural grade and seeded with BLM #3 seed. Backfilling of the Partition was completed on August 25, 2023. Please see final photos attached herein.

Closure Request

On behalf of Mack Energy, ESS requests that the incident (NRM2008663010) be closed for the release that occurred off the well pad and into the pasture area of the Partition Federal. Mack Energy and ESS certify that all information provided and detailed in this report is true and correct. We have also complied with all applicable closure requirements for the release that occurred on the Partition site.

After reviewing this report, if you have any questions or concerns regarding this closure request, please do not hesitate to contact the undersigned at (575)390-6397 or (575)393-9048. You may also email any issues to natalie@energystaffinglc.com.

Sincerely,

Natalie Gladden

Director of Environmental and Regulatory Services

Energy Staffing Services, LLC.

2724 NW County Road Hobbs, NM 88240 Cell: 575-390-6397 Office: 575-393-9048

Email: natalie@energystaffingllc.com



Attachments

Initial C141

Vertex Report

Impact Map

Site Map

Rangeland and Vegetation Classification

Soil Map

FEMA National Flood Hazard Layer Map

Karst Geology Map

Watercourse Water Map

Groundwater Information

Groundwater Map

OSE POD Map

Delineation Sample Data

Delineation Sample Map and GPS Log

Lab Analysis for Delineation Delineation

Site Photos

Composite Notification

Composite Sample Data

Composite Sample Map and GPS Log

Lab analysis for Remediation

Final Photos

Final C141

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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	NRM2008663010
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible I	Party: MA	CK ENERGY CO	RPORATION		OGRID: 013837				
Contact Name	e: Matt Buc	kles			Contact Te	lephone: 575-748-1288			
Contact email	l: mattbuckl	es@mec.com			Incident#	VRM2008663010			
Contact maili	ng address:	11344 Lovington	Highway Artesia,	, NM	88210				
Location of Release Source Latitude 32.823697 Longitude -103.822709									
			(NAD 83 in dec	cimal de	grees to 5 decin	al places)			
Site Name: Pa	rtition Fede	ral			Site Type:	ank battery			
Date Release	Discovered:	March 15, 2020			API# (if app	licable):			
Unit Letter	Section	Township	Range		Cour	tv			
G	24	17S	31E		Edd				
Surface Owner	_		ibal Private (A Nature and	l Vo	lume of l	Release	rided below)		
Crude Oil			d (bbls) 90 Bbls		Volume Recovered (bbls) 60 bbls				
Produced	Water	Volume Release	ed (bbls):			Volume Recovered (bbls)):		
		Is the concentrate produced water:	tion of dissolved cl >10,000 mg/l?	hlorid	e in the	Yes No			
Condensa	te	Volume Release				Volume Recovered (bbls))		
☐ Natural G	as	Volume Release	d (Mcf)			Volume Recovered (Mcf))		
Other (des	scribe)	Volume/Weight	Released (provide)	Volume/Weight Recovered	ed (provide units)			
Cause of Rele	ease: A pipe	fitting on the oil l	act split open at th	e thre	ads.				

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Form C-141 State of New Mexico
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Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☑ Yes ☐ No	If YES, for what reason(s) does the respons Greater than 25 bbls	sible party consider this a major release?		
		om? When and by what means (phone, email, etc)? ert Hamlet, along with BLM on 3/16/2020 at 8:20AM.		
	Initial Re	sponse		
The responsible p	party must undertake the following actions immediately	unless they could create a safety hazard that would result in injury		
The source of the rele	ease has been stopped.			
	s been secured to protect human health and th	the environment.		
Released materials ha	we been contained via the use of berms or dil	ikes, absorbent pads, or other containment devices.		
All free liquids and recoverable materials have been removed and managed appropriately.				
If all the actions described	l above have <u>not</u> been undertaken, explain w	'ny:		
has begun, please attach a	a narrative of actions to date. If remedial ef	mediation immediately after discovery of a release. If remediation fforts have been successfully completed or if the release occurred ease 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: Matt	Buckles	Title: Environmental		
Signature:	6(6)	Date:		
email: <u>mattbuckles@n</u>	nec.com	Telephone: <u>575-748-1288</u>		
OCD Only				
Received by: Ramor	na Marcus	Date: 3/30/2020		

Environmental Site Remediation Work Plan



General Information

NMOCD District:	District 2	Incident #:	NRM2008663010	
Landowner:	Federal	<u> </u>		
Client:	Mack Energy Corporation	Site Location:	Partition Federal	
Date:	August 21, 2020	Project #:	20E-01755-001	
Client Contact:	Matt Buckles	Phone #:	(575) 748-1288	
Vertex PM:	Natalie Gordon	Phone #:	(505) 506-0040	

Objective

The objective of this environmental remediation work plan is to identify areas of exceedance for constituents of concern found during spill assessment and site characterization activities and propose appropriate remediation techniques to address the open release at Partition Federal (hereafter referred to as "Partition"). This incident occurred when a pipe fitting on the oil lact split open, releasing approximately 90 barrels (bbls) of crude oil onto the well pad. The release ran southwest off the well pad into the adjacent pasture. The location and boundaries of this release are identified on Figure 1 (Attachment 1). Areas of concern identified and delineated include nearby equipment and aboveground pipelines.

Initial site research and characterization has been completed and a closure criteria determination worksheet, and applicable research as it pertains to closure criteria selection, are included in Attachment 2. The release at Partition is not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 *New Mexico Administrative Code* (NMAC). As there is no recent groundwater data from within 0.5 miles of the release location, the depth to groundwater cannot be accurately determined and the closure criteria for the site are determined to be associated with the following constituent concentration limits.

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 ¹	Constituent	Limit	
25,000	Chloride	600 mg/kg	
< 50 feet	TPH ² (GRO + DRO + MRO)	100 mg/kg	
	BTEX ³	50 mg/kg	
	Benzene	10 mg/kg	

¹Total Dissolved Solids (TDS)

In addition to the Closure Criteria established in Table 1, restoration and reclamation activities will be required for off-pad portions of the release to meet restoration requirements associated with releases off-lease. The New Mexico Oil Conservation Division (NM OCD) currently requires a minimum of four feet of non-waste containing, uncontaminated, earthen material with chloride concentrations of less than 600 mg/kg, and levels of other contaminants that meet the most protective concentrations contained in 19.15.29.12 NMAC as shown in Table 1.

Site Assessment/Characterization

The Partition release characterization was completed on August 3, 2020. A total of 21 sample points were established across the release area as shown on Figure 1 (Attachment 1) and soil samples were collected from these locations at various depths. Each soil sample was field screened, using an electrical conductivity (EC) meter to estimate the level of chlorides in the soil,

²Total petroleum hydrocarbons (TPH) = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)

³Benzene, toluene, ethyl benzene and xylenes (BTEX)

Environmental Site Remediation Work Plan



a photoionization detector to detect the presence of volatile organics and the PetroFLAG unit to estimate levels of petroleum hydrocarbons. The results were used to determine the horizontal and vertical extents of the release as shown on Figure 1 (Attachment 1). A selection of these characterization samples were submitted to a laboratory for full analysis to support the in-field findings. Data from the field screening and laboratory analyses have been compared to the above-noted closure criteria results to establish the appropriate level of remediation required. Complete characterization field screening and laboratory data results are presented in Table 2 (Attachment 3) and exceedances are identified in the table as bold with a grey background.

Proposed Remedial Activities

Vertex proposes areas identified with contaminant concentrations approaching, or above, the closure criteria identified in Table 1 be remediated through excavation and removal of contaminated soil with the use of mechanical equipment. Remediation should include excavation of the entire release footprint of approximately 7,180 square feet, to depths ranging between one and four feet below ground surface (bgs) as determined by initial characterization sampling.

A Vertex environmental technician will be onsite during excavation activities utilizing field screening methods to confirm removal of contaminated soil to below the applicable closure criteria as shown in Table 1. Approximately 605 cubic yards of contaminated soil are projected to be removed during excavation. Contaminated soils will be removed from site immediately or stored on a 30-mil liner prior to removal and disposal at an approved facility. Once excavation is complete, five-point composite confirmatory samples will be collected from the base and sidewalls of the excavation in accordance with the sample plan detailed in Attachment 4. The sampling plan is based on a non-parametric statistical sampling design, using the methods developed by Hahn and Meeker (1991), and was designed through the Visual Sample Plan (VSP) program. Sampling using VSP meets the Environmental Protection Agency's data quality assessment standards (DQAs) for composite sampling. This type of sampling approach is a variance from the alternative 200 square foot rule as described in Subparagraph (c) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC. Please let this workplan serve as a formal variance request to the above-mentioned sampling method per the variance process outlined in Subsection A of 19.15.29.14 NMAC.

The need for a variance to the 200 square foot sampling method is based on an effort to decrease potential impacts to the off-lease portions of the spill. Using the VSP program to design a statistical sampling plan allows for a sampling approach that provides high statistical confidence in proving that no contaminants of concern above the closure and remediation requirements shown in Table 1 remain in the release area, while minimizing additional ground disturbing activities and potential damage to existing vegetation via foot and/or vehicle traffic. Statistically, the high level of confidence obtained by following the VSP sampling method in Attachment 4 is not significantly increased by collecting additional samples. For each additional sample collected over the VSP-recommended number, the incremental increase in confidence gets smaller but the risk of additional unnecessary impact to the remediation area and surrounding landscape increases due to the presence of technicians and equipment.

All confirmatory samples will be placed into laboratory-provided containers, preserved on ice and submitted to a National Environmental Laboratory Accreditation Program-approved laboratory for chemical analysis. Laboratory analyses will include Method 300.0 for chlorides, Method 8021B for volatile organics, including benzene and BTEX, and EPA Method 8015 for TPH, including MRO, DRO and GRO.

A GeoExplorer 7000 Series Trimble global positioning system (GPS) unit, or equivalent, will be used to map the approximate center of each of the five-point composite samples.

Excavations will be backfilled with clean soil sourced locally and contoured to reconstruct existing grade and prevent ponding of water or erosion, and aid in the re-establishment of native vegetation in the off-pad portions of the remediation area.

Environmental Site Remediation Work Plan



Timeline for Completion

Remediation activities, as outlined in this workplan, are projected to be completed within 90 days of receiving NM OCD notice of approval of this workplan and alternate sampling plan.

If there are any questions regarding this report, please contact the undersigned at 505-506-0040.

Sincerely,

Natalie Gordon
PROJECT MANAGER

Attachments

Attachment 1: Figure 1 - Release Area and Characterization Sampling Points

Attachment 2: Closure Criteria Determination Worksheet and Documentation

Attachment 3: Table 2 - Release Characterization Sampling - Field Screening and Laboratory Data

Attachment 4: Sampling to Compute a Nonparametric One-Sided Upper Tolerance Limit to Test that a Large Portion of a

Room Surface Does Not Contain Contamination

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ATTACHMENT 1

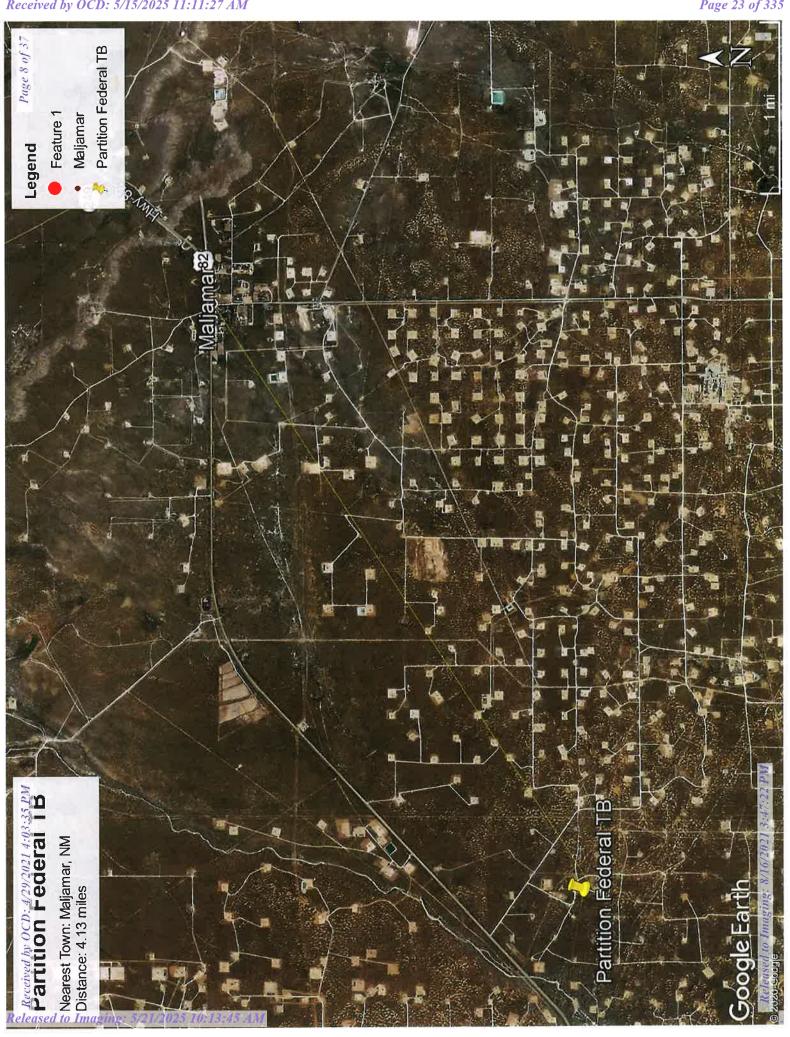
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ATTACHMENT 2

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	Criteria Determination			
	e: Partition Federal TB	X:	Y:	
Spill Coordinates: 32.823697, -103.822709 X: Y: Site Specific Conditions Value Unit				
1	Depth to Groundwater	0	feet	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	154,627	feet	
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	7,392	feet	
4	Within 300 feet from an occupied residence, school, hospital, institution or church	20,907	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	20,907	feet	
	ii) Within 1000 feet of any fresh water well or spring	20,907	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	7,392	feet	
8	Within the area overlying a subsurface mine	No	(Y/N)	
9	Within an unstable area (Karst Map)		Critical High Medium Low	
10	Within a 100-year Floodplain	>100	year	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'2	<50' 51-100' >100'	



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USGS Home Contact USGS Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: Site Information Geographic Area: United States



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

USGS 324649103504201 17S.31E.34

Available data for this site SUMMARY OF ALL AVAILABLE DATA 🕶 GO

Well Site

DESCRIPTION:

Latitude 32°46'49", Longitude 103°50'42" NAD27 Eddy County, New Mexico , Hydrologic Unit 13060011

Well depth: 271 feet

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field/Lab water-quality samples	1948-12-06	1948-12-06	1
	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center Email questions about this site to New Mexico Water Science Center Water-Data **Inquiries**

Ouestions about sites/data? Feedback on this web site

Automated retrievals

Help

Data Tips

Explanation of terms

Subscribe for system changes

News

Accessibility

Plug-Ins

FOIA

Privacy

Policies and Notices

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

Title: NWIS Site Information for USA: Site Inventory



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USGS 324649103504201 17S.31E.34

Page 10 of 37

URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=324649103504201

Page Contact Information: New Mexico Water Data Support Team

Page Last Modified: 2020-08-04 10:50:57 EDT

0.4 0.4 caww02

1.5 mi

0.38

Interior Drain

- Acequia Tunnel - Acequia Conveyances

Critical Management Area - Guidelines

Water Right Regulations

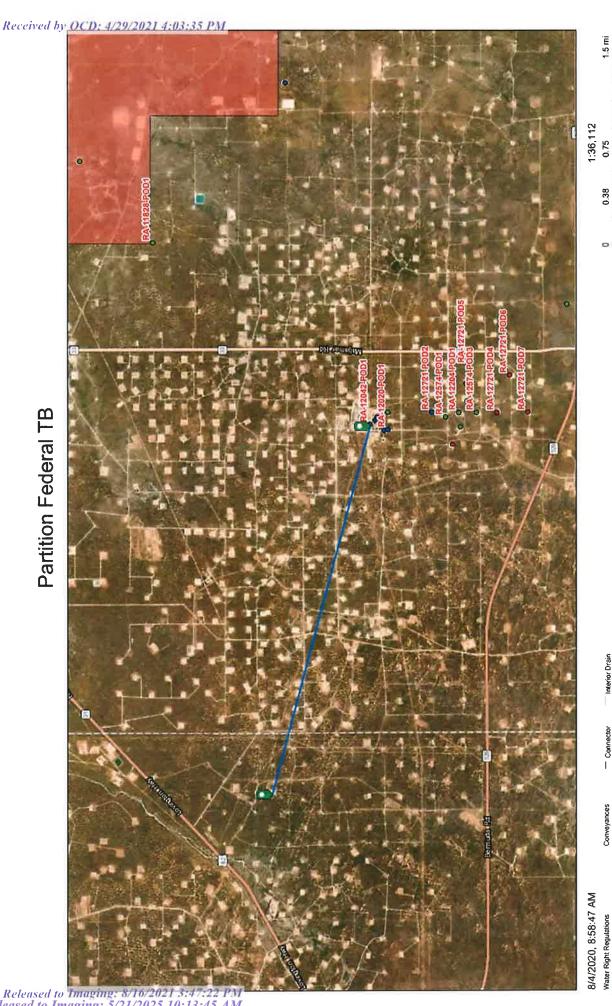
OSE District Boundary

SIS WATERS PODS

- Channel Canal

2 km

Source: Esti, Maxar, GeoEye, Earthstar DS, USDA, USGS, AeroGRID, IGN, and Esti, HERE, Garmin, (c) OpenStreetMat Garmin, (c) OpenStreetMat



Channel — Drain — Other
Pending
Pubged
— Cosed Drain — Feeder — Unknown
Pubged
— Community Ditch
— Com

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New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are I=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

RA 12042 POD1

28 17S 32E

X 614891

3631181

Driller License:

1261

Driller Company:

DARRELL CRASS DRILLING CO., INC

Driller Name:

CRASS, DARRELL (LD)

Drill Start Date:

11/13/2013

Drill Finish Date:

11/22/2013

Plug Date:

Log File Date:

12/12/2013

10.00

PCW Rcv Date:

Depth Well:

Source:

Pump Type: **Casing Size:** Pipe Discharge Size:

400 feet

Estimated Yield: Depth Water:

Water Bearing Stratifications:

Top Bottom Description

10

30 Sandstone/Gravel/Conglomerate

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, or suitability for any particular purpose of the data.

8/4/20 8:54 AM

POINT OF DIVERSION SUMMARY



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)

POD Number Well Tag

RA 12521 POD1

Q64 Q16 Q4 Sec Tws Rng 17S 32E

X

4 21

615127

3631271

Driller License:

1456

Driller Company:

Driller Name:

WHITE, JOHN W

2.00

WHITE DRILLING COMPANY

Drill Start Date:

07/21/2017

Drill Finish Date:

07/26/2017

Plug Date:

Log File Date:

08/22/2017

PCW Rcv Date:

Source:

Shallow

Pump Type: Casing Size:

Pipe Discharge Size:

Depth Well:

105 feet

Estimated Yield: Depth Water:

92 feet

Water Bearing Stratifications:

Top Bottom Description 85

Sandstone/Gravel/Conglomerate

101

75

Sandstone/Gravel/Conglomerate

Casing Perforations:

Top Bottom

105

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POINT OF DIVERSION SUMMARY

National Wetlands Inventory (NWI) This page was produced by the NWI mapper

Riverine Other Lake

Freshwater Forested/Shrub Wetland

Freshwater Pond

Freshwater Emergent Wetland

Wetlands 1.4 miles away

National Wetlands Inventory

U.S. Fish and Wildlife Service

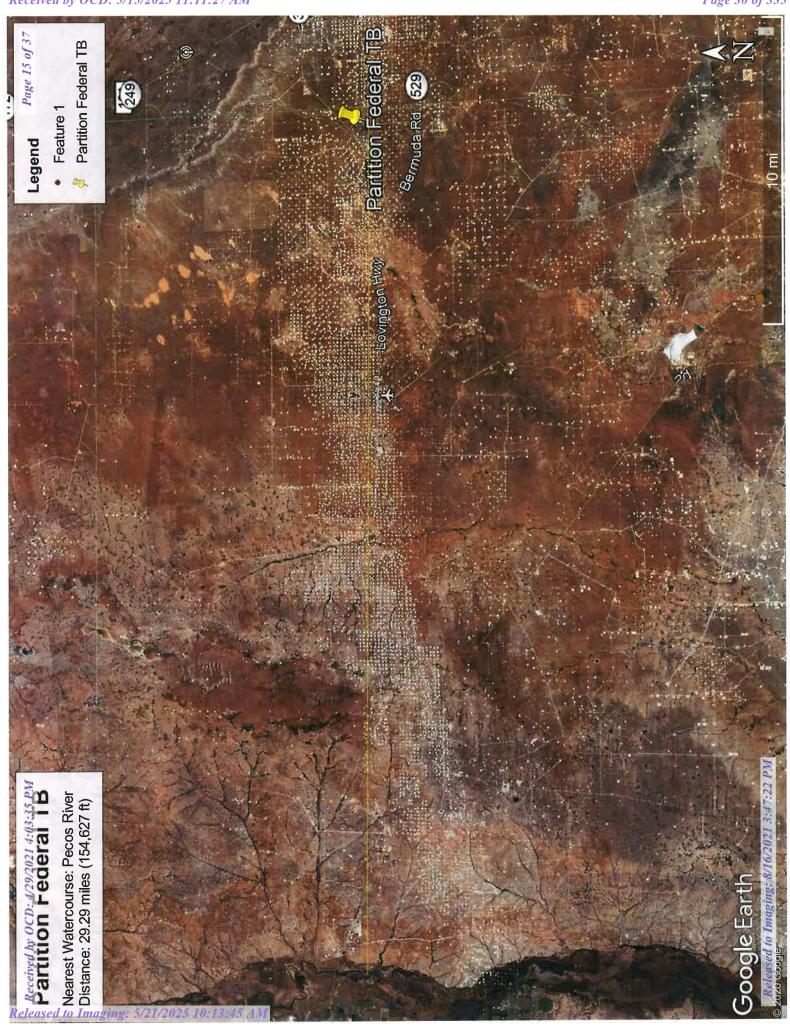
This map is for general reference only. The US Fish and Wildlife 2 km 1:40,661 August 4, 2020 0.35 0.5

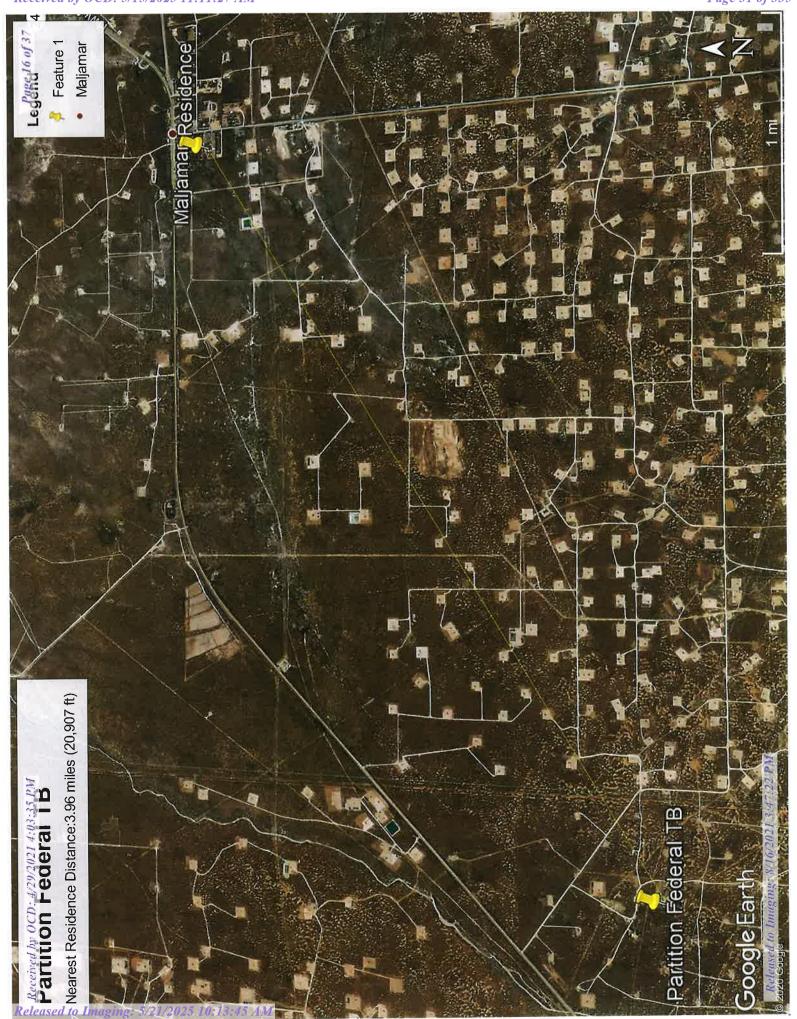
Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

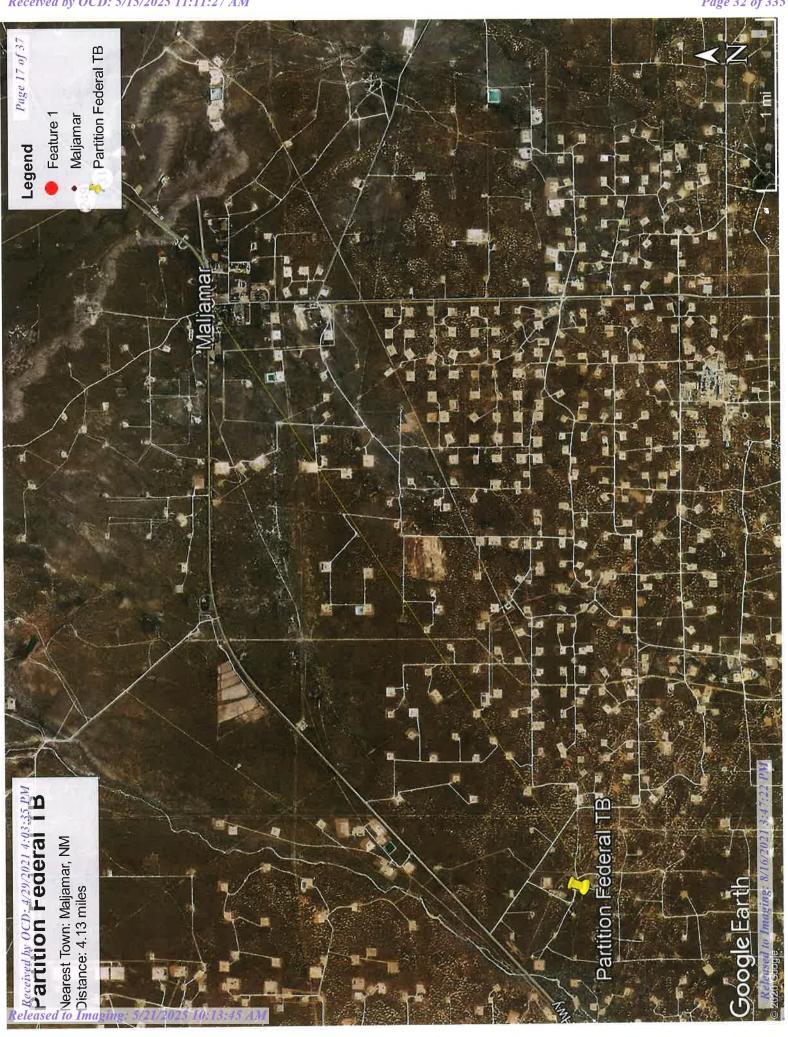
Wetlands

Estuarine and Marine Deepwater Estuarine and Marine Wetland

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8/4/2020 Page 2 of 3

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

distance and area. A projection that preserves area, such as the Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts 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.

Aerial Photography

Marsh or swamp

Lava Flow

Landfill

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot Sandy Spot

Background

Survey Area Data: Version 16, Jun 8, 2020 Soil Survey Area: Eddy Area, New Mexico

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger. Date(s) aerial images were photographed: Sep 18, 2016—Nov 20, 2017

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

Severely Eroded Spot

Slide or Slip

Sinkhole

Sodic Spot

Soil Map-Eddy Area, New Mexico

The soil surveys that comprise your AOI were mapped at

1:20,000.

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

Special Line Features

◁ 1

Soil Map Unit Points Soil Map Unit Lines

Special Point Features

Blowout

Very Stony Spot

8

Soil Map Unit Polygons

Soils

Wet Spot Other

Stony Spot

Spoil Area

W

Area of Interest (AOI)

Area of Interest (AOI)

MAP LEGEND

Streams and Canals

Nater Features

Interstate Highways

Rails

Ī

Closed Depression

Transportation

Borrow Pit Clay Spot

X Ж \Diamond × Major Roads Local Roads

Gravelly Spot

Gravel Pit

US Routes

MAP INFORMATION

National Cooperative Soil Survey Web Soil Survey

USDA

Soil Map-Eddy Area, New Mexico

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KM	Kermit-Berino fine sands, 0 to 3 percent slopes	6.0	100.0%
Totals for Area of Interest		6.0	100.0%

Map Unit Description: Kermit-Berino fine sands, 0 to 3 percent slopes—Eddy Area, New Mexico

Eddy Area, New Mexico

KM—Kermit-Berino fine sands, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w4q Elevation: 3,100 to 4,200 feet

Mean annual precipitation: 10 to 14 inches Mean annual air temperature: 60 to 64 degrees F

Frost-free period: 190 to 230 days

Farmland classification: Not prime farmland

Map Unit Composition

Kermit and similar soils: 50 percent Berino and similar soils: 35 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of

the mapunit.

Description of Kermit

Setting

Landform: Alluvial fans, plains

Landform position (three-dimensional): Rise, talf

Down-slope shape: Linear, convex

Across-slope shape: Linear

Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 7 inches: fine sand H2 - 7 to 60 inches: fine sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Excessively drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Very

high (20.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)

Sodium adsorption ratio, maximum: 1.0

Available water capacity: Low (about 3.1 inches)

Interpretive groups

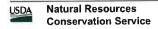
Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: A

Ecological site: R042XC005NM - Deep Sand

Hydric soil rating: No



Map Unit Description: Kermit-Berino fine sands, 0 to 3 percent slopes—Eddy Area, New Mexico

Description of Berino

Setting

Landform: Fan piedmonts, plains

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 50 inches: fine sandy loam H3 - 50 to 58 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 capacity: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): 4e Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Ecological site: R042XC003NM - Loamy Sand

Hydric soil rating: No

Minor Components

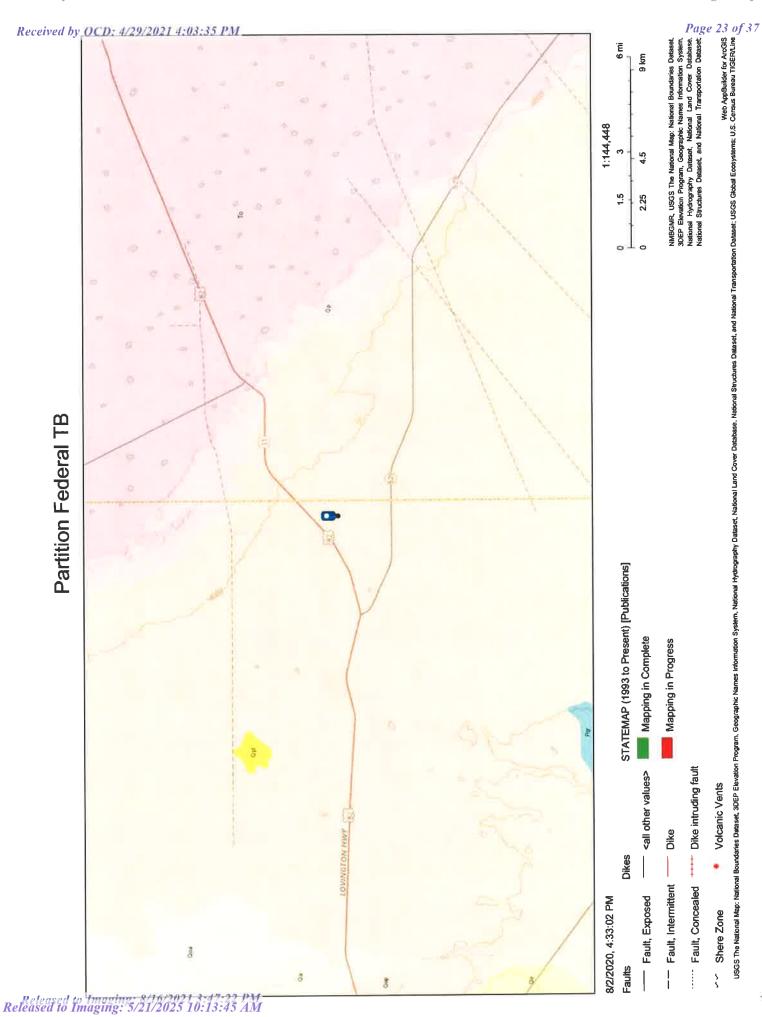
Active dune land

Percent of map unit: 15 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Eddy Area, New Mexico Survey Area Data: Version 16, Jun 8, 2020



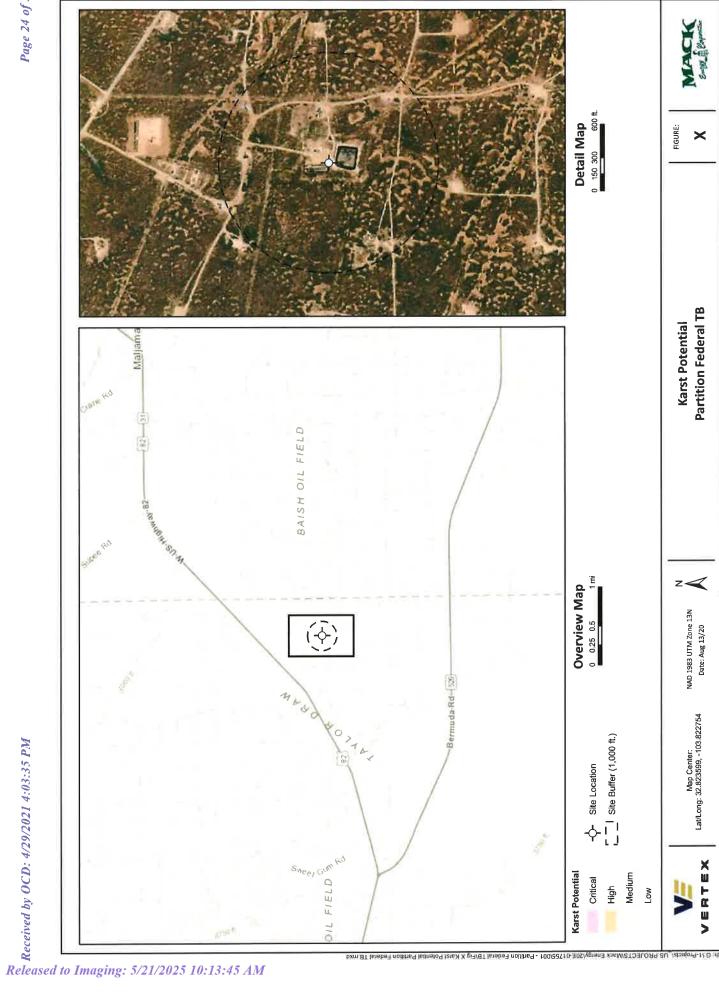
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VERSATILITY, EXPERTISE.

Note: Inset Map, ESRI 2016; Overview Map: ESRI World Topographic

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

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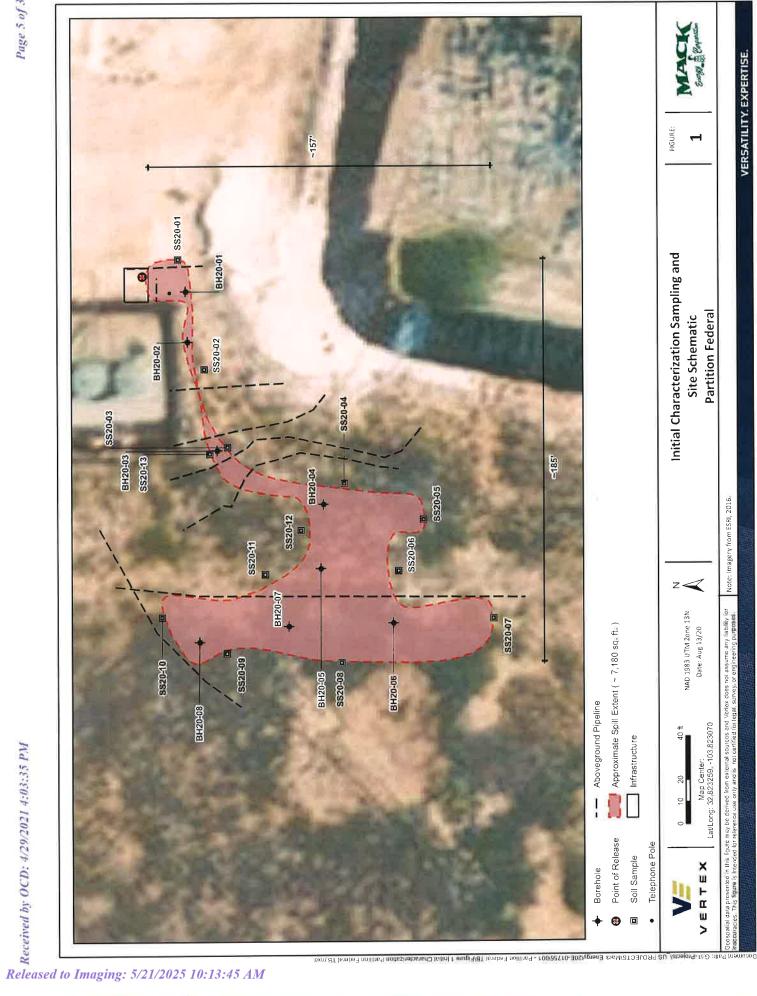
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ATTACHMENT 3

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US PROJECTS/Mack Energy/20E-01756/001 - Padition Federal TB/Figure 1 initial Characterization Patitilion Federal TB mxd

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Client Name: Mack Energy Site Name: Partition Federal TB

NM OCD Tracking Number: NRM2008663010

Project #: 20E-01755-001

Lab Report: 2008126; 2008129; 2008257

0.5	Sample Description	Table 2. Characterization Sampling Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs Description Field Screening Petroleum Hydrocarbons		r									
	Tampie Description	1			16	Vol	atile	T PERIO	eaminyaroc	Extractable			Inorganio
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (Petro Flag)	Inorganics (Electroconductivity)	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
		 	(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
01100.04	0	August 3, 2020	odor		<0	<0.0120	<1.080	<24.0	6,300	6,300	6,300	12,600	84
BH20-01	1	August 3, 2020	9.0	629	<0	-0.000	.0.240		- 0.5	-47	14.4.2	-61.2	**
	3	August 3, 2020	্ৰ। ব	30	<0	<0,023	<0.210	<4.7	<9.5	<47	<14.2	<61.2	<60
	0	August 3, 2020	odor	7)	18	- 5	120					- 1.55 - 1.55	
BH20-02	1	August 3, 2020	odor	EE	<0	*	(m)				Ħ	3.63	*
	2	August 3, 2020	397	24	<0	+0.170	1.250	46	F 700	4.000	F 746	0.746	140
	0	August 3, 2020	odor	D	50	<0.120	1.350	46	5,700	4,000	5,746	9,746	<60
BH20-03	2	August 3, 2020	323	EE	<0	<0,120	3.220	150	4,600	1,800	4,750	6,550	
	4	August 3, 2020		22	<0	<0.024	<0.217	<4.8	<9.6	<48	<14.4	<62,4	<60
	0	August 3, 2020	odor	4 444	<0	8	G]	7.5	*	- 8	- 13	7.40	-
BH20-04	0.5	August 3, 2020	- *	1,111	<0							1/45	
	2	August 3, 2020	857	EE	<0		960		- 1	2	1.5	1.53	
	4	August 3, 2020	933	71	<0	8		100	•:	- 3	#	390	- 80
BH20-05	0	August 3, 2020	odor		<0		- 3		- 2	-	10		
	1	August 3, 2020	odor	EE	20	-3-							- 2
	2	August 3, 2020	36	5	148		3	181				- 2	*
	3	August 3, 2020	(A)	32	330		- 4	1.01		- 3	- 12		*
	0	August 3, 2020	odor		<0		-	147	-	3	- 1	1.61	
BH20-06	0.5	August 3, 2020	27.7	233	<0		373	1.55	- 8 -				
	1	August 3, 2020	545	33	<0	*		160	*	0.000	7.6		+:
	0	August 3, 2020	odor	- -	<0	<0,120	<1.080	<24.0	3,200	2,200	3,200	5,400	<60
BH20-07	1	August 3, 2020	20	. 3	<0	<0.024	<0.216	<4.8	83	66	83	149	<60
	2	August 3, 2020	3	42	<0	- 5		1.77			- 25	355	
	3	August 3, 2020		16	<0		30	16-	. 8		- 17	053	79
	0	August 3, 2020	odor	-	<0		3		3	X	14		
BH20-08	2	August 3, 2020	odor	EE	<0	.0.047	-0.427	.0.5		540	210		<60
	3	August 3, 2020	27	EE	<0	<0,047	<0.427	<9.5	210	540		750	<60
SS20-01	0-0.5	August 3, 2020	(a)	87	<0	<0.025	<0.221	<4.9	17	<47	17 15	15	<60
\$\$20-02	0-0,5	August 3, 2020	(a)	23	<0	<0.024	<0.216	<4.8	15	<48 <49	10	10	<60
SS20-03	0-0,5	August 3, 2020		84	<0	<0.024 <0.024	<0.220	<4.9 <4.8	10 <9.4	<49	<14,2	<61,2	<59
SS20-04	0-0.5	August 3, 2020		34	<0	<0.024	<0.217		<10.0	<50	<14.2	<64.8	<59 <60
SS20-05	0-0.5	August 3, 2020		26	<0	<0.024	<0.216	<4.8 <4.9	<10.0	<50	<14.8	<64.8	<60
SS20-06	0-0.5	August 3, 2020	9	12		<0.025	<0.222	<4.9	<10.0	<50	<14.7	<64.7	<60
SS20-07	0-0.5	August 3, 2020	3.	34	<0 <0	<0.024	<0.213	<4.7	<9.4	<47	<14.7	<61,1	180
SS20-08	0-0.5	August 3, 2020	31	34		<0,024	<u,213< td=""><td><4.7</td><td><9,4</td><td><47</td><td><14.1</td><td><01,1</td><td>180</td></u,213<>	<4.7	<9,4	<47	<14.1	<01,1	180
SS20-09	0-0,5	August 3, 2020			<0	40.025	<0.725	<5.0		<47	<14.4	<61.4	<60
SS20-10	0-0.5	August 3, 2020	741	59	<0	<0,025	<0.225	43.U	<9.4	<47	×14.4	VOI.4	\0U
SS20-11	0-0.5	August 3, 2020	31	74	<0	40.025	40.33E	-5 n		<47	<14.4	<61,4	<60
SS20-12 SS20-13	0-0.5 0-0.5	August 3, 2020 August 3, 2020	30	74 16	<0	<0,025 <0.024	<0.225 <0.217	<5.0 <4.8	<9.4 <10.0	<50	<14.4	<64.8	<60

[&]quot;-" - not applicable/analyzed

Bold and shaded indicates exceedance outside of NM OCD Closure Criteria



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ATTACHMENT 4

Sampling to Compute a Nonparametric (Distribution-Free) One-Sided Upper Tolerance Limit to Test that a Large Portion of Room Surfaces Does Not Contain Contamination

Summary

This report summarizes the sampling design developed by VSP based on inputs provided by the VSP user. The following table summarizes the sampling design developed by VSP. A figure that shows the sample placement on the map and a table that lists the sample locations are also provided below.

SUMMARY OF S	SAMPLING DESIGN
Primary Objective of Design	Use a nonparametric (distribution-free) one-sided upper tolerance limit (UTL) to test if the true P th percentile of a population exceeds the action level
Required fraction of the population to be less than the action level	0.9 (P=90)
Required percent confidence on the decision made using the UTL	92%
Method used to compute the number of samples, <i>n</i>	Hahn and Meeker (1991, page 169) (See equations below)
Sample placement method	Random point sampling in grids
Calculated total number of samples	24
Number of samples on map ^a	24
Number of selected sample areas that are not rooms	1
Total sampling surface area ^b	7253.04 ft ²
Total cost of sampling ^c	\$3,880.00

^a This number may differ from the calculated number because of 1) grid edge effects, 2) adding judgment samples, or 3) selecting or unselecting sample areas (rooms).

b This is the total surface area of all selected rooms and other selected sample areas on the map of the site.

^c Including measurement analyses and fixed overhead costs. See the Cost of Sampling section for an explanation of the costs presented here.



Floor Plan Map

Area: Area 1						
X Coord	Y Coord	Label	Value	Type	Historical	Sample Area
-395.6345	-241.0326			Random in Grid		

-385.1186	-243.3793	Random in Grid
-401.2117	-238.4361	Random in Grid
-384.4843	-226.6732	Random in Grid
-395.0238	-212.6156	Random in Grid
-341.6694	-214.0741	Random in Grid
-395.7849	-192.1013	Random in Grid
-382.2142	-198.2564	Random in Grid
-355.9255	-192.6360	Random in Grid
-337.1245	-192.4205	Random in Grid
-405.8850	-174.7934	Random in Grid
-386.3554	-166.7473	Random in Grid
-357.2693	-172.6373	Random in Grid
-328.3676	-179.9094	Random in Grid
-402.1767	-156.0708	Random in Grid
-388.1061	-162.7511	Random in Grid
-398.1904	-138.6383	Random in Grid
-318.9554	-130.1752	Random in Grid
-404.1361	-117.1911	Random in Grid
-387.0845	-109.1551	Random in Grid
-307.5805	-122.3610	Random in Grid
-257.9580	-111.4679	Random in Grid
-388.7262	-106.4213	Random in Grid
-218.7856	-104.9802	Random in Grid

Primary Sampling Objective

The primary objective of this sampling effort is to make a decision whether an unacceptably large portion (fraction) of a specified surface area (target population) is contaminated above a specified action level (AL) or is otherwise defective. It is presumed that suitable actions have been identified to be implemented for either way the decision may go.

Population Parameter of Interest

Population Parameter of Interest

The population parameter of interest is the true P^{th} percentile of the population of contaminant concentrations, where 0 < P < 100, in this case, the 90^{th} percentile (P = 90). The true P^{th} percentile is the value above which (100 - P)% of the population lies and below which P% of the population lies. The objective is to reject the null hypothesis if the true P^{th} percentile exceeds the specified action level (AL). But, the true P^{th} percentile will never be known with 100% confidence because all possible measurements from the population cannot be obtained. Hence the decision whether to reject the null hypothesis is made using the computed upper tolerance limit (UTL) for the P^{th} percentile, that is, by computing the upper 100(1-a)% confidence limit on the P^{th} percentile (see Decision Rule below). For the current design a is 0.08, which means that the decision will be made using the computed LTL for the 92% confidence limit on the 90% percentile. that the decision will be made using the computed UTL for the 92% confidence limit on the 90th percentile.

Hypothesis Being Tested

The null hypothesis (baseline assumption) is as follows:

 H_0 : The true P^{th} percentile $\leq AL$

or equivalently,

 H_o : Less than P% of the population < AL

The H_a is rejected if UTL < AL, in which case the alternative hypothesis (H_a) is accepted as being true, where:

 H_a : More than P% of the population < AL

Sampling Design Options

VSP offers many options to determine the locations at which measurements are made or samples are collected and subsequently measured. For this design, random point sampling in grids was chosen. This option offers a good balance between providing information about the spatial structure of the potential contamination while ensuring all portions of the site are represented (though, not as thoroughly as systematic grid sampling). Knowledge of the spatial structure is useful for geostatistical analysis. This option also has the benefit of placing the exact number of samples required by the design.

Decision Rule and Number of Samples, n

The null hypothesis is rejected and the alternative hypothesis is accepted if the nonparametric (distribution-free) UTL for the P^{th} percentile is less than the specified action level (AL). The nonparametric UTL is simply the maximum of the n measurements obtained from the population of interest, where n is computed using the following equation

$$n = \frac{\ln(\alpha)}{\ln(P/100)}$$

(from Hahn and Meeker 1991, page 169). These authors discuss the statistical meaning, use, and computation of nonparametric tolerance limits and the number of samples required (pages 91, 92,169, and 326).

The following table displays the values of the input parameters used for this design:

Parameter	Value
Input	
P	90
α	0.08 (8%)
Confidence $(1-a)$	92%
Output	
n	24

Statistical Assumptions

- Representative measurements have been obtained from a defined target population using simple random sampling or a systematic grid pattern that has a randomly selected starting location.
- 2. The *n* measurements are statistically independent, i.e., there is no spatial correlation (no spatial patterns) of contaminant levels throughout the target population.
- 3. The maximum of the *n* measurements is not an invalid value, i.e., it is not a mistake or an unacceptably uncertain value due to faulty sample handling, transport, treatment, storage, or measurement.

Sensitivity Analysis

The sensitivity of the calculation of number of samples was explored by varying the required percent of the population to be less than the action level. and confidence level $(1-\alpha)$ (%). The following table shows the results of this analysis.

Number of Samples						
	CL=96	CL=94	CL=92	CL=90	CL=88	
P=85	20	18	16	15	14	
P=90	31	27	24	22	21	
P=95	63	55	50	45	42	

P = Required Percent of the Population to be Less Than the Action Level.

CL = Confidence Level $(1-\alpha)$ (%)

Cost of Sampling

The total cost of the completed sampling program depends on several cost inputs, some of which are fixed, and others that are based on the number of samples collected and measured. Based on the numbers of samples determined above, the estimated total cost of sampling and analysis at this site is \$3,880.00, which averages out to a per sample cost of \$161.67. The following table summarizes the inputs and resulting cost estimates.

COST INFORMATION				
Cost Details	Per Analysis	Per Sample	24 Samples	
Field collection costs		\$20.00	\$480.00	
Analytical costs (Analyte 1)	\$100.00	\$100.00	\$2,400.00	
Sum of Field & Analytical costs		\$120.00	\$2,880.00	
Fixed planning and validation costs			\$1,000.00	
Total cost			\$3,880.00	

Recommended Data Analysis Activities

Post data collection activities generally follow those outlined in EPA's Guidance for Data Quality Assessment (EPA, 2000). The data analysts should become familiar with the context of the problem and goals for data collection and assessment. The *n* data should be verified and validated before being used to test the null hypothesis. The VSP user should enter the validated and verified *n* data values into the VSP dialog box and click on appropriate tabs to obtain the following statistical summaries of the data. If there is strong evidence that the *n* data are normally distributed, the VSP user may want to use VSP to determine the number of samples, *n*, required to compute the normal distribution UTL and then use that UTL (rather than the nonparametric UTL) to test the null hypothesis.

Summary statistics: n, minimum and maximum of the n measurements, range of the n data, mean, median, standard deviation, variance, skewness, percentiles, and the interquartile range

Statistical Tests of Normality Assumption: Shapiro-Wilk test (if $n \le 50$) (Gilbert 1987), Lilliefors test (if n > 50) (EPA 2000).

Graphical Displays of the Data: Histogram, box-and-whisker plots and quantile-quantile (probability) plots (EPA 2000).

References

EPA. 2000. *Guidance for Data Quality Assessment, Practical Methods for Data Analysis*, EPA QA/G-9, EPA/600/R-96/084, July 2000, Office of Environmental Information, U.S. Environmental Protection Agency.

Gilbert, R.O. 1987. Statistical Methods for Environmental Pollution Monitoring, Wiley & Sons, New York, NY.

Hahn, G.J. and W.Q. Meeker. 1991. Statistical Intervals. Wiley & Sons, Inc, New York, NY.

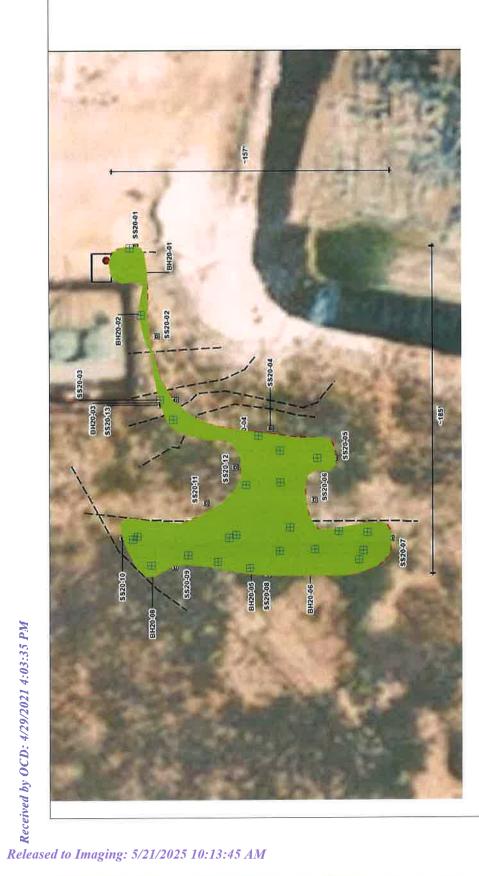
Α

This report was automatically produced* by Visual Sample Plan (VSP) software version 7.12a. This design was last modified 12/8/2020 3:30:29 PM.

Software and documentation available at http://vsp.pnnl.gov

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^{* -} The report contents may have been modified or reformatted by end-user of software.



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Page 3 Oil Conservation Division

Incident ID NRM2008663010
District RP 2
Facility ID
Application ID

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	Yes No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ⊠ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ⊠ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No ☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ⊠ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ⊠ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☐ No
	☐ Yes ⊠ No
Did the release impact areas not on an exploration, development, production, or storage site?	⊠ Yes □ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: Each of the following items must be included in the report.
Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
🔀 Field data
Data table of soil contaminant concentration data
Depth to water determination
Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
Boring or excavation logs
Photographs including date and GIS information
☐ ☐ Topographic/Aerial maps
Laboratory data including chain of custody

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

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	Page 34 of 37
Incident ID	NRM2014054256
District RP	2
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the be regulations all operators are required to report and/or file certain release notificable public health or the environment. The acceptance of a C-141 report by the Official to adequately investigate and remediate contamination that pose a threat addition, OCD acceptance of a C-141 report does not relieve the operator of a and/or regulations.	ications and perform corre CD does not relieve the op at to groundwater, surface	ective actions for releases which may endanger perator of liability should their operations have water, human health or the environment. In
Printed Name:Matt Buckles	Title:	_Environmental
Signature:Matt Buckles	Date:	12/9/2020
email:mattbuckles@mec.com	Telephone:	575-748-1288
OCD Only		
Received by:	Date:	

Received by OCD: 4/29/2021 4:03:35 PM Form C-141 State of New Mexico Page 5 Oil Conservation Division

Remediation Plan

Remediation Plan Checklist: Each of the following items must be included in the plan.
Remediation I fair Checknist. Each of the following tiems must be included in the plan.
□ Detailed description of proposed remediation technique
Scaled sitemap with GPS coordinates showing delineation points
Estimated volume of material to be remediated
Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)
M Proposed schedule for remediation (note in remediation plan timeline is more than 30 days OCD approval is required)
Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation.
Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
Extents of contamination must be fully delineated.
Contamination does not cause an imminent risk to human health, the environment, or groundwater.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD
rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases
which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of
liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater,
surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of
responsibility for compliance with any other federal, state, or local laws and/or regulations.
Printed Name:Matt Buckles Title:Environmental
Signature:
email: mattbuckles@mec.com Telephone:575-748-1288
OCD Only
Received by: Date:
Approved Approved with Attached Conditions of Approval Denied Deferral Approved
Signature: Date:
Signature: Date:

Received by OCD: 4/29/2021 4:03:35 PM Form C-141 State of New Mexico Oil Conservation Division Page 5

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Incident ID	NRM2008663010
District RP	2
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: Each of the following items must be included in the plan.
 ☑ Detailed description of proposed remediation technique ☑ Scaled sitemap with GPS coordinates showing delineation points ☑ Estimated volume of material to be remediated ☑ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC ☑ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)
Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation.
Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
Extents of contamination must be fully delineated.
Contamination does not cause an imminent risk to human health, the environment, or groundwater.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.
Printed Name:Matt Buckles Title:Environmental
Signature:
email:mattbuckles@mec.com Telephone:575-748-1288
OCD Only
Received by: Robert Hamlet Date: 8/16/2021
Approved
Signature: Robert Hamlet Date: 8/16/2021

Received by OCD: 4/29/2021 4:03:35 PM

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CONDITIONS

Action 26389

<u>District I</u> 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

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**

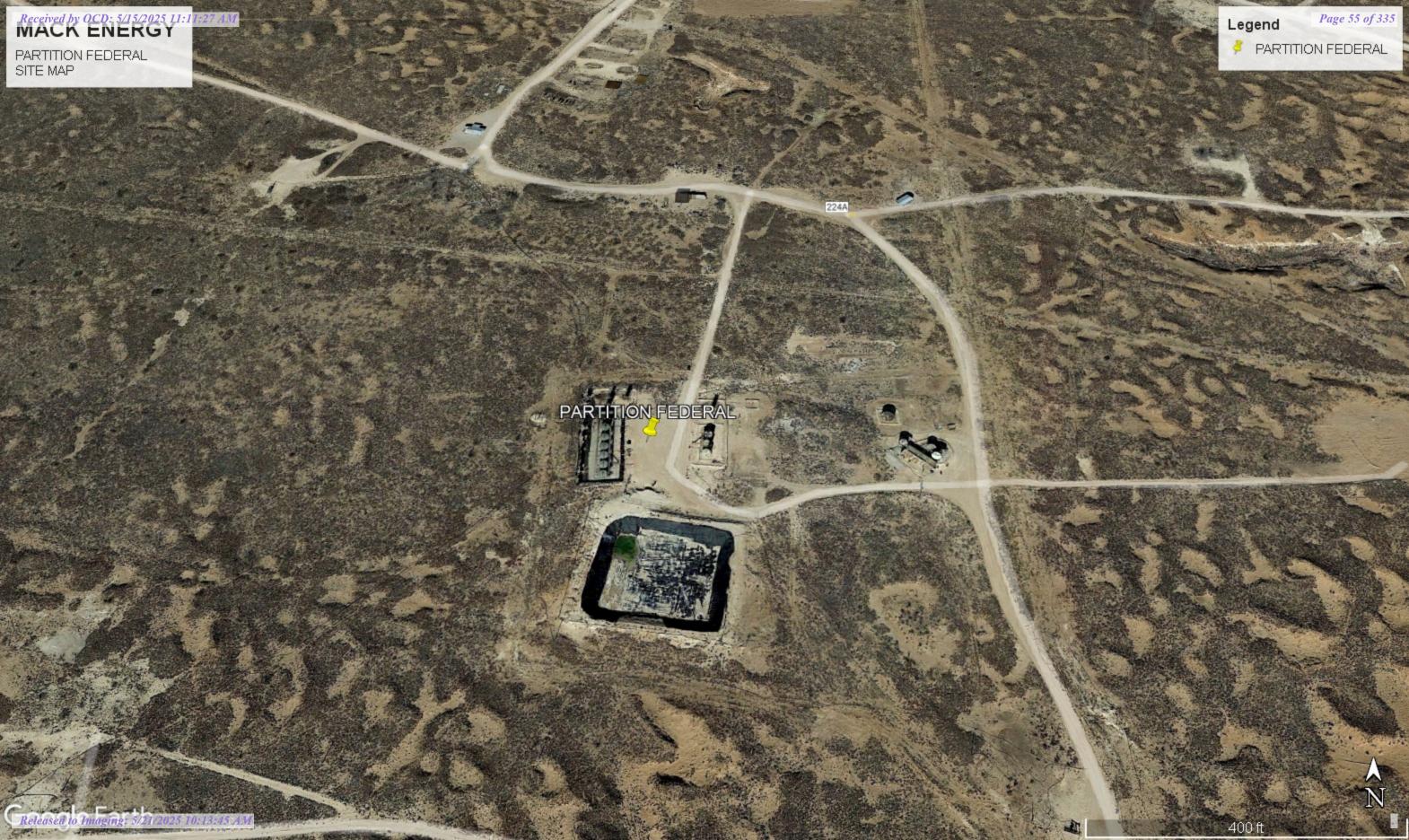
CONDITIONS

Operator:	OGRID:
MACK ENERGY CORP	13837
P.O. Box 960	Action Number:
Artesia, NM 882110960	26389
	Action Type:
	[C-141] Release Corrective Action (C-141)

CONDITIONS

Created	Condition	Condition
Ву		Date
rhamlet	The Workplan/Remediation Plan is approved with the following conditions: Sidewall/floor samples need to comply with the strictest closure criteria limits 600 mg/kg for Chlorides and	8/16/2021
	100 mg/kg TPH.	





Partition Federal

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition

In areas that have similar climate and topography, differences in the kind and amount of rangeland or forest understory vegetation are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

This table shows, for each soil that supports vegetation, the ecological site, plant association, or habitat type; the total annual production of vegetation in favorable, normal, and unfavorable years; the characteristic vegetation; and the average percentage of each species. An explanation of the column headings in the table follows.

An ecological site, plant association, or habitat type is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of the site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site, plant association, or habitat type is typified by an association of species that differs from that of other ecological sites, plant associations, or habitat types in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service (NRCS). Descriptions of plant associations or habitat types are available from local U.S. Forest Service offices.

Total dry-weight production is the amount of vegetation that can be expected to grow annually in a well managed area that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, normal, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

Characteristic vegetation (the grasses, forbs, shrubs, and understory trees that make up most of the potential natural plant community on each soil) is listed by common name. Under rangeland composition and forest understory, the expected percentage of the total annual production is given for each species making up the characteristic vegetation. The percentages are by dry weight for rangeland. Percentages for forest understory are by either dry weight or canopy cover. The amount that can be used as forage depends on the kinds of grazing animals and on the grazing season.

Partition Federal

Range management requires knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in the "National Range and Pasture Handbook," which is available in local offices of NRCS or on the Internet.

The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

Reference:

United States Department of Agriculture, Natural Resources Conservation Service, National range and pasture handbook.

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition---Eddy Area, New Mexico

Partition Federal

Report—Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition

	Rangeland and Forest Veg	jetation Classi	fication, Produ	ctivity, and Pla	ant Composition-Eddy Area,	New Mexico		
Map unit symbol and soil	Ecological Site, Plant	Total d	lry-weight prod	duction	Characteristic rangeland	Compositio		
name	Association, or Habitat Type	Favorable year	Normal year	Unfavorable year	or forest understory vegetation	n	Rangeland	Forest understory
		Lb/ac	Lb/ac	Lb/ac		Pct dry wt	Pct dry wt	
BP—Berino-Pajarito complex, 0 to 3 percent slopes, eroded								
Berino	Loamy Sand	1,800	_	650	other perennial grasses	25		
	(R070BD003NM)				black grama	15		
					other perennial forbs	15		
					dropseed	10		
					little bluestem	10		
					other shrubs	10		
					bush muhly	5		
					cane bluestem	5		
					Havard's oak	5		
Pajarito	Loamy Sand	1,800	_	650	black grama	15		
	(R070BD003NM)				other perennial forbs	15		
					dropseed	10		
					little bluestem	10		
					other perennial grasses	10		
					rabo de ardilla	10		
					bush muhly	5		
					cane bluestem	5		
					fall witchgrass	5		
					Havard's oak	5		
					other shrubs	5		
					sand sagebrush	5		

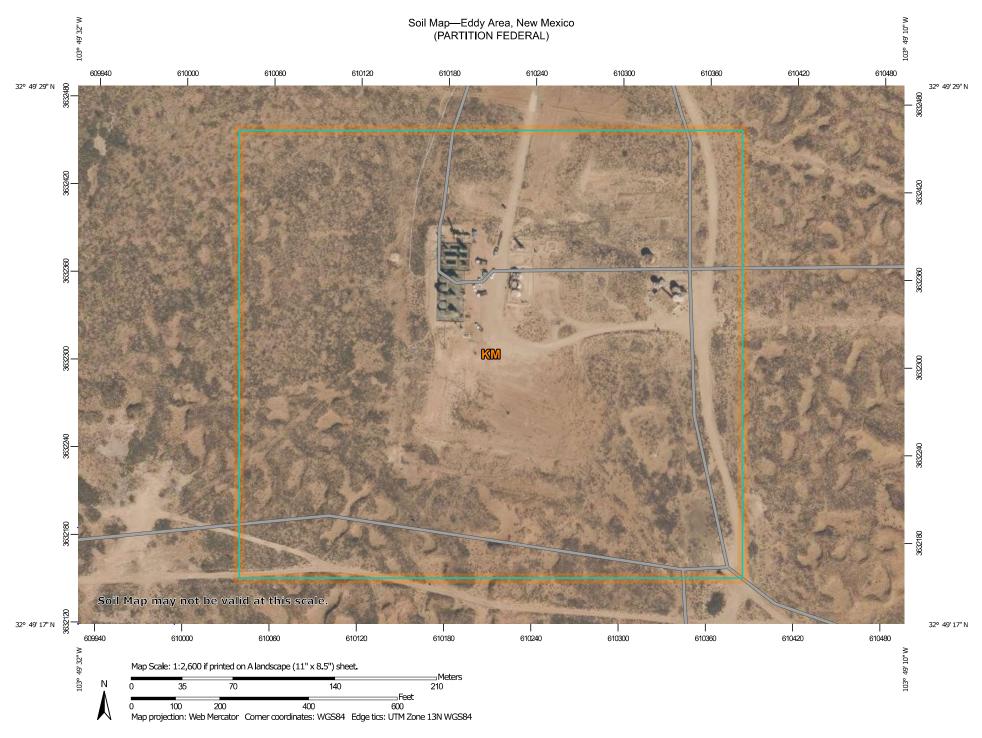
	Rangeland and Forest Veg	getation Classi	fication, Produ	ictivity, and Pla	ant Composition–Eddy Area,	New Mexico		
Map unit symbol and soil	Ecological Site, Plant	Total d	lry-weight prod	duction	Characteristic rangeland	Compositio		
name	Association, or Habitat Type	Favorable year	Normal year	Unfavorable year	or forest understory vegetation	n	Rangeland	Forest understory
		Lb/ac	Lb/ac	Lb/ac		Pct dry wt	Pct dry wt	
KM—Kermit-Berino fine sands, 0 to 3 percent slopes								
Kermit	Deep Sand	2,000	_	600	dropseed	30		
	(R070BD005NM)				other perennial forbs	15		
					giant dropseed	10		
					other shrubs	10		
					common sunflower	5		
					Havard's oak	5		
					little bluestem	5		
					other perennial grasses	5		
					sand bluestem	5		
					threeawn	5		
					yucca	5		
					penstemon	2		
Berino	Loamy Sand	1,800	_	650	other perennial grasses	25		
	(R070BD003NM)				black grama	15		
					other perennial forbs	15		
					dropseed	10		
					little bluestem	10		
					other shrubs	10		
					bush muhly	5		
					cane bluestem	5		
					Havard's oak	5		

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition---Eddy Area, New Mexico

Partition Federal

Data Source Information

Soil Survey Area: Eddy Area, New Mexico Survey Area Data: Version 19, Sep 7, 2023



Soil Map—Eddy Area, New Mexico (PARTITION FEDERAL)

MAP LEGEND

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Water Features

Transportation

Background

Spoil Area

Stony Spot

Wet Spot

Other

Rails

US Routes

Major Roads

Local Roads

Very Stony Spot

Special Line Features

Streams and Canals

Interstate Highways

Aerial Photography

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



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

Slide or Slip

Sodic Spot

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 19, Sep 7, 2023

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.

Soil Map—Eddy Area, New Mexico

Received by OCD: 5/15/2025 11:11:27 AM

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
КМ	Kermit-Berino fine sands, 0 to 3 percent slopes	26.3	100.0%
Totals for Area of Interest		26.3	100.0%

Received by OCD: 5/15/2025 11:11:27 AM National Flood Hazard Layer FIRMette





Legend

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

Without Base Flood Elevation (BFE) With BFE or Depth Zone AE, AO, AH, VE, AR SPECIAL FLOOD HAZARD AREAS Regulatory Floodway 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 OTHER AREAS OF FLOOD HAZARD Area with Flood Risk due to Levee Zone D NO SCREEN Area of Minimal Flood Hazard Zone X Effective LOMRs OTHER AREAS Area of Undetermined Flood Hazard Zone D - - - Channel, Culvert, or Storm Sewer **GENERAL** STRUCTURES | LILLIL Levee, Dike, or Floodwall 20.2 Cross Sections with 1% Annual Chance 17.5 Water Surface Elevation **Coastal Transect** ---- 513 ---- Base Flood Elevation Line (BFE) Limit of Study Jurisdiction Boundary -- Coastal Transect Baseline OTHER **Profile Baseline FEATURES** Hydrographic Feature Digital Data Available No Digital Data Available MAP PANELS Unmapped The pin displayed on the map is an approximate

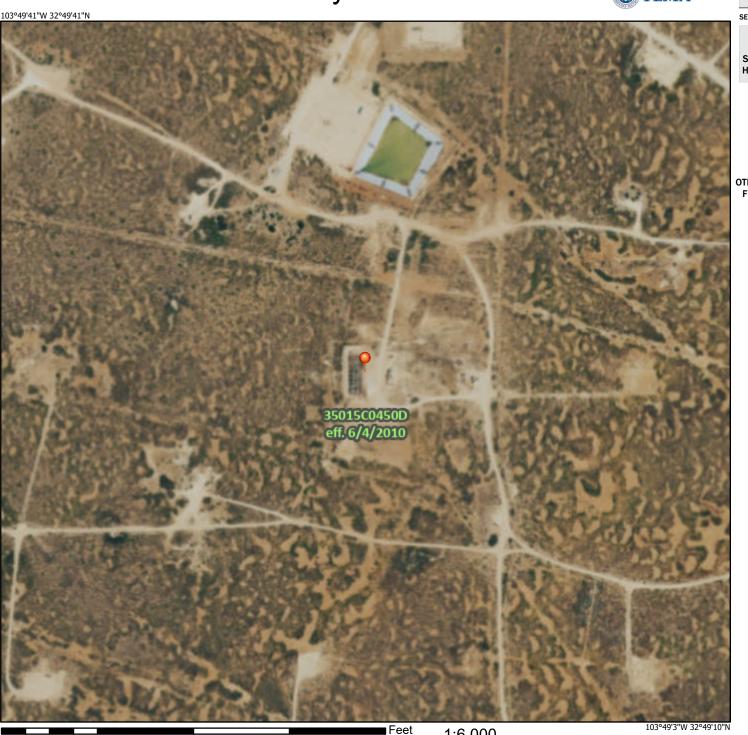
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/3/2024 at 7:41 AM 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.

point selected by the user and does not represent

an authoritative property location.

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.



2,000







New Mexico Office of the State Engineer Wells with Well Log Information

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

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

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

closed) (quarters are smallest to largest)

(NAD83 UTM in meters) (in feet)

	POD Sub-			q q q	1								Log File	Depth	Depth		License
POD Number	Code basin (County	Source	6416 4	Sec	Tws	Rng	Х	Y	Distance	Start Date	Finish Date	Date	Well	Water	Driller	Number
RA 13234 POD1	RA	LE	Shallow	1 4 1	19	17S	32E	611435	3632294	1237	10/20/2022	10/20/2022	11/04/2022	104		JACKIE D. ATKINS	1249
RA 13286 POD1	RA	ED		2 4 4	12	17S	31E	610742	3634697 🌕	2403	03/23/2023	03/23/2023	06/27/2023	101		JACKIE ATKINS	1249
RA 13324 POD1	RA	ED		4 4 1	10	17S	31E	606711	3635310	4571	05/08/2023	05/11/2023	06/15/2023	55		JOHN W WHITE	1456
RA 10175	RA	LE	Shallow	2 1	28	17S	32E	614814	3631005*	4808	02/04/2002	02/04/2002	03/06/2002	158		EADES, ALAN	1044
RA 12020 POD1	RA	LE	Shallow	2 2 1	28	17S	32E	614828	3630954	4836	09/24/2013	09/25/2013	10/07/2013	120	81	WHITE, JOHN (LD)	1456
RA 12042 POD1	RA	LE		2 2 1	28	17S	32E	614891	3631181 🎒	4836	11/13/2013	11/22/2013	12/12/2013	400		CRASS, DARRELL (LD)	1261
RA 12522 POD1	RA	LE	Shallow	3 3 4	21	17S	32E	614941	3631122 🎒	4899	07/25/2017	07/26/2017	08/22/2017	100		WHITE, JOHN W	1456
RA 12522 POD2	RA	LE	Shallow	2 2 1	28	17S	32E	614949	3631098 🌕	4913	07/24/2017	07/26/2017	08/22/2017	100		WHITE, JOHN W	1456
RA 12522 POD3	RA	LE	Shallow	4 4 3	28	17S	32E	614980	3631093	4945	07/20/2017	07/26/2017	08/22/2017	100		WHITE, JOHN W	1456
RA 12721 POD1	RA	LE		3 2 3	28	17S	32E	614645	3630141	4966	04/18/2019	04/19/2019	05/15/2019	125		JOHN W WHITE	1456

Record Count: 10

UTMNAD83 Radius Search (in meters):

Easting (X): 610199 **Northing (Y):** 3632356 **Radius:** 5000

*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, or suitability for any particular purpose of the data.

quarters are 1=NW 2=NE 3=SW 4=SE quarters are smallest to largest

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Мар
NA	RA 13234 POD1	NW	SE	NW	19	17S	32E	611435.4	3632294.4	•

* UTM location was derived from PLSS - see Help

Driller License:	1249	Driller Company:	ATKINS ENGINEERING ASSOC. INC.		
Driller Name:	JACKIE D. ATK				
Drill Start Date:	2022-10-20	Drill Finish Date:	2022-10-20	Plug Date:	
Log File Date:	2022-11-04	PCW Rcv Date:		Source:	Shallow
Pump Type:		Pipe Discharge Size:		Estimated Yiel	d:
Casing Size:		Depth Well:	104	Depth Water:	

Water Bearing Stratifications:

Тор	Bottom	Description
54	104	Sandstone/Gravel/Conglomerate

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2/11/25 9:31 AM MST Point of Diversion Summary

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quarters are 1=NW 2=NE 3=SW 4=SE quarters are smallest to largest

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	x	Υ	Мар
NA	RA 13286 POD1	NE	SE	SE	12	17S	31E	610741.6	3634697.7	

* UTM location was derived from PLSS - see Help

Driller License:	1249	Driller Company:	ATKINS ENGINEERING ASSOC. INC.		
Driller Name:	JACKIE ATKIN	IS			
Drill Start Date:	2023-03-23	Drill Finish Date:	2023-03-23	Plug Date:	2023-04-03
Log File Date:	2023-06-27	PCW Rcv Date:		Source:	
Pump Type:		Pipe Discharge Size:		Estimated Yield:	
Casing Size:		Depth Well:	101	Depth Water:	

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quarters are 1=NW 2=NE 3=SW 4=SE quarters are smallest to largest

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	х	Y	Мар
NA	RA 13324 POD1	SE	SE	NW	10	17S	31E	606710.6	3635310.6	

* UTM location was derived from PLSS - see Help

Driller License:	1456	Driller Company:	WHITE DRILLING COMPANY	
Driller Name:	JOHN W WH	ITE		
Drill Start Date:	2023-05-08	Drill Finish Date:	2023-05-11	Plug Date:
Log File Date:	2023-06-15	PCW Rcv Date:		Source:
Pump Type:		Pipe Discharge Size:	:	Estimated Yield:
Casing Size:		Depth Well:	55	Depth Water:

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quarters are 1=NW 2=NE 3=SW 4=SE quarters are smallest to largest

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4		Tws	_		Y	Мар
	RA 10175		NE	NW	28	175	32E	614814.0	3631005.0 *	•

* UTM location was derived from PLSS - see Help

Driller License:	1044	Driller Company:	EADES WELL DRILLING & PUMP SERVICE		
Driller Name:	EADES, ALAN		_		
Drill Start Date:	2002-02-04	Drill Finish Date:	2002-02-04	Plug Date:	
Log File Date:	2002-03-06	PCW Rcv Date:		Source:	Shallow
Pump Type:		Pipe Discharge Size:		Estimated Yield:	
Casing Size:	5.75	Depth Well:	158	Depth Water:	

Water Bearing Stratifications:

Тор	Bottom	Description
87	89	Shallow Alluvium/Basin Fill
89	116	Shallow Alluvium/Basin Fill
116	124	Shallow Alluvium/Basin Fill

Casing Perforations:

Тор	Bottom
118	

Meter Information

Meter Number:	5380	Meter Make:	SENSUS
Meter Serial Number:	560656282	Meter Multiplier:	10.0000
Number of Dials:	6	Meter Type:	Diversion
Unit of Measure:	Gallons	Reading Frequency:	Monthly (No Reading Expected)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
2002-03-20	2002	0.000	Α	RPT		0.000	
2002-05-06	2002	170.000	Α	RPT		0.005	
2003-02-13	2002	2410.000	Α	PRT		0.069	
2005-02-01	2004	3420.138	Α	ch		0.031	

YTD Meter Amounts:

Year	Amount
2002	0.074
2004	0.031

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Point of Diversion Summary

quarters are 1=NW 2=NE 3=SW 4=SE quarters are smallest to largest

NAD83 UTM in meters

POD Nbr Q		Q64 Q16 Q4		Sec Tws Rng			x	Мар	
RA 12020 POD1	NE	NE	NW	28	17S	32E	614827.6	3630954.6	•

* UTM location was derived from PLSS - see Help

Driller License:	1456	Driller Company:	WHITE DRILLING COMPANY		
Driller Name:	WHITE, JOHN	(LD)			
Drill Start Date:	2013-09-24	Drill Finish Date:	2013-09-25	Plug Date:	
Log File Date:	2013-10-07	PCW Rcv Date:		Source:	Shallow
Pump Type:		Pipe Discharge Size:		Estimated Yield:	
Casing Size:	2.00	Depth Well:	120	Depth Water:	81

Water Bearing Stratifications:

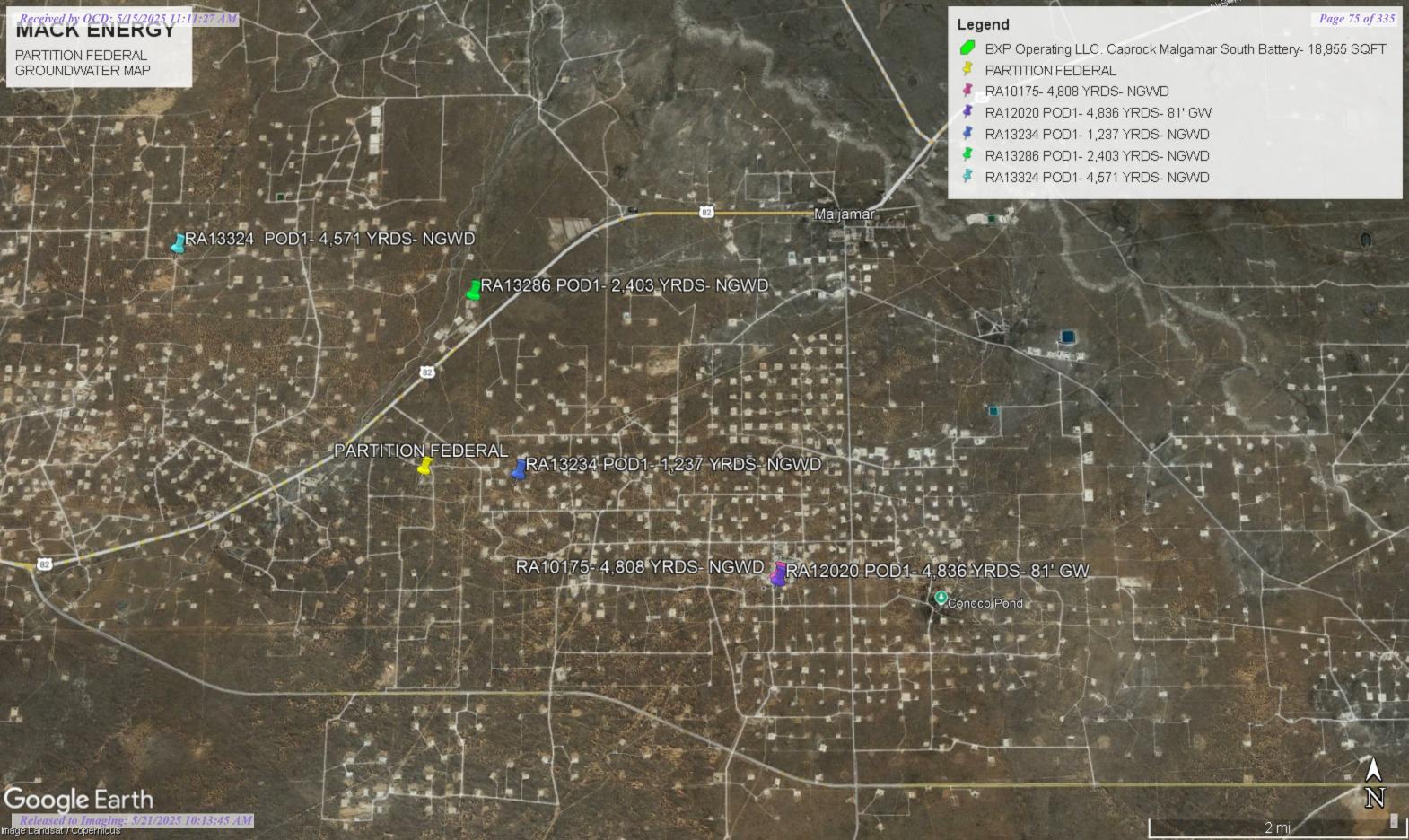
Casing Perforations:

Тор	Bottom
75	110

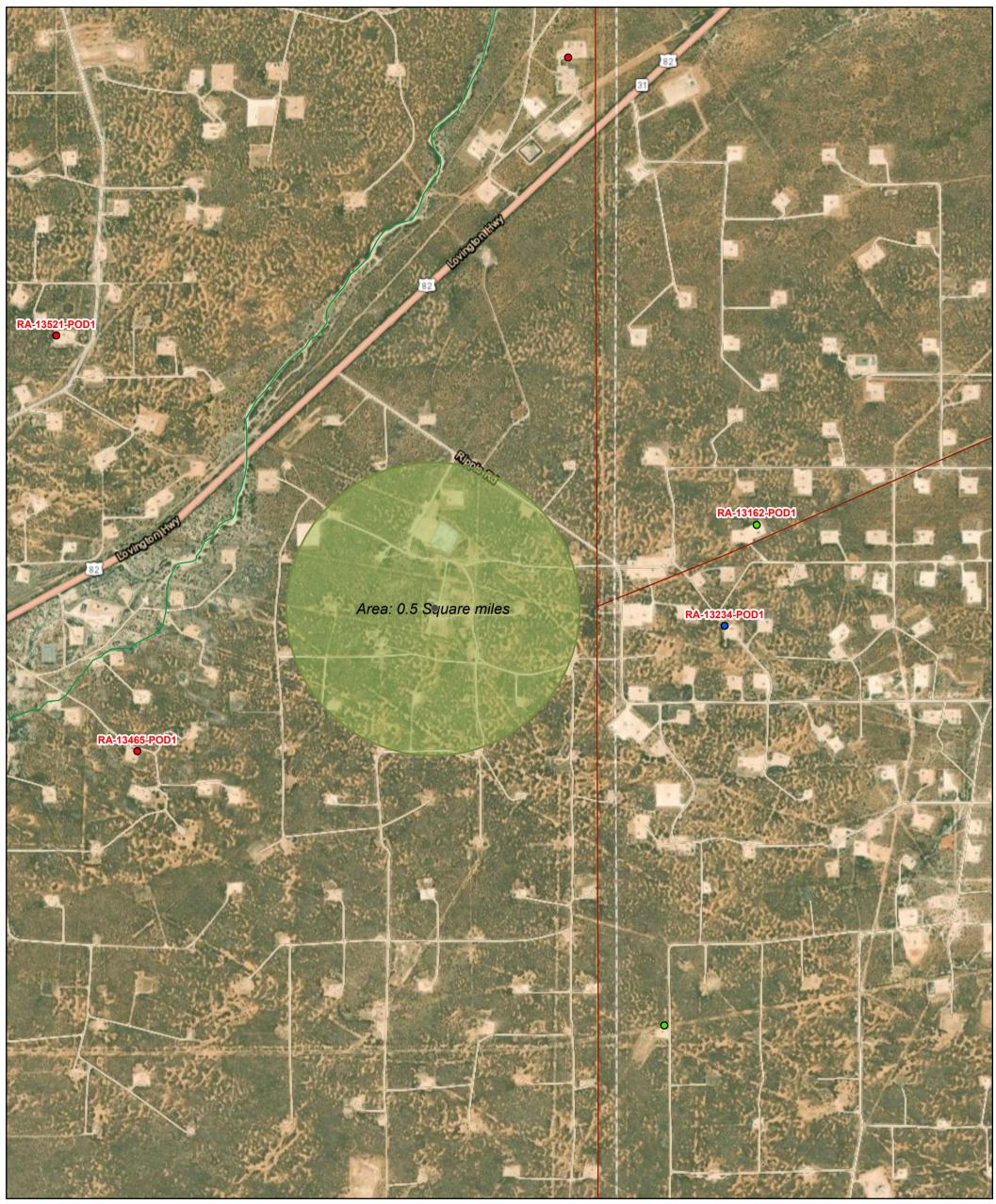
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OSE POD Location Map



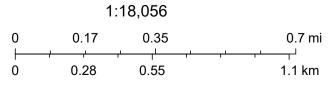
2/19/2025, 11:06:00 AM

Override 1 OSE District Boundary
GIS WATERS PODs NHD Flowlines

• Active — Pipeline

Pending Stream River

Plugged



Esri, HERE, iPC, Esri, HERE, Garmin, iPC, Maxar

Company	Name:	MACK			Location	Name:	PARTITIO	N FEDERA	AL	Release Date:	3/15/2020
										_	
SP ID	Depth	Titr	PID	L-BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL	Soil	Notes
SP1	SURFACE	320	L	ND	ND	ND	ND	ND	253		
	2'	160	L								
	4'	160	L	ND	ND	ND	ND	ND	ND		
	_										
SP2	SURFACE	80	Н	0.234	ND	8590	4440	13030	ND		
	2'	80	L								
	4'	80	L	ND	ND	ND	ND	ND	ND		
	1		•								
SP3	SURFACE	80	Н	ND	ND	6180	2560	8740	ND		
	2'	80	L								
	4'	80	L	ND	ND	ND	ND	ND	ND		
	T									T	
SP4	SURFACE	160	L	ND	ND	ND	ND	ND	ND		
	2'	160	L								
	4'	80	L	ND	ND	ND	ND	ND	ND		
605	Laureage		Ι.		415		L	415	115	1	
SP5	SURFACE	80	L	ND	ND	ND	ND	ND	ND		
	2'	80	L	ND	ND	ND	ND	ND	ND		
	4	80	L	ND	טא	ND	ND	ND	ND		
CDG	CCLIDEACE	160	Π,	ND	ND	ND	L	ND	ND	T	
SP6	SSURFACE 2'	80	L	ND	ND	ND	ND	ND	ND	+	
	4'	80	L	ND	ND	ND	ND	ND	ND		
	4	80		ND	שוו	ND	IND	טוו	ND		
SP7	SURFACE	160	Н	ND	ND	70.6	133	203.6	ND		
JF /	2'	160	L	ואט	ואט	70.0	133	203.0	ND	+	
	4'	80	L	ND	ND	ND	ND	ND	225		
	7	- 00		IND	140	IVD	IND	140			
SP8	SURFACE	80	L	ND	ND	ND	ND	ND	ND	T	
310	2'	80	L	140	140	140	140	140	140		
	4'	80	L	ND	ND	ND	ND	ND	ND		
	-T	- 00		IND	NU	ND	140	IVD	ND		

SP9	SURFACE	160	L	ND	ND	ND	ND	ND	ND	
	2'	80	L							
	4'	80	L	ND	ND	ND	ND	ND	ND	
SP10	SURFACE	80	L	ND	ND	ND	ND	ND	ND	
	2'	80	L							
	4'	80	L	ND	ND	ND	ND	ND	ND	
			T						T	
SP11	SURFACE	80	L	ND	ND	ND	ND	ND	ND	
	2'	80	L							
	4'	80	L	ND	ND	ND	ND	ND	ND	
			1		1				1	
SW1	SURF	160	L	ND	ND	ND	ND	ND	ND	
	1	160								
	2	160	L	ND	ND	ND	ND	ND	ND	
			I						I	
SW2	SURF	240	L	ND	ND	ND	ND	ND	ND	
	1	160	_							
	2	160	L	ND	ND	ND	ND	ND	ND	
			T .						T	
SW3	SURF	160	L	ND	ND	ND	ND	ND	59.2	
	1	160								
	2	160	L	ND	ND	ND	ND	ND	56.1	
01111	01155	1.00		***		***	***	***		
SW4	SURF	160	L	ND	ND	ND	ND	ND	53.6	
	1	160		115	115	ND	ND	ND	54.4	
	2	160	L	ND	ND	ND	ND	ND	51.4	
CVA/E	CLIDE	160		ND	ND	ND	ND	ND	ND	
SW5	SURF	160	L	ND	ND	ND	ND	ND	ND	
	1	160	,	ND	ND.	ND	ND	ND	ND	
	2	160	L	ND	ND	ND	ND	ND	ND	
CVACC	CLIDE	100	,	4.5	210	415	110	110	ND	
SW6	SURF	160	L	ND	ND	ND	ND	ND	ND	

	1	160								
	2	160	L	ND	ND	ND	ND	ND	ND	
SW7	SURF	160	L	ND	ND	ND	ND	ND	ND	
	1	160								
	2	160	L	ND	ND	ND	ND	ND	ND	
SW8	SURF	160	L	ND	ND	ND	ND	ND	ND	
	1	160								
	2	160	L	ND	ND	ND	ND	ND	ND	
SW9	SURF	160	L	ND	ND	ND	ND	ND	ND	
	1	160								
	2	160	L	ND	ND	ND	ND	ND	ND	
SW10	SURF	160	L	ND	ND	ND	ND	ND	ND	
	1	160								
	2	160	L	ND	ND	ND	ND	ND	ND	
SW11	SURF	160	L	ND	ND	ND	ND	ND	ND	
	1	160								
	2	160	Н	ND	ND	46.8	73.3	120.1	246	
	3	240								
	4	160	L	ND	ND	ND	ND	ND	ND	
011115	01100	1.00						40= =	224	
SW12	SURF	160	Н	ND	ND	48.8	78.7	127.5	284	
	1	160								
	2	160	Н	ND	ND	50	ND	50	ND	
	3	320								
	4	160	L	ND	ND	ND	ND	ND	ND	



COMPANY: MACK ENERGY LOCATION: PARTITION FEDERAL

POINT	LATITUDE	LONGITUDE
SP1	32.823462°	-103.822790°
SP2	32.823402 32.823423°	-103.822790 -103.822937°
SP3	32.823342°	-103.823054°
SP4	32.823245°	-103.823061°
SP5	32.823172°	-103.823046°
SP6	32.823219°	-103.823125°
SP7	32.823133°	-103.823174°
SP8	32.823216°	-103.823189°
SP9	32.823447°	-103.823208°
SP10	32.823333°	-103.823185°
SP11	32.823286°	-103.823119°
SW1	32.823501°	-103.822798°
SW2	32.823442°	-103.822912°
SW3	32.823430°	-103.823046°
SW4	32.823332°	-103.823114°
SW5	32.823481°	-103.823232°
SW6	32.823313°	-103.823232°
SW7	32.823187°	-103.823219°
SW8	32.823104°	-103.823166°
SW9	32.823199°	-103.823120°
SW10	32.823144°	-103.823044°
SW11	32.823292°	-103.823036°
SW12	32.823411°	-103.822912°

Report to:

Natalie Gladden







5796 U.S. Hwy 64 Farmington, NM 87401

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





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Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: Partition Federal

Work Order: E111127

Job Number: 20046-0001

Received: 11/22/2021

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 11/23/21

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: 11/23/21

Natalie Gladden 7 W. Compress Road Artesia, NM 88210

Project Name: Partition Federal

Workorder: E111127

Date Received: 11/22/2021 11:41:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 11/22/2021 11:41:00AM, under the Project Name: Partition Federal.

The analytical test results summarized in this report with the Project Name: Partition Federal 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 reguarding 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

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Cell: 775-287-1762

whinchman@envirotech-inc.com

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Sample Summary

Mack Energy	Project Name:	Partition Federal	Reported:
7 W. Compress Road	Project Number:	20046-0001	Keporteu.
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/21 16:53

14' E111127-02A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 2 E111127-03A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 2 4' E111127-04A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 3 E111127-05A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 4 E111127-07A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 4 4' E111127-08A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 5 4' E111127-09A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 4' E111127-10A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 4' E111127-12A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 4' E111127-13A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 4' E111127-15A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 4' E111127-16A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 4' E111127-20A<	Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
2 E111127-03A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 2 4' E111127-04A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 3 E111127-05A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 3 4' E111127-06A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 4 E111127-07A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 4 E111127-07A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 4 4' E111127-08A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 5 E111127-09A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 5 E111127-10A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 4' E111127-11A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 4' E111127-12A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 E111127-13A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 4' E111127-14A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 E111127-15A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 E111127-16A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 E111127-18A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 E111127-18A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 1	SP 1	E111127-01A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
2 4' E111127-04A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 3 E111127-05A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 3 4' E111127-06A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 4 E111127-07A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 4 4' E111127-08A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 5 E111127-09A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 5 E111127-10A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 5 4' E111127-10A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 6' E111127-11A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 6' E111127-12A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 E111127-13A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 4' E111127-14A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 E111127-15A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 E111127-16A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 E111127-16A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 E111127-18A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/1	SP 1 4'	E111127-02A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
3 E111127-05A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 3 4' E111127-06A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 4 E111127-07A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 4 4' E111127-08A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 5 E111127-09A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 5 4' E111127-10A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 4' E111127-11A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 4' E111127-13A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 4' E111127-15A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 4' E111127-17A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 4' E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 4' E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-2	SP 2	E111127-03A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
3 4' E111127-06A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 4 E111127-07A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 4 4' E111127-08A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 5 E111127-09A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 5 4' E111127-10A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 E111127-11A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 E111127-11A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 4' E111127-12A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 E111127-13A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 E111127-13A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 E111127-15A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 E111127-16A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 E111127-16A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 E111127-17A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 4' E111127-18A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 2 4'	E111127-04A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
4 E111127-07A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 4 4' E111127-08A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 5 E111127-09A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 5 4' E111127-10A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 E111127-11A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 4' E111127-12A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 E111127-13A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 E111127-14A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 E111127-15A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 E111127-16A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 4' E111127-16A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 E111127-17A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 E111127-18A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22	SP 3	E111127-05A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
4 4' E11127-08A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 5 E11127-09A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 5 4' E111127-10A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 E111127-11A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 4' E111127-12A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 E111127-13A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 4' E111127-14A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 E111127-15A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 E111127-16A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 E111127-16A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 4' E111127-18A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E11127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 3 4'	E111127-06A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
5 E111127-09A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 5 4' E111127-10A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 E111127-11A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 4' E111127-12A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 4' E111127-14A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 4' E111127-15A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 4' E111127-17A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 4' E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 4	E111127-07A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
5 4' E111127-10A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 E111127-11A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 6 4' E111127-12A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 4' E111127-14A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 4' E111127-15A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 4' E111127-17A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 4' E111127-18A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 4' E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 4 4'	E111127-08A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
6	SP 5	E111127-09A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
6 4' E111127-12A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 4' E111127-14A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 4' E111127-15A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 4' E111127-16A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 4' E111127-18A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 4' E111127-18A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 4' E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 5 4'	E111127-10A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
7 E111127-13A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 7 4' E111127-14A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 E111127-15A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 4' E111127-16A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 4' E111127-18A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 4' E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 6	E111127-11A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
7 4' E111127-14A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 4' E111127-16A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 4' E111127-18A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 4' E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 6 4'	E111127-12A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
8 E111127-15A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 8 4' E111127-16A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 E111127-17A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 4' E111127-18A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 4' E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 7	E111127-13A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
8 4' E111127-16A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 E111127-17A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 4' E111127-18A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 4' E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 7 4'	E111127-14A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
9 E111127-17A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 9 4' E111127-18A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 4' E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 8	E111127-15A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
9 4' E111127-18A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 4' E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 8 4'	E111127-16A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
10 E111127-19A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 10 4' E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 9	E111127-17A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
10 4' E111127-20A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 9 4'	E111127-18A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
11 E111127-21A Soil 11/17/21 11/22/21 Glass Jar, 4 oz. 11 4' E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 10	E111127-19A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
11 4' E111127-22A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 10 4'	E111127-20A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
	SP 11	E111127-21A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
E111127-23A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	SP 11 4'	E111127-22A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
	T 1	E111127-23A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.
8' E111127-24A Soil 11/17/21 11/22/21 Glass Jar, 4 oz.	T1 8'	E111127-24A	Soil	11/17/21	11/22/21	Glass Jar, 4 oz.

Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

SP 1

E111127-01						
		Reporting				
Analyte	Result	Limit	Dilutio	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ar	nalyst: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/22/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/22/21	
Toluene	ND	0.0250	1	11/22/21	11/22/21	
o-Xylene	ND	0.0250	1	11/22/21	11/22/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/22/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/22/21	
Surrogate: 4-Bromochlorobenzene-PID		90.0 %	70-130	11/22/21	11/22/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/22/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.2 %	70-130	11/22/21	11/22/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2148004
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/22/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/22/21	
Surrogate: n-Nonane		112 %	50-200	11/22/21	11/22/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ar	alyst: IY		Batch: 2148009
Chloride	253	20.0	1	11/22/21	11/22/21	



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

SP 1 4'

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	lyst: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/22/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/22/21	
Toluene	ND	0.0250	1	11/22/21	11/22/21	
o-Xylene	ND	0.0250	1	11/22/21	11/22/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/22/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/22/21	
Surrogate: 4-Bromochlorobenzene-PID		93.4 %	70-130	11/22/21	11/22/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	lyst: RKS		Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/22/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.3 %	70-130	11/22/21	11/22/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	lyst: JL		Batch: 2148004
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/22/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/22/21	
Surrogate: n-Nonane		114 %	50-200	11/22/21	11/22/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	lyst: IY		Batch: 2148009
· · · · · · · · · · · · · · · · · · ·	ND	20.0		11/22/21	11/22/21	



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

SP 2

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	:: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/22/21	
Ethylbenzene	0.0388	0.0250	1	11/22/21	11/22/21	
Toluene	ND	0.0250	1	11/22/21	11/22/21	
o-Xylene	0.0623	0.0250	1	11/22/21	11/22/21	
p,m-Xylene	0.172	0.0500	1	11/22/21	11/22/21	
Total Xylenes	0.234	0.0250	1	11/22/21	11/22/21	
Surrogate: 4-Bromochlorobenzene-PID		89.1 %	70-130	11/22/21	11/22/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	:: RKS		Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/22/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.2 %	70-130	11/22/21	11/22/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	:: JL		Batch: 2148004
Diesel Range Organics (C10-C28)	8590	1250	50	11/22/21	11/23/21	
Oil Range Organics (C28-C36)	4440	2500	50	11/22/21	11/23/21	
Surrogate: n-Nonane		168 %	50-200	11/22/21	11/23/21	
	mg/kg	mg/kg	Analysi	:: IY		Batch: 2148009
Anions by EPA 300.0/9056A	mg/Kg		,			



Sample Data

Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

SP 2 4'

E111127-04						
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/22/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/22/21	
Toluene	ND	0.0250	1	11/22/21	11/22/21	
o-Xylene	ND	0.0250	1	11/22/21	11/22/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/22/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/22/21	
Surrogate: 4-Bromochlorobenzene-PID		102 %	70-130	11/22/21	11/22/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/22/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.9 %	70-130	11/22/21	11/22/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2148004	
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/22/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/22/21	
Surrogate: n-Nonane		107 %	50-200	11/22/21	11/22/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: IY		Batch: 2148009
Chloride	ND	20.0	1	11/22/21	11/22/21	



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

SP3

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst	:: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/22/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/22/21	
Toluene	ND	0.0250	1	11/22/21	11/22/21	
o-Xylene	ND	0.0250	1	11/22/21	11/22/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/22/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/22/21	
Surrogate: 4-Bromochlorobenzene-PID		87.2 %	70-130	11/22/21	11/22/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst	:: RKS		Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/22/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.4 %	70-130	11/22/21	11/22/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst	:: JL		Batch: 2148004
Diesel Range Organics (C10-C28)	6180	250	10	11/22/21	11/23/21	
Oil Range Organics (C28-C36)	2560	500	10	11/22/21	11/23/21	
Surrogate: n-Nonane		140 %	50-200	11/22/21	11/23/21	
	mg/kg	mg/kg	Analyst	:: IY		Batch: 2148009
Anions by EPA 300.0/9056A	mg/kg	mg/kg				



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

SP 3 4'

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		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	rst: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/22/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/22/21	
Toluene	ND	0.0250	1	11/22/21	11/22/21	
o-Xylene	ND	0.0250	1	11/22/21	11/22/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/22/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/22/21	
Surrogate: 4-Bromochlorobenzene-PID		101 %	70-130	11/22/21	11/22/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	st: RKS		Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/22/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		92.4 %	70-130	11/22/21	11/22/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	rst: JL		Batch: 2148004
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/22/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/22/21	
Surrogate: n-Nonane		110 %	50-200	11/22/21	11/22/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	rst: IY		Batch: 2148009
				11/22/21	11/23/21	



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

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		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	rst: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/23/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/23/21	
Toluene	ND	0.0250	1	11/22/21	11/23/21	
o-Xylene	ND	0.0250	1	11/22/21	11/23/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/23/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/23/21	
Surrogate: 4-Bromochlorobenzene-PID		94.7 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	st: RKS		Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/23/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		95.2 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	rst: JL		Batch: 2148004
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/22/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/22/21	
Surrogate: n-Nonane		114 %	50-200	11/22/21	11/22/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	rst: IY		Batch: 2148009
				11/22/21	11/23/21	



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

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		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/23/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/23/21	
Toluene	ND	0.0250	1	11/22/21	11/23/21	
o-Xylene	ND	0.0250	1	11/22/21	11/23/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/23/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/23/21	
Surrogate: 4-Bromochlorobenzene-PID		92.7 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: RKS		Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/23/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.2 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: JL		Batch: 2148004
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/22/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/22/21	
Surrogate: n-Nonane		115 %	50-200	11/22/21	11/22/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: IY		Batch: 2148009
	ND			11/22/21	11/23/21	



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

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		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/23/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/23/21	
Toluene	ND	0.0250	1	11/22/21	11/23/21	
o-Xylene	ND	0.0250	1	11/22/21	11/23/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/23/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/23/21	
Surrogate: 4-Bromochlorobenzene-PID		87.3 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: RKS		Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/23/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		93.2 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: JL		Batch: 2148004
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/22/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/22/21	
Surrogate: n-Nonane		111 %	50-200	11/22/21	11/22/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: IY		Batch: 2148009
					11/23/21	



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

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	Reporting				
Result	Limit	Dilution	Prepared	Analyzed	Notes
mg/kg	mg/kg	Analyst	: RKS		Batch: 2148005
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0500	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
	90.0 %	70-130	11/22/21	11/23/21	
mg/kg	mg/kg	Analyst	: RKS		Batch: 2148005
ND	20.0	1	11/22/21	11/23/21	
	93.8 %	70-130	11/22/21	11/23/21	
mg/kg	93.8 % mg/kg	70-130 Analyst		11/23/21	Batch: 2148004
mg/kg		, , , , , ,		11/23/21	Batch: 2148004
	mg/kg	, , , , , ,	: JL		Batch: 2148004
ND	mg/kg 25.0	, , , , , ,	: JL 11/22/21	11/22/21	Batch: 2148004
ND	mg/kg 25.0 50.0	Analyst 1 1	: JL 11/22/21 11/22/21 11/22/21	11/22/21 11/22/21	Batch: 2148004 Batch: 2148009
	mg/kg ND	Result Limit mg/kg mg/kg ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0500 ND 0.0250 MD 0.0250 mg/kg mg/kg	Result Limit Dilution mg/kg mg/kg Analyst ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0500 1 ND 0.0250 1 ND 70-130 mg/kg mg/kg Analyst	Result Limit Dilution Prepared mg/kg mg/kg Analyst: RKS ND 0.0250 1 11/22/21 ND 0.0250 1 11/22/21 ND 0.0250 1 11/22/21 ND 0.0250 1 11/22/21 ND 0.0500 1 11/22/21 ND 0.0250 1 11/22/21 ND 0.0250 1 11/22/21 mg/kg mg/kg Analyst: RKS	Result Limit Dilution Prepared Analyzed mg/kg mg/kg Analyst: RKS ND 0.0250 1 11/22/21 11/23/21 ND 0.0500 1 11/22/21 11/23/21 ND 0.0250 1 11/22/21 11/23/21 90.0 % 70-130 11/22/21 11/23/21 mg/kg mg/kg Analyst: RKS



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

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		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	yst: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/23/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/23/21	
Toluene	ND	0.0250	1	11/22/21	11/23/21	
o-Xylene	ND	0.0250	1	11/22/21	11/23/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/23/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/23/21	
Surrogate: 4-Bromochlorobenzene-PID		89.0 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	yst: RKS		Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/23/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		93.1 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	yst: JL		Batch: 2148004
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/22/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/22/21	
Surrogate: n-Nonane		114 %	50-200	11/22/21	11/22/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	yst: IY		Batch: 2148009
	ND	20.0	·	11/22/21	11/23/21	



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

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		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/23/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/23/21	
Toluene	ND	0.0250	1	11/22/21	11/23/21	
o-Xylene	ND	0.0250	1	11/22/21	11/23/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/23/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/23/21	
Surrogate: 4-Bromochlorobenzene-PID		91.9 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: RKS		Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/23/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		92.1 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: JL		Batch: 2148004
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/22/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/22/21	
Surrogate: n-Nonane		113 %	50-200	11/22/21	11/22/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: IY		Batch: 2148009
· · · · · · · · · · · · · · · · · · ·	ND	20.0		11/22/21	11/23/21	



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

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Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

SP 7 4'

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	st: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/23/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/23/21	
Toluene	ND	0.0250	1	11/22/21	11/23/21	
o-Xylene	ND	0.0250	1	11/22/21	11/23/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/23/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/23/21	
Surrogate: 4-Bromochlorobenzene-PID		90.9 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - GRO		mg/kg	Analyst: RKS			Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/23/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.9 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	st: JL		Batch: 2148004
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/23/21	
Oil Range Organics (C28-C36)	ND	50.0	11	11/22/21	11/23/21	
Surrogate: n-Nonane		117 %	50-200	11/22/21	11/23/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	st: IY		Batch: 2148009
Chloride	225	20.0	1	11/22/21	11/23/21	



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

SP 8

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	rst: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/23/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/23/21	
Toluene	ND	0.0250	1	11/22/21	11/23/21	
o-Xylene	ND	0.0250	1	11/22/21	11/23/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/23/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/23/21	
Surrogate: 4-Bromochlorobenzene-PID		94.6 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	st: RKS		Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/23/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.0 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	rst: JL		Batch: 2148004
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/23/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/23/21	
Surrogate: n-Nonane		136 %	50-200	11/22/21	11/23/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	rst: IY		Batch: 2148009



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

SP 8 4'

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	st: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/23/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/23/21	
Toluene	ND	0.0250	1	11/22/21	11/23/21	
o-Xylene	ND	0.0250	1	11/22/21	11/23/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/23/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/23/21	
Surrogate: 4-Bromochlorobenzene-PID		95.5 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	st: RKS		Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/23/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.0 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	st: JL		Batch: 2148004
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/23/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/23/21	
Surrogate: n-Nonane		110 %	50-200	11/22/21	11/23/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	st: IY		Batch: 2148009
				11/22/21	11/23/21	



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

SP 9

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	lyst: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/23/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/23/21	
Toluene	ND	0.0250	1	11/22/21	11/23/21	
o-Xylene	ND	0.0250	1	11/22/21	11/23/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/23/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/23/21	
Surrogate: 4-Bromochlorobenzene-PID		94.1 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	lyst: RKS		Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/23/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.7 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	lyst: JL		Batch: 2148004
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/23/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/23/21	
Surrogate: n-Nonane		112 %	50-200	11/22/21	11/23/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	lyst: IY		Batch: 2148009
Chloride	ND	20.0	1	11/22/21	11/23/21	



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

SP 9 4'

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/23/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/23/21	
Toluene	ND	0.0250	1	11/22/21	11/23/21	
o-Xylene	ND	0.0250	1	11/22/21	11/23/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/23/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/23/21	
Surrogate: 4-Bromochlorobenzene-PID		97.5 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: RKS		Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/23/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.2 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: JL		Batch: 2148004
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/23/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/23/21	
Surrogate: n-Nonane		118 %	50-200	11/22/21	11/23/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: IY		Batch: 2148009
Chloride	ND	20.0	1	11/22/21	11/23/21	



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

SP 10

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	Reporting				
Result	Limit	Dilution	Prepared	Analyzed	Notes
mg/kg	mg/kg	Analy	st: RKS		Batch: 2148005
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0500	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
	91.6 %	70-130	11/22/21	11/23/21	
mg/kg	mg/kg	Analy	st: RKS		Batch: 2148005
ND	20.0	1	11/22/21	11/23/21	
	91.8 %	70-130	11/22/21	11/23/21	
mg/kg	mg/kg	Analy	vst: JL		Batch: 2148004
ND	25.0	1	11/22/21	11/23/21	
ND	50.0	1	11/22/21	11/23/21	
	117 %	50-200	11/22/21	11/23/21	
mg/kg	mg/kg	Analy	st: IY		Batch: 2148009
	mg/kg ND	mg/kg mg/kg ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0500 ND 0.0250 mg/kg mg/kg ND 20.0 91.8 % mg/kg mg/kg mg/kg ND 25.0	Result Limit Dilution mg/kg mg/kg Analy ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0500 1 ND 0.0250 1 MD 0.0250 1 MD 0.0250 1 Mg/kg mg/kg Analy ND 20.0 1 mg/kg mg/kg Analy mg/kg mg/kg Analy ND 25.0 1	Result Limit Dilution Prepared mg/kg mg/kg Analyst: RKS ND 0.0250 1 11/22/21 ND 0.0250 1 11/22/21 ND 0.0250 1 11/22/21 ND 0.0250 1 11/22/21 ND 0.0500 1 11/22/21 ND 0.0250 1 11/22/21 mg/kg mg/kg Analyst: RKS ND 20.0 1 11/22/21 mg/kg mg/kg Analyst: JL mg/kg mg/kg Analyst: JL ND 25.0 1 11/22/21 ND 50.0 1 11/22/21	Result Limit Dilution Prepared Analyzed mg/kg mg/kg Analyst: RKS ND 0.0250 1 11/22/21 11/23/21 ND 0.0250 1 11/22/21 11/23/21 ND 0.0250 1 11/22/21 11/23/21 ND 0.0500 1 11/22/21 11/23/21 ND 0.0250 1 11/22/21 11/23/21 MD 0.0250 1 11/22/21 11/23/21 mg/kg mg/kg Analyst: RKS ND 20.0 1 11/22/21 11/23/21 mg/kg mg/kg Analyst: JL 11/23/21 ND 25.0 1 11/22/21 11/23/21 ND 25.0 1 11/22/21 11/23/21 ND 50.0 1 11/22/21 11/23/21



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

SP 10 4'

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: RKS		Batch: 2148005
Benzene	ND	0.0250	1	11/22/21	11/23/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/23/21	
Toluene	ND	0.0250	1	11/22/21	11/23/21	
o-Xylene	ND	0.0250	1	11/22/21	11/23/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/23/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/23/21	
Surrogate: 4-Bromochlorobenzene-PID		95.8 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: RKS		Batch: 2148005
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/23/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.2 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: JL		Batch: 2148007
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/23/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/23/21	
Surrogate: n-Nonane		113 %	50-200	11/22/21	11/23/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: IY		Batch: 2148009
				11/22/21	11/23/21	



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

SP 11

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	st: RKS		Batch: 2148010
Benzene	ND	0.0250	1	11/22/21	11/23/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/23/21	
Toluene	ND	0.0250	1	11/22/21	11/23/21	
o-Xylene	ND	0.0250	1	11/22/21	11/23/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/23/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/23/21	
Surrogate: 4-Bromochlorobenzene-PID		94.5 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	st: RKS		Batch: 2148010
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/23/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		94.3 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	st: JL		Batch: 2148007
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/23/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/23/21	
Surrogate: n-Nonane		111 %	50-200	11/22/21	11/23/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	st: IY		Batch: 2148011
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Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

SP 11 4'

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	Analyst: RKS		Batch: 2148010
Benzene	ND	0.0250	1	11/22/21	11/23/21	
Ethylbenzene	ND	0.0250	1	11/22/21	11/23/21	
Toluene	ND	0.0250	1	11/22/21	11/23/21	
o-Xylene	ND	0.0250	1	11/22/21	11/23/21	
p,m-Xylene	ND	0.0500	1	11/22/21	11/23/21	
Total Xylenes	ND	0.0250	1	11/22/21	11/23/21	
Surrogate: 4-Bromochlorobenzene-PID		88.2 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2148010
Gasoline Range Organics (C6-C10)	ND	20.0	1	11/22/21	11/23/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		92.2 %	70-130	11/22/21	11/23/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2148007	
Diesel Range Organics (C10-C28)	ND	25.0	1	11/22/21	11/23/21	
Oil Range Organics (C28-C36)	ND	50.0	1	11/22/21	11/23/21	
Surrogate: n-Nonane		112 %	50-200	11/22/21	11/23/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY		Batch: 2148011	
Chloride	ND	20.0	1	11/22/21	11/23/21	



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

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Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
mg/kg	mg/kg	Analy	st: RKS		Batch: 2148010
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0500	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
	82.3 %	70-130	11/22/21	11/23/21	
mg/kg	mg/kg	Analy	st: RKS		Batch: 2148010
ND	20.0	1	11/22/21	11/23/21	
	85.3 %	70-130	11/22/21	11/23/21	
mg/kg	mg/kg	Analy	st: JL		Batch: 2148007
10600	2500	100	11/22/21	11/23/21	
5830	5000	100	11/22/21	11/23/21	
	124 %	50-200	11/22/21	11/23/21	
mg/kg	mg/kg	Analy	st: IY		Batch: 2148011
32.1	20.0	1	11/22/21	11/23/21	
	mg/kg ND ND ND ND ND ND ND ND The state of t	Result Limit mg/kg mg/kg ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0500 ND 0.0250 MD 0.0250 82.3 % mg/kg Mg/kg mg/kg ND 20.0 85.3 % mg/kg 10600 2500 5830 5000 124 % mg/kg mg/kg mg/kg	mg/kg mg/kg Analy ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0500 1 ND 0.0250 1 82.3 % 70-130 mg/kg mg/kg Analy ND 20.0 1 85.3 % 70-130 1 mg/kg mg/kg Analy 10600 2500 100 5830 5000 100 mg/kg mg/kg Analy	Result Limit Dilution Prepared mg/kg mg/kg Analyst: RKS ND 0.0250 1 11/22/21 ND 0.0250 1 11/22/21 ND 0.0250 1 11/22/21 ND 0.0500 1 11/22/21 ND 0.0250 1 11/22/21 ND 0.0250 1 11/22/21 mg/kg mg/kg Analyst: RKS ND 20.0 1 11/22/21 mg/kg mg/kg Analyst: JL mg/kg mg/kg Analyst: JL 10600 2500 100 11/22/21 5830 5000 100 11/22/21 mg/kg mg/kg Analyst: JL	Result Limit Dilution Prepared Analyzed mg/kg mg/kg Analyst: RKS ND 0.0250 1 11/22/21 11/23/21 ND 0.0250 1 11/22/21 11/23/21 ND 0.0250 1 11/22/21 11/23/21 ND 0.0500 1 11/22/21 11/23/21 ND 0.0250 1 11/22/21 11/23/21 ND 0.0250 1 11/22/21 11/23/21 mg/kg mg/kg Analyst: RKS ND 20.0 1 11/22/21 11/23/21 mg/kg mg/kg Analyst: RKS ND 20.0 1 11/22/21 11/23/21 mg/kg mg/kg Analyst: JL 11/23/21 11/23/21 mg/kg mg/kg Analyst: JL 11/23/21 11/23/21 mg/kg mg/kg Analyst: JL 11/23/21 11/23/21



Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

T1 8' E111127-24

Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
mg/kg	mg/kg	Anal	yst: RKS		Batch: 2148010
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
ND	0.0500	1	11/22/21	11/23/21	
ND	0.0250	1	11/22/21	11/23/21	
	97.4 %	70-130	11/22/21	11/23/21	
mg/kg	mg/kg	Anal	yst: RKS		Batch: 2148010
ND	20.0	1	11/22/21	11/23/21	
	94.0 %	70-130	11/22/21	11/23/21	
mg/kg	mg/kg	Anal	yst: JL		Batch: 2148007
ND	25.0	1	11/22/21	11/23/21	
ND	50.0	1	11/22/21	11/23/21	
	112 %	50-200	11/22/21	11/23/21	
mg/kg	mg/kg	Anal	yst: IY		Batch: 2148011
ND	20.0	1	11/22/21	11/23/21	
	mg/kg ND Mg/kg ND mg/kg	Result Limit mg/kg mg/kg ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0500 ND 0.0250 MD 0.0250 MD 0.0250 97.4 % mg/kg MD 20.0 94.0 % mg/kg ND 25.0 ND 50.0 112 % mg/kg mg/kg mg/kg	mg/kg mg/kg Anal ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0500 1 ND 0.0250 1 97.4 % 70-130 mg/kg mg/kg Anal ND 20.0 1 94.0 % 70-130 1 mg/kg mg/kg Anal ND 25.0 1 ND 50.0 1 112 % 50-200 mg/kg Mg/kg Anal	Result Limit Dilution Prepared mg/kg mg/kg Analyst: RKS ND 0.0250 1 11/22/21 ND 0.0250 1 11/22/21 ND 0.0250 1 11/22/21 ND 0.0500 1 11/22/21 ND 0.0250 1 11/22/21 mD 0.0250 1 11/22/21 mg/kg mg/kg Analyst: RKS ND 20.0 1 11/22/21 mg/kg mg/kg Analyst: JL ND 25.0 1 11/22/21 ND 25.0 1 11/22/21 ND 50.0 1 11/22/21 ND 50.0 1 11/22/21 Mg/kg mg/kg Analyst: JL	Result Limit Dilution Prepared Analyzed mg/kg mg/kg Analyst: RKS ND 0.0250 1 11/22/21 11/23/21 ND 0.0250 1 11/22/21 11/23/21 ND 0.0250 1 11/22/21 11/23/21 ND 0.0500 1 11/22/21 11/23/21 ND 0.0250 1 11/22/21 11/23/21 mg/kg 70-130 11/22/21 11/23/21 mg/kg mg/kg Analyst: RKS ND 20.0 1 11/22/21 11/23/21 mg/kg mg/kg Analyst: JL 11/23/21 11/23/21 ND 25.0 1 11/22/21 11/23/21 ND 25.0 1 11/22/21 11/23/21 ND 50.0 1 11/22/21 11/23/21 ND 50.0 1 11/22/21 11/23/21 Mg/kg mg/kg Analyst: IY 11/23/21 </td



Surrogate: 4-Bromochlorobenzene-PID

Mack Energy	Project Name:	Partition Federal	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

Artesia NM, 88210		Project Manager:	: Na	atalie Gladden	Į.			1	1/23/2021 4:53:29PM			
		Volatile Organics by EPA 8021B							Analyst: RKS			
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit				
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes			
Blank (2148005-BLK1)]	Prepared: 1	1/22/21 Ar	nalyzed: 11/22/21			
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	7.31		8.00		91.4	70-130						
LCS (2148005-BS1)						1	Prepared: 1	1/22/21 Ar	nalyzed: 11/22/21			
Benzene	4.68	0.0250	5.00		93.5	70-130						
Ethylbenzene	4.59	0.0250	5.00		91.7	70-130						
Toluene	4.75	0.0250	5.00		95.0	70-130						
o-Xylene	4.69	0.0250	5.00		93.8	70-130						
p,m-Xylene	9.31	0.0500	10.0		93.1	70-130						
Total Xylenes	14.0	0.0250	15.0		93.4	70-130						
Surrogate: 4-Bromochlorobenzene-PID	7.48		8.00		93.5	70-130						
LCS Dup (2148005-BSD1)						1	Prepared: 1	1/22/21 Ar	nalyzed: 11/22/21			
Benzene	4.69	0.0250	5.00		93.7	70-130	0.230	20				
Ethylbenzene	4.63	0.0250	5.00		92.6	70-130	0.997	20				
Toluene	4.78	0.0250	5.00		95.5	70-130	0.616	20				
o-Xylene	4.74	0.0250	5.00		94.8	70-130	1.04	20				
p,m-Xylene	9.42	0.0500	10.0		94.2	70-130	1.13	20				
Total Xylenes	14.2	0.0250	15.0		94.4	70-130	1.10	20				



Mack Energy 7 W. Compress Road	Project Name: Project Number:	Partition Federal 20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

Artesia NM, 88210		Project Manager:	Na	atalie Gladden					11/23/2021 4:53:29PN
		Volatile Organics by EPA 8021B							
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limi	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2148010-BLK1)							Prepared:	11/22/21	Analyzed: 11/23/21
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
o,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.53		8.00		94.1	70-130			
LCS (2148010-BS1)							Prepared:	11/22/21	Analyzed: 11/23/21
Benzene	4.71	0.0250	5.00		94.2	70-130			
Ethylbenzene	4.82	0.0250	5.00		96.5	70-130			
Toluene	5.02	0.0250	5.00		100	70-130			
o-Xylene	4.77	0.0250	5.00		95.4	70-130			
o,m-Xylene	9.74	0.0500	10.0		97.4	70-130			
Total Xylenes	14.5	0.0250	15.0		96.8	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.59		8.00		94.8	70-130			
LCS Dup (2148010-BSD1)							Prepared:	11/22/21	Analyzed: 11/23/21
Benzene	4.67	0.0250	5.00		93.5	70-130	0.816	20	
Ethylbenzene	4.80	0.0250	5.00		95.9	70-130	0.586	20	
Toluene	4.97	0.0250	5.00		99.4	70-130	1.05	20	
o-Xylene	4.76	0.0250	5.00		95.2	70-130	0.175	20	
	9.69	0.0500	10.0		96.9	70-130	0.530	20	
,m-Xylene	9.09	0.0500							
o,m-Xylene Fotal Xylenes	14.5	0.0250	15.0		96.4	70-130	0.413	20	



Mack Energy	Project Name:	Partition Federal	Reported:
7 W. Compress Road Artesia NM, 88210	Project Number: Project Manager:	20046-0001 Natalie Gladden	11/23/2021 4:53:29PM

Artesia NM, 88210		Project Manage	r: Na	italie Gladden	1				11/23/2021 4:53:29PM
	Non	Nonhalogenated Organics by EPA 8015D - GRO							
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limi	t
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2148005-BLK1)							Prepared: 1	1/22/21	Analyzed: 11/22/21
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.42		8.00		92.8	70-130			
LCS (2148005-BS2)							Prepared: 1	1/22/21	Analyzed: 11/22/21
Gasoline Range Organics (C6-C10)	51.2	20.0	50.0		102	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.35		8.00		91.8	70-130			
LCS Dup (2148005-BSD2)							Prepared: 1	1/22/21	Analyzed: 11/22/21
Gasoline Range Organics (C6-C10)	49.9	20.0	50.0		99.9	70-130	2.52	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.21		8.00		90.1	70-130			



Mack Energy	Project Name:	Partition Federal	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

Artesia NM, 88210		Project Manage	r: Na	talie Gladden	1				11/23/2021 4:53:29P		
	Non	Nonhalogenated Organics by EPA 8015D - GRO							Analyst: RKS		
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limi	t		
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes		
Blank (2148010-BLK1)							Prepared: 1	1/22/21	Analyzed: 11/23/21		
Gasoline Range Organics (C6-C10)	ND	20.0									
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.13		8.00		102	70-130					
LCS (2148010-BS2)							Prepared: 1	1/22/21	Analyzed: 11/23/21		
Gasoline Range Organics (C6-C10)	47.0	20.0	50.0		94.0	70-130					
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.32		8.00		104	70-130					
LCS Dup (2148010-BSD2)							Prepared: 1	1/22/21	Analyzed: 11/23/21		
Gasoline Range Organics (C6-C10)	46.9	20.0	50.0		93.8	70-130	0.159	20			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.24		8.00		103	70-130					

Mack Energy	Project Name:	Partition Federal	Reported:
7 W. Compress Road	Project Number:	20046-0001	·
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

Artesia NM, 88210		Project Manage	r: Na	ntalie Gladder	ı				11/23/2021 4:53:29PM
	Nonha	logenated Or	ganics by	EPA 8015I	D - DRO	/ORO			Analyst: JL
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2148004-BLK1)							Prepared:	11/22/21	Analyzed: 11/22/21
Diesel Range Organics (C10-C28)	ND	25.0							
Dil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	55.0		50.0		110	50-200			
LCS (2148004-BS1)							Prepared:	11/22/21	Analyzed: 11/22/21
Diesel Range Organics (C10-C28)	446	25.0	500		89.1	38-132			
Surrogate: n-Nonane	57.0		50.0		114	50-200			
Matrix Spike (2148004-MS1)				Source:	E111127-1	17	Prepared:	11/22/21	Analyzed: 11/22/21
Diesel Range Organics (C10-C28)	453	25.0	500	ND	90.5	38-132			
Surrogate: n-Nonane	57.2		50.0		114	50-200			
Matrix Spike Dup (2148004-MSD1)				Source:	E111127-1	17	Prepared:	11/22/21	Analyzed: 11/22/21
Diesel Range Organics (C10-C28)	464	25.0	500	ND	92.9	38-132	2.59	20	
Surrogate: n-Nonane	59.1		50.0		118	50-200			



Mack Energy	Project Name:	Partition Federal	Reported:
7 W. Compress Road	Project Number:	20046-0001	•
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/2021 4:53:29PM

Artesia NM, 88210		Project Manager	r: N	atalie Gladden					11/23/2021 4:53:29PM
	Nonha	logenated Or	ganics by	EPA 8015D	- DRO	/ORO			Analyst: JL
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limi	t
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2148007-BLK1)							Prepared:	11/22/21	Analyzed: 11/23/21
Diesel Range Organics (C10-C28)	ND	25.0							
Dil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	57.2		50.0		114	50-200			
LCS (2148007-BS1)							Prepared:	11/22/21	Analyzed: 11/23/21
Diesel Range Organics (C10-C28)	556	25.0	500		111	38-132			
Surrogate: n-Nonane	56.6		50.0		113	50-200			
Matrix Spike (2148007-MS1)				Source: 1	E111124-0)5	Prepared:	11/22/21	Analyzed: 11/23/21
Diesel Range Organics (C10-C28)	570	25.0	500	ND	114	38-132			
Surrogate: n-Nonane	59.9		50.0		120	50-200			
Matrix Spike Dup (2148007-MSD1)				Source: 1	E111124-0)5	Prepared:	11/22/21	Analyzed: 11/23/21
Diesel Range Organics (C10-C28)	584	25.0	500	ND	117	38-132	2.47	20	
Surrogate: n-Nonane	61.5		50.0		123	50-200			



Mack Energy	Project Name:	Partition Federal	Reported:
7 W. Compress Road Artesia NM, 88210	Project Number: Project Manager:	20046-0001 Natalie Gladden	11/23/2021 4:53:29PM
	Anions by 1	EPA 300.0/9056A	Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2148009-BLK1)							Prepared: 1	1/22/21	Analyzed: 11/22/21
Chloride	ND	20.0							
LCS (2148009-BS1)							Prepared: 1	1/22/21	Analyzed: 11/22/21
Chloride	250	20.0	250		100	90-110			
Matrix Spike (2148009-MS1)				Source:	E111127-()1	Prepared: 1	1/22/21	Analyzed: 11/22/21
Chloride	511	20.0	250	253	103	80-120			
Matrix Spike Dup (2148009-MSD1)				Source:	E111127-(1	Prepared: 1	1/22/21	Analyzed: 11/22/21
Chloride	516	20.0	250	253	105	80-120	1.06	20	

Mack Energy 7 W. Compress Road		Project Name: Project Number:		artition Federal 0046-0001					Reported:
Artesia NM, 88210		Project Manager:	N	atalie Gladden					11/23/2021 4:53:29PM
		Anions	by EPA	300.0/9056A					Analyst: IY
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limi	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2148011-BLK1)							Prepared:	11/22/21	Analyzed: 11/23/21
Chloride	ND	20.0							
LCS (2148011-BS1)							Prepared:	11/22/21	Analyzed: 11/23/21
Chloride	247	20.0	250		98.7	90-110			
Matrix Spike (2148011-MS1)				Source: E	2111127-2	1	Prepared:	11/22/21	Analyzed: 11/23/21
Chloride	248	20.0	250	ND	99.4	80-120			
Matrix Spike Dup (2148011-MSD1)				Source: E	2111127-2	1	Prepared:	11/22/21	Analyzed: 11/23/21
Chloride	248	20.0	250	ND	99.1	80-120	0.286	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

Mack Energy	Project Name:	Partition Federal	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	11/23/21 16:53

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: M	ac Francy	-					Bill To	1000	119		La	ab U	se Or	nly	alty)				TA	AT	EPA Program		
Project:	Partition F	deral				Attention: F55			Lab	WO#	3 (6.)	7/7/	Job	Num			1D	2D	3D	Standard	CWA	SDWA	
	Manager:					Address: 2724 N	WCK		=	112	7_		200					<u> X_</u>					
Address:						City, State, Zip Ho	bbs, NM 88240	<u> </u>		- 20			Analy	ysis a	nd M	ethod	1					RCRA	
City, Sta	te, Zip					Phone:	-										l	ļ.					
Phone: Email:						Email: Natalie			3015	8015				٦		(500)				NIN AL CC	State	TV	
Report d	ue hv:								βÃ	by	021	92	9	0.0	8	g				X	UT AZ	1X	
Time	ue by.							Lab	8	DRO	by 8	3, 8,	ls 60	ide 3	Bg	E							
Sampled	Date Sampled	Matrix	No. of Containers	Sample !!)			Lab Number	DRO/ORO by 8015	GRO/DRO by	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	NM - BGDOC	TX - TPH (TCEQ 1005)					Remarks		
13.	11/17/21		1	SPI				1							(
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Addition	al Instruction	ns:		71 7)								
	oler), attest to the					e that tampering with or inte	116111	the sample locat	tion,											ived on ice the day th °C on subsequent d		or received	
	by: (Signatur		Date	7 - ZI	Time	Received by: (Sig		Date 11-221	1	Time	41		Rece	aived	on i	ce.		b Us	se On	ly			
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Relinquish	ed by: (Signatur	e)	Date		Time	Received by: (Sig	nature)	Date		Time			AVG	Tem	ıp °C	1	0100			13			
Sample Mate	rix: S - Soil, Sd - Se	olid, Sg - Slud	ge, A - Aque	ous, O - Othe	r			Container	Туре	: g - g	lass,						r glas	s, v -	VOA	- SEL			
Note: Sam	ples are discard	ed 30 days	after result	s are report	ed unless o	ther arrangements are	made. Hazardous s													port for the ana	ysis of the a	bove	

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samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

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Pr	ogram SDWA	ived by
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Client:	nt: Partition Federal				Bill To			Lab Use Only								1		TA	EPA Program			
Project:	Partition	Federal				Attention: ESS			Lab	WO#	200		Job 1				1D	2D	3D	Standard	CWA	SDWA
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mail:									& A	by 8015	120	9	9	00.0	၂ ႘	Ğ.	1			NM CO	UT AZ	TX
Report d	ue by:		ī		1.30				- %)RO	34 8(y 82	\$ 60.	de 3	3GD(Ĕ				Δ		
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID				Lab Numbe	DRO/ORO by 8015	GRO/DRO b	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	NM - BGDOC	TX - TPH (TCEQ 1005)					Remarks	
0.12.	11-17-21			SP 6				11							(
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	5			SP 7				13														
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				SP 10				19)							
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	ler), attest to the					that tampering with or intentiona . Sampled by:		elling the sample loc	ition,						-211					ed on ice the day the 'C on subsequent day	A CONTRACTOR DESCRIPTION OF THE PERSON	r received
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Relinquishe	ed by: (Signature	2)	Date		me	Received by: (Signature	2)	Date		Time			T1				T2			Т3		
Relinquishe	ed by: (Signature	2)	Date	Ti	me	Received by: (Signature	•)	Date		Time			AVG	Tem	n°C							
Sample Matri	ix: S - Soil, Sd - So	lid, Sg - Slud	ge, A - Aqueo	us, O - Other				Containe	r Type	: g - g	lass. ı						r glas	s, v - \	VOA	- Ліць мез		
					l unless o	ther arrangements are made.	Hazard													ort for the analy	sis of the at	oove
						with this COC. The liability of t											•		•			SON AMERICA

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oject Information			Chain of Custody											Page 3 EPA Program RCRA CWA Stat		_ of _ 3
iont: Mo		Panort	Attention				La	h He	e Only			25	AT	E	DA Drogr	am
ient: Mac Energy roject: Partition Federal		Report due by:	Attention	Lab WO#								1D		RCRA	CWA	SDWA
roject Manager:		Attention: E55			Lab	VVU#	12		254	umber		110	130	NCNA	CVVA	30 447
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Time Date Matrix No Containers Sample	e ID		7.	Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	TCEQ 1005	BGDOC - NM	верос			Re	marks
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ield sampler), attest to the validity and authenticity of this sample ne of collection iعرف المالة والمالة psidered fraud and may be grounds for legal a	i i	//3	helling the sample loca	tion, date or										ceived on ice the		
lipodulshed by (Signature) Date 11-17-2	Time	Received by (Signatu		Date 11-17-2	l	Time	:41		Recei	ved on	ice:		ab Us	e Only		
linquished by: (Signature) Date	Time	Received by: (Signatu	ıre)	Date		Time			T1 AVG	remp °(T2			<u>T3</u>	
mple Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, C	Othor			Containe	r Type	J. G - C	rlacc					or ala	cc v	VOA		



5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-1881 Fx (505) 632-1865

envirotech-inc.com labadmin@envirotech-inc.com

Envirotech Analytical Laboratory

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:	Mack Energy	Date Received:	11/22/21 11:	:41		Work Order ID:	E111127
Phone:	(575) 390-6397	Date Logged In:	11/22/21 11:	:42		Logged In By:	Jessica Liesse
Email:	Natalie@energystaffingllc.com	Due Date:	11/23/21 17	:00 (1 day TAT)			
	Custody (COC)						
	ne sample ID match the COC?		Yes				
	ne number of samples per sampling site location mat	tch the COC	Yes				
	amples dropped off by client or carrier?		Yes	Carrier: <u>L</u>	ab Carrier		
	e COC complete, i.e., signatures, dates/times, reques	sted analyses?	No				
5. Were al	Il samples received within holding time? Note: Analysis, such as pH which should be conducted in i.e, 15 minute hold time, are not included in this disucssion		Yes	,		<u>Comments</u>	s/Resolution
	urn Around Time (TAT) COC indicate standard TAT, or Expedited TAT?		Yes		No matrix	or time samp	led listed on COC.
	· •		103			2-10 have no	
Sample C	cample cooler received?		Yes		Samples II.	2-10 have no	sampled date.
	was cooler received in good condition?		Yes				
• •	5						
	e sample(s) received intact, i.e., not broken?		Yes				
	custody/security seals present?		No				
•	were custody/security seals intact?		NA				
	e sample received on ice? If yes, the recorded temp is 4°C, Note: Thermal preservation is not required, if samples ar minutes of sampling /isible ice, record the temperature. Actual sample	e received w/i 15	Yes				
Sample C			_				
_	queous VOC samples present?		No				
	OC samples collected in VOA Vials?		NA				
	head space less than 6-8 mm (pea sized or less)?		NA				
	trip blank (TB) included for VOC analyses?		NA				
	on-VOC samples collected in the correct containers	?	Yes				
	appropriate volume/weight or number of sample contain		Yes				
Field Lab							
	field sample labels filled out with the minimum info	ormation:					
	ample ID?		Yes				
	ate/Time Collected?		Yes	l			
C	ollectors name?		No				
	reservation						
	the COC or field labels indicate the samples were pr	reserved?	No				
	ample(s) correctly preserved?		NA				
24. Is lab	filteration required and/or requested for dissolved n	netals?	No				
	se Sample Matrix						
	the sample have more than one phase, i.e., multipha		No				
27. If yes,	does the COC specify which phase(s) is to be analy	yzed?	NA				
Subcontr	act Laboratory						
28. Are sa	imples required to get sent to a subcontract laborator	ry?	No				
29. Was a	subcontract laboratory specified by the client and it	f so who?	NA S	Subcontract Lab	: NA		
Client In	<u>istruction</u>						

Date

Report to:

Natalie Gladden







5796 U.S. Hwy 64 Farmington, NM 87401

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





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Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: Mack Partition

Work Order: E307086

Job Number: 20046-0001

Received: 7/20/2023

Revision: 2

Report Reviewed By:

Walter Hinchman Laboratory Director 7/21/23

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.

Date Reported: 7/21/23

Natalie Gladden 7 W. Compress Road Artesia, NM 88210

Project Name: Mack Partition

Workorder: E307086

Date Received: 7/20/2023 7:00:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/20/2023 7:00:00AM, under the Project Name: Mack Partition.

The analytical test results summarized in this report with the Project Name: Mack Partition 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 reguarding 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

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Cell: 775-287-1762

whinchman@envirotech-inc.com

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West Texas Midland/Odessa Area Rayny Hagan

Technical Representative Office: 505-421-LABS(5227)

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Sample Summary

Mack Energy	Project Name:	Mack Partition	Reported:
7 W. Compress Road	Project Number:	20046-0001	Keporteu.
Artesia NM, 88210	Project Manager:	Natalie Gladden	07/21/23 17:15

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW1 - Surface	E307086-01A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW1 - 2	E307086-02A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW2 - Surface	E307086-03A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW2 - 2	E307086-04A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW3 - Surface	E307086-05A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW3 - 2'	E307086-06A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW4 - Surface	E307086-07A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW4 - 2'	E307086-08A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW5 - Surface	E307086-09A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW5 - 2'	E307086-10A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW-6 Surface	E307086-11A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW-6 - 2'	E307086-12A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW7 - Surface	E307086-13A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW7 - 2'	E307086-14A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW8 - Surface	E307086-15A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW8 - 2'	E307086-16A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW9 - Surface	E307086-17A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW9 - 2'	E307086-18A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW10 - Surface	E307086-19A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW10 - 2'	E307086-20A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW11 - Surface	E307086-21A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW11 - 2'	E307086-22A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW12 - Surface	E307086-23A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.
SW12 - 2'	E307086-24A	Soil	07/18/23	07/20/23	Glass Jar, 2 oz.

ſ	Mack Energy	Project Name:	Mack Partition	
	7 W. Compress Road	Project Number:	20046-0001	Reported:
	Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW1 - Surface E307086-01

		E30/080-01					
	D. I	Reporting		ı.	D 1		N.
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: IY		Batch: 2329049
Benzene	ND	0.0250		1	07/20/23	07/21/23	
Ethylbenzene	ND	0.0250		1	07/20/23	07/21/23	
Toluene	ND	0.0250		1	07/20/23	07/21/23	
o-Xylene	ND	0.0250		1	07/20/23	07/21/23	
p,m-Xylene	ND	0.0500		1	07/20/23	07/21/23	
Total Xylenes	ND	0.0250		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		93.4 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		98.6 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		100 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: IY		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		93.4 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		98.6 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		100 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: Љ		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	25.0		1	07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	50.0		1	07/20/23	07/21/23	
Surrogate: n-Nonane		87.9 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: BA		Batch: 2329058
Chloride	ND	20.0		1	07/20/23	07/20/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW1 - 2 E307086-02

		E307000-02					
		Reporting					
Analyte	Result	Limit	Dilut	tion 1	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	P	Analyst: IY			Batch: 2329049
Benzene	ND	0.0250	1	(07/20/23	07/21/23	
Ethylbenzene	ND	0.0250	1	(07/20/23	07/21/23	
Toluene	ND	0.0250	1	(07/20/23	07/21/23	
o-Xylene	ND	0.0250	1	(07/20/23	07/21/23	
p,m-Xylene	ND	0.0500	1	(07/20/23	07/21/23	
Total Xylenes	ND	0.0250	1	(07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		94.4 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		100 %	70-130	(07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130	(07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	A	Analyst: IY			Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0	1	(07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		94.4 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		100 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130	(07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	A	Analyst: JL			Batch: 2329054
Diesel Range Organics (C10-C28)	ND	25.0	1		07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	50.0	1	(07/20/23	07/21/23	
Surrogate: n-Nonane		85.5 %	50-200	(07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: BA			Batch: 2329058
Chloride	ND	20.0	1		07/20/23	07/20/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW2 - Surface E307086-03

Analyte	Result	Reporting Limit		ution	Prepared	Analyzed	Notes
Analyte	Result	Limit	Dii	ution	Frepared	Anatyzeu	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2329049
Benzene	ND	0.0250		1	07/20/23	07/21/23	
Ethylbenzene	ND	0.0250		1	07/20/23	07/21/23	
Toluene	ND	0.0250		1	07/20/23	07/21/23	
o-Xylene	ND	0.0250		1	07/20/23	07/21/23	
p,m-Xylene	ND	0.0500		1	07/20/23	07/21/23	
Total Xylenes	ND	0.0250		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		95.9 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		97.6 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		95.9 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		97.6 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	25.0		1	07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	50.0		1	07/20/23	07/21/23	
Surrogate: n-Nonane		82.1 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2329058
Chloride	ND	20.0		1	07/20/23	07/20/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW2 - 2 E307086-04

		E307000-04					
	P. 1.	Reporting					N.
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: I	Y		Batch: 2329049
Benzene	ND	0.0250	1		07/20/23	07/21/23	
Ethylbenzene	ND	0.0250	1		07/20/23	07/21/23	
Toluene	ND	0.0250	1		07/20/23	07/21/23	
o-Xylene	ND	0.0250	1		07/20/23	07/21/23	
p,m-Xylene	ND	0.0500	1		07/20/23	07/21/23	
Total Xylenes	ND	0.0250	1		07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		95.3 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		98.9 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: Г	Y		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0	1		07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		95.3 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		98.9 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: J	L		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	25.0	1		07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	50.0	1	<u> </u>	07/20/23	07/21/23	
Surrogate: n-Nonane		83.9 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: E	BA		Batch: 2329058
Chloride	ND	20.0	1		07/20/23	07/20/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW3 - Surface E307086-05

		Reporting					
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	I	Analyst:	IY		Batch: 2329049
Benzene	ND	0.0250	1		07/20/23	07/21/23	
Ethylbenzene	ND	0.0250	1		07/20/23	07/21/23	
Toluene	ND	0.0250	1		07/20/23	07/21/23	
o-Xylene	ND	0.0250	1		07/20/23	07/21/23	
p,m-Xylene	ND	0.0500	1		07/20/23	07/21/23	
Total Xylenes	ND	0.0250	1		07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		93.7 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		98.2 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst:	IY		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0	1		07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		93.7 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		98.2 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	I	Analyst:	JL		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	25.0	1		07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	50.0	1		07/20/23	07/21/23	
Surrogate: n-Nonane		82.8 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst:	BA		Batch: 2329058
	59.2	20.0			07/20/23	07/20/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW3 - 2' E307086-06

	D 1	Reporting					N.
Analyte	Result	Limit	Dilut	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: Γ	Y		Batch: 2329049
Benzene	ND	0.0250	1		07/20/23	07/21/23	
Ethylbenzene	ND	0.0250	1		07/20/23	07/21/23	
Toluene	ND	0.0250	1		07/20/23	07/21/23	
p-Xylene	ND	0.0250	1		07/20/23	07/21/23	
p,m-Xylene	ND	0.0500	1		07/20/23	07/21/23	
Total Xylenes	ND	0.0250	1		07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		93.2 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		99.7 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: Γ	Y		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0	1		07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		93.2 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		99.7 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: Jl	L		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	25.0	1		07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	50.0	1		07/20/23	07/21/23	
Surrogate: n-Nonane		81.6 %	50-200	·	07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: B	SA		Batch: 2329058
Chloride	56.1	20.0	1		07/20/23	07/20/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW4 - Surface E307086-07

		Reporting					
Analyte	Result	Limit	Dil	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2329049
Benzene	ND	0.0250		1	07/20/23	07/21/23	
Ethylbenzene	ND	0.0250		1	07/20/23	07/21/23	
Toluene	ND	0.0250		1	07/20/23	07/21/23	
o-Xylene	ND	0.0250		1	07/20/23	07/21/23	
p,m-Xylene	ND	0.0500		1	07/20/23	07/21/23	
Total Xylenes	ND	0.0250		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		95.2 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		100 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		95.2 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		100 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	25.0		1	07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	50.0		1	07/20/23	07/21/23	
Surrogate: n-Nonane		80.0 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2329058
Chloride	53.6	20.0		1	07/20/23	07/20/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW4 - 2'

		E307086-08					
		Reporting					
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: IY		Batch: 2329049
Benzene	ND	0.0250		1	07/20/23	07/21/23	
Ethylbenzene	ND	0.0250		1	07/20/23	07/21/23	
Toluene	ND	0.0250		1	07/20/23	07/21/23	
o-Xylene	ND	0.0250		1	07/20/23	07/21/23	
p,m-Xylene	ND	0.0500		1	07/20/23	07/21/23	
Total Xylenes	ND	0.0250		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		95.7 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		95.9 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		99.5 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	IY		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		95.7 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		95.9 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		99.5 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	JL		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	25.0		1	07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	50.0		1	07/20/23	07/21/23	
Surrogate: n-Nonane		86.6 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	BA		Batch: 2329058
Chloride	51.4	20.0		1	07/20/23	07/20/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW5 - Surface E307086-09

Analyte	Result	Reporting Limit		ution	Prepared	Analyzed	Notes
Analyte	Result	Limit	Dii	ution	Frepared	Anaryzeu	notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2329049
Benzene	ND	0.0250		1	07/20/23	07/21/23	
Ethylbenzene	ND	0.0250		1	07/20/23	07/21/23	
Toluene	ND	0.0250		1	07/20/23	07/21/23	
o-Xylene	ND	0.0250		1	07/20/23	07/21/23	
p,m-Xylene	ND	0.0500		1	07/20/23	07/21/23	
Total Xylenes	ND	0.0250		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		95.2 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		95.8 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		95.2 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		95.8 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	50.0		2	07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	100		2	07/20/23	07/21/23	
Surrogate: n-Nonane		107 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2329058
Chloride	ND	20.0		1	07/20/23	07/20/23	<u> </u>



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW5 - 2' E307086-10

		E30/080-10					
	D. I	Reporting		··	D 1		N
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: I	Y		Batch: 2329049
Benzene	ND	0.0250	1		07/20/23	07/21/23	
Ethylbenzene	ND	0.0250	1		07/20/23	07/21/23	
Toluene	ND	0.0250	1		07/20/23	07/21/23	
o-Xylene	ND	0.0250	1		07/20/23	07/21/23	
p,m-Xylene	ND	0.0500	1		07/20/23	07/21/23	
Total Xylenes	ND	0.0250	1	l	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		94.5 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		99.3 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		102 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: I	Y		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0	1	Į.	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		94.5 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		99.3 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		102 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: J	īL		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	50.0	2	2	07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	100	2	2	07/20/23	07/21/23	
Surrogate: n-Nonane		105 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: I	ВА		Batch: 2329058
Chloride	ND	20.0	1		07/20/23	07/20/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW-6 Surface E307086-11

		2007000 11				
Analyte	Result	Reporting Limit	Dilutio	on Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		nalyst: IY		Batch: 2329049
Benzene	ND	0.0250	1	07/20/23	07/21/23	Batem 25270 17
Ethylbenzene	ND	0.0250	1	07/20/23	07/21/23	
Toluene	ND	0.0250	1	07/20/23	07/21/23	
o-Xylene	ND	0.0250	1	07/20/23	07/21/23	
p,m-Xylene	ND	0.0500	1	07/20/23	07/21/23	
Total Xylenes	ND	0.0250	1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		92.5 %	70-130	07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		97.6 %	70-130	07/20/23	07/21/23	
Surrogate: Toluene-d8		99.7 %	70-130	07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	A	nalyst: IY		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		92.5 %	70-130	07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		97.6 %	70-130	07/20/23	07/21/23	
Surrogate: Toluene-d8		99.7 %	70-130	07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	A	nalyst: JL		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	50.0	2	07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	100	2	07/20/23	07/21/23	
Surrogate: n-Nonane		106 %	50-200	07/20/23	07/21/23	
A: L EDA 200 0/005/ A	mg/kg	mg/kg	A	nalyst: BA		Batch: 2329058
Anions by EPA 300.0/9056A	mg/kg	mg/kg		,		



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW-6 - 2' E307086-12

	D 1	Reporting	F.:				N.
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	: IY		Batch: 2329049
Benzene	ND	0.0250		1	07/20/23	07/21/23	
Ethylbenzene	ND	0.0250		1	07/20/23	07/21/23	
Toluene	ND	0.0250		1	07/20/23	07/21/23	
o-Xylene	ND	0.0250		1	07/20/23	07/21/23	
p,m-Xylene	ND	0.0500		1	07/20/23	07/21/23	
Total Xylenes	ND	0.0250		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		95.5 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		93.9 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	: IY		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		95.5 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		93.9 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	: Љ		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	50.0		2	07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	100		2	07/20/23	07/21/23	
Surrogate: n-Nonane		110 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: BA		Batch: 2329058
Chloride	ND	20.0		1	07/20/23	07/20/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW7 - Surface E307086-13

		200,000 10				
Analyte	Result	Reporting Limit	Dilutio	on Prepared	Analyzed	Notes
				nalyst: IY	7 Hidry 200	Batch: 2329049
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		-	07/21/22	Batch: 2329049
Benzene	ND	0.0250	1	07/20/23	07/21/23	
Ethylbenzene	ND	0.0250	1	07/20/23	07/21/23	
Toluene	ND	0.0250	1	07/20/23	07/21/23	
o-Xylene	ND	0.0250	1	07/20/23	07/21/23	
p,m-Xylene	ND	0.0500	1	07/20/23	07/21/23	
Total Xylenes	ND	0.0250	1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		94.6 %	70-130	07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		97.6 %	70-130	07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130	07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	A	nalyst: IY		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		94.6 %	70-130	07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		97.6 %	70-130	07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130	07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	A	nalyst: JL		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	25.0	1	07/20/23	07/21/23	_
Oil Range Organics (C28-C36)	ND	50.0	1	07/20/23	07/21/23	
Surrogate: n-Nonane		115 %	50-200	07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	A	nalyst: BA		Batch: 2329058
Chloride	ND	20.0	1	07/20/23	07/21/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW7 - 2' E307086-14

		E307000-14					
	D 1	Reporting			D 1		N
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2329049
Benzene	ND	0.0250	1		07/20/23	07/21/23	
Ethylbenzene	ND	0.0250	1		07/20/23	07/21/23	
Toluene	ND	0.0250	1		07/20/23	07/21/23	
o-Xylene	ND	0.0250	1		07/20/23	07/21/23	
p,m-Xylene	ND	0.0500	1		07/20/23	07/21/23	
Total Xylenes	ND	0.0250	1	l	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		92.5 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		97.6 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		99.5 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0	1	Į.	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		92.5 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		97.6 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		99.5 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: .	JL		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	50.0	2	2	07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	100	2	2	07/20/23	07/21/23	
Surrogate: n-Nonane		108 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2329058
Chloride	ND	20.0	1		07/20/23	07/21/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW8 - Surface E307086-15

		200,000 10					
Analyte	Result	Reporting Limit		ution	Prepared	Analyzed	Notes
	mg/kg		Dil	Analyst:		7 mary zea	Batch: 2329049
Volatile Organic Compounds by EPA 8260B		mg/kg		1		07/21/23	Daten: 2329049
Benzene	ND	0.0250		1	07/20/23 07/20/23	07/21/23	
Ethylbenzene	ND	0.0250		1			
Toluene	ND	0.0250		1	07/20/23	07/21/23	
o-Xylene	ND	0.0250		1	07/20/23	07/21/23	
p,m-Xylene	ND	0.0500		1	07/20/23	07/21/23	
Total Xylenes	ND	0.0250		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		94.7 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		94.4 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		99.8 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	: IY		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		94.7 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		94.4 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		99.8 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: Л		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	25.0		1	07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	50.0		1	07/20/23	07/21/23	
Surrogate: n-Nonane		107 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	: BA		Batch: 2329058
Chloride	ND	20.0		1	07/20/23	07/21/23	

Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW8 - 2' E307086-16

D 1		Р.,		D 1		N
Result	Limit	Dilt	ution	Prepared	Analyzed	Notes
mg/kg	mg/kg		Analyst:	IY		Batch: 2329049
ND	0.0250		1	07/20/23	07/21/23	
ND	0.0250		1	07/20/23	07/21/23	
ND	0.0250		1	07/20/23	07/21/23	
ND	0.0250		1	07/20/23	07/21/23	
ND	0.0500		1	07/20/23	07/21/23	
ND	0.0250		1	07/20/23	07/21/23	
	96.1 %	70-130		07/20/23	07/21/23	
	96.6 %	70-130		07/20/23	07/21/23	
	98.3 %	70-130		07/20/23	07/21/23	
mg/kg	mg/kg		Analyst:	IY		Batch: 2329049
ND	20.0		1	07/20/23	07/21/23	
	96.1 %	70-130		07/20/23	07/21/23	
	96.6 %	70-130		07/20/23	07/21/23	
	98.3 %	70-130		07/20/23	07/21/23	
mg/kg	mg/kg		Analyst:	JL		Batch: 2329054
ND	50.0	-	2	07/20/23	07/21/23	
ND	100		2	07/20/23	07/21/23	
	109 %	50-200	·	07/20/23	07/21/23	
mg/kg	mg/kg		Analyst:	BA		Batch: 2329058
ND	20.0		1	07/20/23	07/21/23	
	ND Mg/kg ND Mg/kg	mg/kg mg/kg ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0500 ND 0.0250 ND 0.0250 MD 96.6 % 98.3 % mg/kg ND 20.0 96.1 % 96.6 % 98.3 % mg/kg ND 50.0 ND 100 109 % mg/kg mg/kg mg/kg	Result Limit Dilu mg/kg mg/kg ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0500 ND 0.0250 PO 70-130 96.6 % 70-130 98.3 % 70-130 mg/kg mg/kg ND 20.0 96.1 % 70-130 98.3 % 70-130 98.3 % 70-130 mg/kg mg/kg ND 50.0 ND 100 109 % 50-200 mg/kg mg/kg	Result Limit Dilution mg/kg mg/kg Analyst: ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0500 1 ND 0.0250 1 96.1 % 70-130 98.3 % 70-130 mg/kg mg/kg Analyst: ND 20.0 1 96.6 % 70-130 98.3 % 98.3 % 70-130 98.3 % mg/kg mg/kg Analyst: ND 50.0 2 ND 50.0 2 ND 100 2 109 % 50-200 mg/kg Mg/kg Analyst:	Result Limit Dilution Prepared mg/kg mg/kg Analyst: IY ND 0.0250 1 07/20/23 ND 0.0250 1 07/20/23 ND 0.0250 1 07/20/23 ND 0.0500 1 07/20/23 ND 0.0250 1 07/20/23 ND 0.0250 1 07/20/23 96.1 % 70-130 07/20/23 96.6 % 70-130 07/20/23 98.3 % 70-130 07/20/23 mg/kg mg/kg Analyst: IY ND 20.0 1 07/20/23 96.6 % 70-130 07/20/23 96.6 % 70-130 07/20/23 98.3 % 70-130 07/20/23 mg/kg mg/kg Analyst: JL ND 50.0 2 07/20/23 ND 100 2 07/20/23 ND 100 2 07/20/23	Result Limit Dilution Prepared Analyzed mg/kg mg/kg Analyst: IY ND 0.0250 1 07/20/23 07/21/23 ND 0.0250 1 07/20/23 07/21/23 07/21/23 ND 0.0250 1 07/20/23 07/21/23 ND 0.0250 1 07/20/23 07/21/23 ND 0.0500 1 07/20/23 07/21/23 ND 0.0250 1 07/20/23 07/21/23 96.1 % 70-130 07/20/23 07/21/23 96.6 % 70-130 07/20/23 07/21/23 mg/kg mg/kg Analyst: IY ND 20.0 1 07/20/23 07/21/23 96.6 % 70-130 07/20/23 07/21/23 96.6 % 70-130 07/20/23 07/21/23 98.3 % 70-130 07/20/23 07/21/23 mg/kg mg/kg Analyst: JL ND 50.0 2 <t< td=""></t<>



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW9 - Surface E307086-17

		E30/080-1/					
		Reporting					N.
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: 1	ΙΥ		Batch: 2329049
Benzene	ND	0.0250	1		07/20/23	07/21/23	
Ethylbenzene	ND	0.0250	1		07/20/23	07/21/23	
Toluene	ND	0.0250	1		07/20/23	07/21/23	
o-Xylene	ND	0.0250	1	Į.	07/20/23	07/21/23	
p,m-Xylene	ND	0.0500	1	Į.	07/20/23	07/21/23	
Total Xylenes	ND	0.0250	1	l	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		107 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		97.0 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		99.7 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: 1	ΙΥ		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0	1		07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		107 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		97.0 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		99.7 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: .	ΠL		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	50.0	2	2	07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	100	2	2	07/20/23	07/21/23	
Surrogate: n-Nonane		108 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: 1	BA		Batch: 2329058
Chloride	ND	20.0	1		07/20/23	07/21/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW9 - 2'

		E307086-18					
		Reporting					
Analyte	Result	Limit	Dilu	ıtion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: I	Y		Batch: 2329049
Benzene	ND	0.0250	1	1	07/20/23	07/21/23	
Ethylbenzene	ND	0.0250	1	1	07/20/23	07/21/23	
Toluene	ND	0.0250	1	1	07/20/23	07/21/23	
o-Xylene	ND	0.0250	1	1	07/20/23	07/21/23	
p,m-Xylene	ND	0.0500	1	1	07/20/23	07/21/23	
Total Xylenes	ND	0.0250	1	1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		106 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		99.9 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: I	Y		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0	1	l	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		106 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		99.9 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: J	L		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	25.0	1	1	07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	50.0	1	1	07/20/23	07/21/23	
Surrogate: n-Nonane		113 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: I	BA		Batch: 2329058
Chloride	ND	20.0	1	1	07/20/23	07/21/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW10 - Surface E307086-19

		200.000 19					
Analyte	Result	Reporting Limit		ution	Prepared	Analyzed	Notes
			Dil			7 mary zea	
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:			Batch: 2329049
Benzene	ND	0.0250		1	07/20/23	07/21/23	
Ethylbenzene	ND	0.0250		1	07/20/23	07/21/23	
Toluene	ND	0.0250		1	07/20/23	07/21/23	
o-Xylene	ND	0.0250		1	07/20/23	07/21/23	
p,m-Xylene	ND	0.0500		1	07/20/23	07/21/23	
Total Xylenes	ND	0.0250		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		107 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		97.3 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		99.2 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	: IY		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0		1	07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		107 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		97.3 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		99.2 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: Л		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	25.0		1	07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	50.0		1	07/20/23	07/21/23	
Surrogate: n-Nonane		112 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	: BA		Batch: 2329058
Chloride	ND	20.0		1	07/20/23	07/21/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW10 - 2' E307086-20

		E30/080-20					
	D 1:	Reporting		.•	D 1		N.
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2329049
Benzene	ND	0.0250	1		07/20/23	07/21/23	
Ethylbenzene	ND	0.0250	1		07/20/23	07/21/23	
Toluene	ND	0.0250	1		07/20/23	07/21/23	
o-Xylene	ND	0.0250	1	l	07/20/23	07/21/23	
p,m-Xylene	ND	0.0500	1	l	07/20/23	07/21/23	
Total Xylenes	ND	0.0250	1		07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		105 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		99.3 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		99.4 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2329049
Gasoline Range Organics (C6-C10)	ND	20.0	1		07/20/23	07/21/23	
Surrogate: Bromofluorobenzene		105 %	70-130		07/20/23	07/21/23	
Surrogate: 1,2-Dichloroethane-d4		99.3 %	70-130		07/20/23	07/21/23	
Surrogate: Toluene-d8		99.4 %	70-130		07/20/23	07/21/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: .	JL		Batch: 2329054
Diesel Range Organics (C10-C28)	ND	25.0	1		07/20/23	07/21/23	
Oil Range Organics (C28-C36)	ND	50.0	1	<u> </u>	07/20/23	07/21/23	
Surrogate: n-Nonane		80.2 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2329058
Chloride	ND	20.0	1		07/20/23	07/21/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW11 - Surface

E307086-21									
Reporting									
Analyte	Result	Limit	Dilı	ution	Prepared	Analyzed	Notes		
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2329050		
Benzene	ND	0.0250		1	07/20/23	07/20/23			
Ethylbenzene	ND	0.0250		1	07/20/23	07/20/23			
Toluene	ND	0.0250		1	07/20/23	07/20/23			
o-Xylene	ND	0.0250		1	07/20/23	07/20/23			
p,m-Xylene	ND	0.0500		1	07/20/23	07/20/23			
Total Xylenes	ND	0.0250		1	07/20/23	07/20/23			
Surrogate: Bromofluorobenzene		96.5 %	70-130		07/20/23	07/20/23			
Surrogate: 1,2-Dichloroethane-d4		94.7 %	70-130		07/20/23	07/20/23			
Surrogate: Toluene-d8		102 %	70-130		07/20/23	07/20/23			
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: IY			Batch: 2329050		
Gasoline Range Organics (C6-C10)	ND	20.0		1	07/20/23	07/20/23			
Surrogate: Bromofluorobenzene		96.5 %	70-130		07/20/23	07/20/23			
Surrogate: 1,2-Dichloroethane-d4		94.7 %	70-130		07/20/23	07/20/23			
Surrogate: Toluene-d8		102 %	70-130		07/20/23	07/20/23			
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2329055		
Diesel Range Organics (C10-C28)	ND	25.0		1	07/20/23	07/21/23			
Oil Range Organics (C28-C36)	ND	50.0		1	07/20/23	07/21/23			
Surrogate: n-Nonane		96.2 %	50-200		07/20/23	07/21/23			
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2329059		

20.0

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07/20/23

07/20/23

ND



Chloride

Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW11 - 2'

		E307086-22					
		Reporting					
Analyte	Result	Limit	Dilı	ıtion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2329050
Benzene	ND	0.0250		1	07/20/23	07/20/23	
Ethylbenzene	ND	0.0250		1	07/20/23	07/20/23	
Toluene	ND	0.0250		1	07/20/23	07/20/23	
o-Xylene	ND	0.0250		1	07/20/23	07/20/23	
p,m-Xylene	ND	0.0500		1	07/20/23	07/20/23	
Total Xylenes	ND	0.0250		1	07/20/23	07/20/23	
Surrogate: Bromofluorobenzene		96.8 %	70-130		07/20/23	07/20/23	
Surrogate: 1,2-Dichloroethane-d4		95.9 %	70-130		07/20/23	07/20/23	
Surrogate: Toluene-d8		100 %	70-130		07/20/23	07/20/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2329050
Gasoline Range Organics (C6-C10)	ND	20.0		1	07/20/23	07/20/23	
Surrogate: Bromofluorobenzene		96.8 %	70-130		07/20/23	07/20/23	
Surrogate: 1,2-Dichloroethane-d4		95.9 %	70-130		07/20/23	07/20/23	
Surrogate: Toluene-d8		100 %	70-130		07/20/23	07/20/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2329055
Diesel Range Organics (C10-C28)	46.8	25.0		1	07/20/23	07/21/23	
Oil Range Organics (C28-C36)	73.3	50.0		1	07/20/23	07/21/23	
Surrogate: n-Nonane		96.7 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2329059
Chloride	246	20.0		1	07/20/23	07/21/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW12 - Surface

E307086-23

		Reporting					
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2329050
Benzene	ND	0.0250	1		07/20/23	07/20/23	
Ethylbenzene	ND	0.0250	1	l	07/20/23	07/20/23	
Toluene	ND	0.0250	1		07/20/23	07/20/23	
o-Xylene	ND	0.0250	1		07/20/23	07/20/23	
p,m-Xylene	ND	0.0500	1		07/20/23	07/20/23	
Total Xylenes	ND	0.0250	1		07/20/23	07/20/23	
Surrogate: Bromofluorobenzene		98.3 %	70-130		07/20/23	07/20/23	
Surrogate: 1,2-Dichloroethane-d4		95.4 %	70-130		07/20/23	07/20/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/20/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2329050
Gasoline Range Organics (C6-C10)	ND	20.0	1		07/20/23	07/20/23	
Surrogate: Bromofluorobenzene		98.3 %	70-130		07/20/23	07/20/23	
Surrogate: 1,2-Dichloroethane-d4		95.4 %	70-130		07/20/23	07/20/23	
Surrogate: Toluene-d8		101 %	70-130		07/20/23	07/20/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2329055
Diesel Range Organics (C10-C28)	48.8	25.0	1		07/20/23	07/21/23	
Oil Range Organics (C28-C36)	78.7	50.0	1	l	07/20/23	07/21/23	
Surrogate: n-Nonane		94.7 %	50-200		07/20/23	07/21/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2329059
					07/20/23	07/21/23	



Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

SW12 - 2' E307086-24

	E307000-24					
	Reporting					-
Result	Limit	Dil	lution	Prepared	Analyzed	Notes
mg/kg	mg/kg		Analyst	: IY		Batch: 2329050
ND	0.0250		1	07/20/23	07/20/23	
ND	0.0250		1	07/20/23	07/20/23	
ND	0.0250		1	07/20/23	07/20/23	
ND	0.0250		1	07/20/23	07/20/23	
ND	0.0500		1	07/20/23	07/20/23	
ND	0.0250		1	07/20/23	07/20/23	
	96.3 %	70-130		07/20/23	07/20/23	
	93.3 %	70-130		07/20/23	07/20/23	
	101 %	70-130		07/20/23	07/20/23	
mg/kg	mg/kg		Analyst	: IY		Batch: 2329050
ND	20.0		1	07/20/23	07/20/23	
	96.3 %	70-130		07/20/23	07/20/23	
	93.3 %	70-130		07/20/23	07/20/23	
	101 %	70-130		07/20/23	07/20/23	
mg/kg	mg/kg		Analyst	: JL		Batch: 2329055
ND	25.0		1	07/20/23	07/21/23	
50.0	50.0		1	07/20/23	07/21/23	
	98.5 %	50-200		07/20/23	07/21/23	
mg/kg	mg/kg		Analyst	: BA		Batch: 2329059
ND	20.0		1	07/20/23	07/21/23	
	ND Mg/kg ND mg/kg	Result Limit mg/kg mg/kg ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0500 ND 0.0250 ND 0.0250 96.3 % 93.3 % 101 % mg/kg ND 20.0 96.3 % 93.3 % 101 % mg/kg Mg/kg mg/kg ND 25.0 50.0 50.0 98.5 % mg/kg mg/kg mg/kg	Result Limit Di mg/kg mg/kg ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0500 ND 0.0250 ND 0.0250 96.3 % 70-130 93.3 % 70-130 101 % 70-130 96.3 % 70-130 96.3 % 70-130 93.3 % 70-130 101 % 70-130 mg/kg mg/kg ND 25.0 50.0 50.0 mg/kg mg/kg	Result Limit Dilution mg/kg mg/kg Analyst ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0500 1 ND 0.0250 1 ND 0.0250 1 96.3 % 70-130 93.3 % 70-130 101 % 70-130 mg/kg mg/kg Analyst ND 20.0 1 96.3 % 70-130 1 96.3 % 70-130 1 mg/kg mg/kg Analyst ND 25.0 1 50.0 50.0 1 98.5 % 50-200 mg/kg Analyst	Result Limit Dilution Prepared mg/kg mg/kg Analyst: IY ND 0.0250 1 07/20/23 ND 0.0250 1 07/20/23 ND 0.0250 1 07/20/23 ND 0.0250 1 07/20/23 ND 0.0500 1 07/20/23 ND 0.0250 1 07/20/23 ND 0.0250 1 07/20/23 96.3 % 70-130 07/20/23 93.3 % 70-130 07/20/23 mg/kg mg/kg Analyst: IY ND 20.0 1 07/20/23 96.3 % 70-130 07/20/23 93.3 % 70-130 07/20/23 93.3 % 70-130 07/20/23 101 % 70-130 07/20/23 mg/kg mg/kg Analyst: JL ND 25.0 1 07/20/23 50.0 50.0 1 07/20/23	Result Limit Dilution Prepared Analyzed mg/kg mg/kg Analyst: IY ND 0.0250 1 07/20/23 07/20/23 ND 0.0500 1 07/20/23 07/20/23 ND 0.0250 1 07/20/23 07/20/23 ND 0.0250 1 07/20/23 07/20/23 96.3 % 70-130 07/20/23 07/20/23 93.3 % 70-130 07/20/23 07/20/23 mg/kg mg/kg Analyst: IY ND 20.0 1 07/20/23 07/20/23 93.3 % 70-130 07/20/23 07/20/23 93.3 % 70-130 07/20/23 07/20/23 90.3 % 70-130 07/20/23 07/20/23 101 % 70-



Mack Partition Mack Energy Project Name: Reported: 7 W. Compress Road Project Number: 20046-0001 Artesia NM, 88210 Project Manager: Natalie Gladden 7/21/2023 5:15:25PM **Volatile Organic Compounds by EPA 8260B** Analyst: IY Reporting Spike Source Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % % Notes Blank (2329049-BLK1) Prepared: 07/20/23 Analyzed: 07/21/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND o-Xylene 0.0250 ND p,m-Xylene 0.0500 Total Xylenes ND 0.0250 Surrogate: Bromofluorobenzene 0.472 0.500 94.3 70-130 Surrogate: 1,2-Dichloroethane-d4 0.485 0.500 96.9 70-130 0.500 101 70-130 Surrogate: Toluene-d8 0.504 LCS (2329049-BS1) Prepared: 07/20/23 Analyzed: 07/21/23 2.41 0.0250 2.50 96.3 70-130 Benzene 2.32 2.50 93.0 70-130 Ethylbenzene 0.0250 2.36 0.0250 2.50 94.5 70-130 2.39 95.6 70-130 0.0250 2.50 o-Xylene 94.3 4.71 5.00 70-130 p,m-Xylene 0.0500 7.10 0.0250 7.50 94.7 70-130 Total Xylenes Surrogate: Bromofluorobenzene 0.472 0.500 94.3 70-130 0.500 98.6 70-130 Surrogate: 1,2-Dichloroethane-d4 0.493 Surrogate: Toluene-d8 0.500 70-130 0.503 Matrix Spike (2329049-MS1) Source: E307086-08 Prepared: 07/20/23 Analyzed: 07/21/23 2.23 0.0250 2.50 ND 89.2 48-131 ND 45-135 Ethylbenzene 2.27 0.0250 2.50 90.6 ND 48-130 Toluene 2.28 0.0250 2.50 91.4 2.37 0.0250 2.50 ND 94.8 43-135 o-Xylene 4.64 5.00 ND 92.8 43-135 p,m-Xylene 0.0500

Ethylbenzene	2.27	0.0250	2.50	ND	90.8	45-135	0.154	27	
Toluene	2.27	0.0250	2.50	ND	90.8	48-130	0.637	24	
o-Xylene	2.34	0.0250	2.50	ND	93.7	43-135	1.17	27	
p,m-Xylene	4.60	0.0500	5.00	ND	91.9	43-135	0.899	27	
Total Xylenes	6.94	0.0250	7.50	ND	92.5	43-135	0.989	27	
Surrogate: Bromofluorobenzene	0.470		0.500		94.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.498		0.500		99.6	70-130			
Surrogate: Toluene-d8	0.499		0.500		99.8	70-130			

7.50

0.500

0.500

0.500

2.50

ND

ND

93.4

93.9

99.9

87.4

Source: E307086-08

43-135

70-130

70-130

70-130

48-131

1.97

7.01

0.470

0.500

0.502

2.19

0.0250

0.0250



Prepared: 07/20/23 Analyzed: 07/21/23

23

Total Xylenes

Surrogate: Bromofluorobenzene

Surrogate: Toluene-d8

Surrogate: 1,2-Dichloroethane-d4

Matrix Spike Dup (2329049-MSD1)

Mack Partition Mack Energy Project Name: Reported: 7 W. Compress Road Project Number: 20046-0001 Artesia NM, 88210 Project Manager: Natalie Gladden 7/21/2023 5:15:25PM **Volatile Organic Compounds by EPA 8260B** Analyst: IY Reporting Spike Source Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % % Notes Blank (2329050-BLK1) Prepared: 07/20/23 Analyzed: 07/20/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND o-Xylene 0.0250 ND p,m-Xylene 0.0500 ND 0.0250 Total Xylenes Surrogate: Bromofluorobenzene 0.485 0.500 97.0 70-130 Surrogate: 1,2-Dichloroethane-d4 0.482 0.500 96.3 70-130 0.500 101 70-130 Surrogate: Toluene-d8 0.505 LCS (2329050-BS1) Prepared: 07/20/23 Analyzed: 07/20/23 2.45 0.0250 2.50 97.8 70-130 Benzene 2.50 70-130 2.41 96.5 Ethylbenzene 0.0250 2.45 0.0250 2.50 97.9 70-130 2.45 97.9 70-130 0.0250 2.50 o-Xylene 4.87 5.00 97.5 70-130 p,m-Xylene 0.0500 7.32 0.0250 7.50 97.6 70-130 Total Xylenes Surrogate: Bromofluorobenzene 0.474 0.500 94.8 70-130 0.500 96.2 70-130 Surrogate: 1,2-Dichloroethane-d4 0.481 70-130 Surrogate: Toluene-d8 0.503 0.500 Matrix Spike (2329050-MS1) Source: E307086-22 Prepared: 07/20/23 Analyzed: 07/20/23 2.49 0.0250 2.50 ND 99.7 48-131 45-135 Ethylbenzene 2.47 0.0250 2.50 ND 98.8 48-130 Toluene 2.50 0.0250 2.50 ND 100 2.56 0.0250 2.50 ND 102 43-135 o-Xylene ND 102 43-135 p,m-Xylene 5.09 0.0500 5.00 Total Xylenes 7.65 0.0250 7.50 ND 102 43-135 95.7 Surrogate: Bromofluorobenzene 0.479 0.500 70-130 0.500 96.1 70-130 Surrogate: 1,2-Dichloroethane-d4 0.481

0.500

2.50

2.50

2.50

2.50

5.00

7.50

0.500

0.500

0.500

0.0250

0.0250

0.0250

0.0250

0.0500

0.0250

0.506

2.45

2.44

2.52

5.00

7.51

0.473

0.494

0.493

70-130

48-131

45-135

48-130

43-135

43-135

43-135

70-130

70-130

70-130

1.60

1.20

2.41

1.79

1.72

1.74

Source: E307086-22

98.1

97.6

97.7

101

100

100

94.6

98.7

98.6

ND

ND

ND

ND

ND

ND



Prepared: 07/20/23 Analyzed: 07/20/23

23

27

24

27

27

27

Surrogate: Toluene-d8

Ethylbenzene

Toluene

o-Xylene

p,m-Xylene

Total Xylenes

Surrogate: Toluene-d8

Surrogate: Bromofluorobenzene

Surrogate: 1,2-Dichloroethane-d4

Matrix Spike Dup (2329050-MSD1)

Mack Energy Mack Partition Project Name: Reported: 7 W. Compress Road Project Number: 20046-0001 Artesia NM, 88210 Project Manager: Natalie Gladden 7/21/2023 5:15:25PM

Nonhalogenate	ed Organic	s by EPA	8015D -	- GRO

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2329049-BLK1)						F	Prepared: 0	7/20/23 Analy	/zed: 07/21/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.472		0.500		94.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.485		0.500		96.9	70-130			
Surrogate: Toluene-d8	0.504		0.500		101	70-130			
LCS (2329049-BS2)						F	Prepared: 0	7/20/23 Analy	zed: 07/21/23
Gasoline Range Organics (C6-C10)	52.3	20.0	50.0		105	70-130			
Surrogate: Bromofluorobenzene	0.477		0.500		95.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.486		0.500		97.1	70-130			
Surrogate: Toluene-d8	0.506		0.500		101	70-130			

Matrix Spike (2329049-MS2)				Source:	E307086-0	8	Prepared: 07/20/23 Analyzed: 07/21/23
Gasoline Range Organics (C6-C10)	53.4	20.0	50.0	ND	107	70-130	
Surrogate: Bromofluorobenzene	0.480		0.500		95.9	70-130	
Surrogate: 1,2-Dichloroethane-d4	0.497		0.500		99.3	70-130	
Surrogate: Toluene-d8	0.514		0.500		103	70-130	

Matrix Spike Dup (2329049-MSD2)				Source:	Source: E307086-08			Prepared: 07/20/23 Analyzed: 07/21/2		
Gasoline Range Organics (C6-C10)	55.4	20.0	50.0	ND	111	70-130	3.71	20		
Surrogate: Bromofluorobenzene	0.493		0.500		98.6	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.496		0.500		99.2	70-130				
Surrogate: Toluene-d8	0.514		0.500		103	70-130				

Mack EnergyProject Name:Mack PartitionReported:7 W. Compress RoadProject Number:20046-0001Artesia NM, 88210Project Manager:Natalie Gladden7/21/20235:15:25PM

Nonhalogenated	Organics by	v EPA 8015D	- GRO

Analyst: IY

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

	Result	Limit	Level	Result	Rec	Limits	KPD	Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2329050-BLK1)							Prepared: 07	7/20/23 Ana	alyzed: 07/20/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.485		0.500		97.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.482		0.500		96.3	70-130			
Surrogate: Toluene-d8	0.505		0.500		101	70-130			
LCS (2329050-BS2)							Prepared: 07	7/20/23 Ana	alyzed: 07/20/23
Gasoline Range Organics (C6-C10)	53.2	20.0	50.0		106	70-130			
Surrogate: Bromofluorobenzene	0.482		0.500		96.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.483		0.500		96.5	70-130			
Surrogate: Toluene-d8	0.509		0.500		102	70-130			
Matrix Spike (2329050-MS2)				Source:	E307086-2	22	Prepared: 07	7/20/23 Ana	alyzed: 07/20/23
Gasoline Range Organics (C6-C10)	58.0	20.0	50.0	ND	116	70-130			
Surrogate: Bromofluorobenzene	0.485		0.500		96.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.480		0.500		95.9	70-130			
Surrogate: Toluene-d8	0.507		0.500		101	70-130			
Matrix Spike Dup (2329050-MSD2)				Source:	E307086-2	22	Prepared: 07	7/20/23 Ana	alyzed: 07/20/23
Gasoline Range Organics (C6-C10)	60.6	20.0	50.0	ND	121	70-130	4.51	20	
Surrogate: Bromofluorobenzene	0.499		0.500		99.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.488		0.500		97.6	70-130			
Surrogate: Toluene-d8	0.504		0.500		101	70-130			



Mack Energy	Project Name:	Mack Partition	Reported:
7 W. Compress Road	Project Number:	20046-0001	·
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

Artesia NM, 88210		Project Manage	r: Na	ıtalie Gladder	1				7/21/2023 5:15:25PN
Nonhalogenated Organics by EPA 8015D - DRO/ORO Analyst: JL									
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2329054-BLK1)							Prepared: 0	7/20/23 A	Analyzed: 07/21/23
riesel Range Organics (C10-C28)	ND	25.0							
ril Range Organics (C28-C36)	ND	50.0							
urrogate: n-Nonane	44.8		50.0		89.6	50-200			
.CS (2329054-BS1)							Prepared: 0	7/20/23 A	Analyzed: 07/21/23
riesel Range Organics (C10-C28)	204	25.0	250		81.7	38-132			
urrogate: n-Nonane	43.1		50.0		86.3	50-200			
Aatrix Spike (2329054-MS1)				Source:	E307086-0	07	Prepared: 0	7/20/23 A	Analyzed: 07/21/23
riesel Range Organics (C10-C28)	224	25.0	250	ND	89.4	38-132			
urrogate: n-Nonane	39.8		50.0		79.6	50-200			
Matrix Spike Dup (2329054-MSD1)				Source:	E307086-0	07	Prepared: 0	7/20/23 A	Analyzed: 07/21/23
tiesel Range Organics (C10-C28)	222	25.0	250	ND	89.0	38-132	0.488	20	
urrogate: n-Nonane	38.0		50.0		76.0	50-200			



Mack Energy	Project Name:	Mack Partition	Reported:
7 W. Compress Road	Project Number:	20046-0001	·
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

Artesia NM, 88210		Project Manage	r: Na	italie Gladder	n				7/21/2023 5:15:25PM
Nonhalogenated Organics by EPA 8015D - DRO/ORO Analyst: JL									
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2329055-BLK1)							Prepared: 0	7/20/23 A	nalyzed: 07/21/23
Diesel Range Organics (C10-C28)	ND	25.0							
Dil Range Organics (C28-C36)	ND	50.0							
urrogate: n-Nonane	49.4		50.0		98.8	50-200			
LCS (2329055-BS1)							Prepared: 0	7/20/23 A	analyzed: 07/21/23
Diesel Range Organics (C10-C28)	232	25.0	250		93.0	38-132			
urrogate: n-Nonane	48.5		50.0		97.1	50-200			
Matrix Spike (2329055-MS1)				Source:	E307093-	08	Prepared: 0	7/20/23 A	analyzed: 07/21/23
Diesel Range Organics (C10-C28)	234	25.0	250	ND	93.4	38-132			
urrogate: n-Nonane	43.5		50.0		87.0	50-200			
Matrix Spike Dup (2329055-MSD1)				Source:	E307093-	08	Prepared: 0	7/20/23 A	analyzed: 07/21/23
Diesel Range Organics (C10-C28)	236	25.0	250	ND	94.5	38-132	1.19	20	
urrogate: n-Nonane	45.1		50.0		90.1	50-200			



Chloride

QC Summary Data

Mack Energy 7 W. Compress Road	Project Name: Project Number:	Mack Partition 20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/21/2023 5:15:25PM

Altesia Nivi, 88210		Froject Manager	. No	italie Gladdell				11.	21/2023 3.13.231 WI
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
Blank (2329058-BLK1)							Prepared: 0	7/20/23 Ana	lyzed: 07/20/23
Chloride	ND	20.0							
LCS (2329058-BS1)							Prepared: 0	7/20/23 Ana	lyzed: 07/20/23
Chloride	262	20.0	250		105	90-110			
Matrix Spike (2329058-MS1)				Source: 1	E 307086 -	01	Prepared: 0	7/20/23 Ana	lyzed: 07/20/23
Chloride	269	20.0	250	ND	108	80-120			
Matrix Spike Dup (2329058-MSD1)				Source: 1	E 307086 -	01	Prepared: 0	7/20/23 Ana	lyzed: 07/20/23

250

80-120

0.249

20.0



Chloride

QC Summary Data

Mack Energy		Project Name:		lack Partition					Reported:
7 W. Compress Road		Project Number		0046-0001					
Artesia NM, 88210		Project Manager	r: N	atalie Gladder	1				7/21/2023 5:15:25PM
		Anions	by EPA 3	300.0/9056 <i>E</i>	4				Analyst: BA
Analyte	D. L	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	Result mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2329059-BLK1)							Prepared: 0	7/20/23 A	nalyzed: 07/20/23
Chloride	ND	20.0							
LCS (2329059-BS1)							Prepared: 0	7/20/23 A	nalyzed: 07/20/23
Chloride	253	20.0	250		101	90-110			
Matrix Spike (2329059-MS1)				Source:	E307086-	21	Prepared: 0	7/20/23 A	nalyzed: 07/20/23
Chloride	263	20.0	250	ND	105	80-120			
Matrix Snike Dun (2329059-MSD1)				Source	E307086-	21	Prepared: 0	7/20/23 A	nalyzed: 07/21/23

250

20.0

80-120

0.541

105

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

Mack Energy	Project Name:	Mack Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	07/21/23 17:15

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.



Project Informati	on	
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200	
1	
•	10
	1

Phone: 575-393-9048 Phone: EMAIL TO: Natalie@energystaffinglic.com Dakoatah@energystaffinglic.com Dakoatah@energystaffinglic.com Dakoatah@energystaffinglic.com Dakoatah@energystaffinglic.com	
Address: City, State, Zip Phone: 575-393-9048 EMAIL TO: Natalie@energystaffinglic.com Dakoatah@energystaffinglic.com Dakoatah@energystaffinglic.com Dakoatah@energystaffinglic.com Dakoatah@energystaffinglic.com This 23	CWA SDWA
City, State, Zip Thone: Thon	DCDA
Thone: Imail: Dakoatah@energystaffingllc.com Dakoatah@energ	RCRA
Dakoatah@energystaffingflc.com Sample D Dakoatah@energystaffingflc.com Dakoatah@	LL State
Report due by: Time Date Sampled Sample ID SWI - Surface SW2 - Surface SW2 - Surface SW3 - Surface SW3 - Surface SW3 - Surface	UT AZ TX
1/18/23 S SWI- Surface SWI- 2 SW2- Surface SW2- 2 SW3- Surface SW3- 2	
7/15/23 S SWI - Surface 1	Remarks
SW2- Surface SW2- 2 SW3- Surface SW3- 2	
SW2- Sorface SW2- 2 SW3- Sorface SW3- 2	
SW2-2 SW3-50rface SW3-2	(6)
SW3-Surface SW3-Zi	
SW3-2	
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1 1 1 1 1 1 1 1 1 1	
5W-5 surface	TI .
7/18/23 5 \ SW 5 - Z'	
Additional Instructions:	non account according to a point to some let of the consequence according to
Samples requiring thermal preservation must be received on ice the diagram of the sample of this sample. Lam aware that tampering with or intentionally mislabelling the sample location, packed in ice at an avg temp above 0 but less than 6°C on subsequent of the sample of collection is considered fraud and may be grounds for legal action. Sampled by: ANGLICON Samples requiring thermal preservation must be received on ice the diagram of the sample location.	
Relinquished by (Signature) Andy Loriga 7.19-23 1230 Consultan Parken 7-19-13 1230 Received on light Was Stulie 1.19-13 1230 Received Was Stulie 1.19	
(dinguished the Signature) Date 7-79-23 1400 Mar Musto 7-19-23 1730 11 T2' 122	
I, (field sampler), attest to the validity and authenticity of this sample. Lam aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Andy Toroga Time Oate (Signature) Andy Toroga Time Oate (Signature) Andy Toroga Time Oate (Signature) Date Time Received by: (Signature) Relinquished by: (Signature) Date Time Oate Oate (Signature) Relinquished by: (Signature) Time Oate Oate Oate (Signature) Received by: (Signature) Received by: (Signature) Date Time Oate Oate Oate Oate Oate Oate Oate Oat	to finish the second
Sample Matrix: 5 - Soil, 5d Solid, 5g - Sludge, A - Aqueous, O - Other Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA	
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the samples is applicable only to those samples received by the laboratory with this COC. The liabil Page 39 of 42 ed to the amount paid for on the report.	analysis of the above

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Project	Information	

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Email:					0.47.2544		ergystaffinglic.		08 40	5	2.1	S	0	0.00		NR					UT AZ	XT	
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City, Stat	e, Zip				150 P	hone:	575-39	3-9048															1	L	
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envirotech Inc.

Printed: 7/20/2023 9:59:32AM

Envirotech Analytical Laboratory

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:	Mack Energy	Date Received:	07/20/23 07	' :00		Work Order ID:	E307086
Phone:	(575) 390-6397	Date Logged In:	07/18/23 15	:52		Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	07/21/23 17	7:00 (1 day TAT)			
Chain of	Custody (COC)						
1. Does th	e sample ID match the COC?		Yes				
2. Does th	e number of samples per sampling site location ma	tch the COC	Yes				
3. Were sa	imples dropped off by client or carrier?		Yes	Carrier: C	<u>Courier</u>		
4. Was the	e COC complete, i.e., signatures, dates/times, reques	sted analyses?	No				
5. Were al	I samples received within holding time? Note: Analysis, such as pH which should be conducted in	n the field.	Yes				
	i.e, 15 minute hold time, are not included in this disucssi					Comments	s/Resolution
Sample T	urn Around Time (TAT)						1.1
6. Did the	COC indicate standard TAT, or Expedited TAT?		Yes		1 -	iea not provi	ded on COC per
Sample C					client.		
	ample cooler received?		Yes				
•	was cooler received in good condition?		Yes				
9. Was the	e 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	e sample received on ice? If yes, the recorded temp is 4°C. Note: Thermal preservation is not required, if samples ar minutes of sampling		Yes				
13. If no v	visible ice, record the temperature. Actual sample	temperature: 4°0	<u>C</u>				
Sample C	<u>ontainer</u>						
	queous VOC samples present?		No				
	OC 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 no	on-VOC samples collected in the correct containers	?	Yes				
19. Is the a	ppropriate volume/weight or number of sample contain	ners collected?	Yes				
Field Lab	<u>el</u>						
	field sample labels filled out with the minimum info	ormation:	**				
	ample ID?		Yes				
	ate/Time Collected? ollectors name?		Yes Yes				
	reservation		165				
	the COC or field labels indicate the samples were pro-	reserved?	No				
	mple(s) correctly preserved?		NA				
	filteration required and/or requested for dissolved n	netals?	No				
Multinha	se Sample Matrix						
	the sample have more than one phase, i.e., multipha	se?	No				
	does the COC specify which phase(s) is to be analy		NA				
		, 2001	11/1				
	act Laboratory	9	N.				
	mples required to get sent to a subcontract laborato subcontract laboratory specified by the client and it	-	No NA S	71 4 T -1-			
		i so wilo:	INA S	Subcontract Lab); па		
Client In	struction						

Date

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

Report to:

Natalie Gladden







5796 U.S. Hwy 64 Farmington, NM 87401

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





envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: Partition

Work Order: E308018

Job Number: 20046-0001

Received: 8/3/2023

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 8/4/23

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.

Date Reported: 8/4/23

Natalie Gladden 7 W. Compress Road Artesia, NM 88210

Project Name: Partition Workorder: E308018

Date Received: 8/3/2023 6:30:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 8/3/2023 6:30:00AM, under the Project Name: Partition.

The analytical test results summarized in this report with the Project Name: Partition 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 reguarding 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

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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

ljarboe@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

Mack Energy	Project Name:	Partition	Reported:
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	08/04/23 15:49

Client Sample ID	Lab Sample ID Matrix	Sampled	Received	Container
SW 11-4'	E308018-01A Soil	08/01/23	08/03/23	Glass Jar, 2 oz.
SW 12-4'	E308018-02A Soil	08/01/23	08/03/23	Glass Jar, 2 oz.



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/4/2023 3:49:55PM

SW 11-4' E308018-01

	E300010-01					
Dagult	Reporting	Dil	lution	Duomonod	Analyzad	Notes
Resuit	Limit	Dil	lution	rrepared	Anaiyzed	Notes
mg/kg	mg/kg		Analyst	: IY		Batch: 2331067
ND	0.0250		1	08/02/23	08/03/23	
ND	0.0250		1	08/02/23	08/03/23	
ND	0.0250		1	08/02/23	08/03/23	
ND	0.0250		1	08/02/23	08/03/23	
ND	0.0500		1	08/02/23	08/03/23	
ND	0.0250		1	08/02/23	08/03/23	
	110 %	70-130		08/02/23	08/03/23	
	95.1 %	70-130		08/02/23	08/03/23	
	103 %	70-130		08/02/23	08/03/23	
mg/kg	mg/kg		Analyst:	: IY		Batch: 2331067
ND	20.0		1	08/02/23	08/03/23	
	110 %	70-130		08/02/23	08/03/23	
	95.1 %	70-130		08/02/23	08/03/23	
	103 %	70-130		08/02/23	08/03/23	
mg/kg	mg/kg		Analyst:	: KM		Batch: 2331061
ND	25.0		1	08/02/23	08/03/23	
ND	50.0		1	08/02/23	08/03/23	
				00/00/00	00/02/22	
	101 %	50-200		08/02/23	08/03/23	
mg/kg	101 % mg/kg	50-200	Analyst		08/03/23	Batch: 2331073
	ND	Result Reporting mg/kg mg/kg ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0500 ND 0.0250 ND 0.0250 II0 % 95.1 % 103 % mg/kg ND 20.0 II0 % 95.1 % 103 % mg/kg mg/kg mg/kg ND 25.0	Reporting Result Limit Di mg/kg mg/kg ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0500 ND 0.0250 ND 0.0250 II0 % 70-130 95.1 % 70-130 mg/kg mg/kg ND 20.0 I10 % 70-130 95.1 % 70-130 103 % 70-130 mg/kg mg/kg ND 25.0	Reporting Result Limit Dilution mg/kg mg/kg Analyst ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0500 1 ND 0.0250 1 ND 0.0250 1 103 % 70-130 95.1 % 70-130 mg/kg mg/kg Analyst ND 20.0 1 110 % 70-130 70-130 95.1 % 70-130 70-130 mg/kg mg/kg Analyst ND 25.0 1	Reporting Result Limit Dilution Prepared mg/kg mg/kg Analyst: IY ND 0.0250 1 08/02/23 ND 0.0250 1 08/02/23 ND 0.0250 1 08/02/23 ND 0.0500 1 08/02/23 ND 0.0250 1 08/02/23 ND 70-130 08/02/23 95.1 % 70-130 08/02/23 103 % 70-130 08/02/23 mg/kg mg/kg Analyst: IY ND 20.0 1 08/02/23 95.1 % 70-130 08/02/23 95.1 % 70-130 08/02/23 103 % 70-130 08/02/23 mg/kg mg/kg Analyst: KM ND 25.0 1 08/02/23	Reporting Result Limit Dilution Prepared Analyzed mg/kg mg/kg Analyst: IY ND 0.0250 1 08/02/23 08/03/23 ND 0.0250 1 08/02/23 08/03/23 ND 0.0250 1 08/02/23 08/03/23 ND 0.0500 1 08/02/23 08/03/23 ND 0.0250 1 08/02/23 08/03/23 ND 0.0250 1 08/02/23 08/03/23 ND 0.0250 1 08/02/23 08/03/23 95.1 % 70-130 08/02/23 08/03/23 103 % 70-130 08/02/23 08/03/23 mg/kg mg/kg Analyst: IY ND 20.0 1 08/02/23 08/03/23 103 % 70-130 08/02/23 08/03/23 103 % 70-130 08/02/23 08/03/23 mg/kg mg/kg Analyst: KM



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/4/2023 3:49:55PM

SW 12-4' E308018-02

		E300010-02					
Andre	D14	Reporting		-4:	D 1	A Inc. of	Natar
Analyte	Result	Limit	Dilt	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2331067
Benzene	ND	0.0250	1	1	08/02/23	08/03/23	
Ethylbenzene	ND	0.0250		1	08/02/23	08/03/23	
Toluene	ND	0.0250		1	08/02/23	08/03/23	
o-Xylene	ND	0.0250		1	08/02/23	08/03/23	
p,m-Xylene	ND	0.0500		1	08/02/23	08/03/23	
Total Xylenes	ND	0.0250	1	1	08/02/23	08/03/23	
Surrogate: Bromofluorobenzene		112 %	70-130		08/02/23	08/03/23	
Surrogate: 1,2-Dichloroethane-d4		95.9 %	70-130		08/02/23	08/03/23	
Surrogate: Toluene-d8		105 %	70-130		08/02/23	08/03/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY				Batch: 2331067
Gasoline Range Organics (C6-C10)	ND	20.0		1	08/02/23	08/03/23	
Surrogate: Bromofluorobenzene		112 %	70-130		08/02/23	08/03/23	
Surrogate: 1,2-Dichloroethane-d4		95.9 %	70-130		08/02/23	08/03/23	
Surrogate: Toluene-d8		105 %	70-130		08/02/23	08/03/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2331061
Diesel Range Organics (C10-C28)	ND	25.0		1	08/02/23	08/03/23	
Oil Range Organics (C28-C36)	ND	50.0		1	08/02/23	08/03/23	
Surrogate: n-Nonane		97.3 %	50-200		08/02/23	08/03/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2331073
Chloride	ND	20.0		1	08/02/23	08/03/23	



Mack Energy Project Name: Partition Reported: 7 W. Compress Road Project Number: 20046-0001 Artesia NM, 88210 Project Manager: Natalie Gladden 8/4/2023 3:49:55PM **Volatile Organic Compounds by EPA 8260B** Analyst: IY Reporting Spike Source Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % % Notes Blank (2331067-BLK1) Prepared: 08/02/23 Analyzed: 08/03/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND o-Xylene 0.0250 ND p,m-Xylene 0.0500 ND 0.0250 Total Xylenes Surrogate: Bromofluorobenzene 0.569 0.500 114 70-130 Surrogate: 1,2-Dichloroethane-d4 0.462 0.500 92.3 70-130 0.500 109 70-130 Surrogate: Toluene-d8 0.546 LCS (2331067-BS1) Prepared: 08/02/23 Analyzed: 08/03/23 2.70 0.0250 2.50 108 70-130 Benzene 2.50 111 70-130 2.76 Ethylbenzene 0.0250 2.67 0.0250 2.50 107 70-130 107 70-130 2.68 0.0250 2.50 o-Xylene 5.34 5.00 107 70-130 p,m-Xylene 0.0500 8.02 0.0250 7.50 107 70-130 Total Xylenes Surrogate: Bromofluorobenzene 0.549 0.500 110 70-130 0.500 92.6 70-130 Surrogate: 1,2-Dichloroethane-d4 0.463 70-130 Surrogate: Toluene-d8 0.550 0.500 Matrix Spike (2331067-MS1) Source: E308014-27 Prepared: 08/02/23 Analyzed: 08/03/23 2.58 0.0250 2.50 ND 103 48-131 45-135 Ethylbenzene 2.62 0.0250 2.50 ND 105 48-130 Toluene 2.62 0.0250 2.50 ND 105 2.56 0.0250 2.50 ND 102 43-135 o-Xylene ND 105 43-135 p,m-Xylene 5.26 0.0500 5.00 Total Xylenes 7.82 0.0250 7.50 ND 104 43-135 Surrogate: Bromofluorobenzene 0.570 0.500 114 70-130 0.500 89.2 70-130 Surrogate: 1,2-Dichloroethane-d4 0.446 0.500 70-130 0.529 Surrogate: Toluene-d8

Source: E308014-27

103

106

111

110

110

116

91.2

105

48-131

45-135

48-130

43-135

43-135

43-135

70-130

70-130

70-130

0.193

1.21

1.51

7.84

4.07

5.32

ND

ND

ND

ND

ND

ND



Prepared: 08/02/23 Analyzed: 08/03/23

23

27

24

27

27

27

Matrix Spike Dup (2331067-MSD1)

Ethylbenzene

Toluene

o-Xylene

p,m-Xylene

Total Xylenes

Surrogate: Toluene-d8

Surrogate: Bromofluorobenzene

Surrogate: 1,2-Dichloroethane-d4

2.59

2.66

2.66

2.77

5.48

8.25

0.581

0.456

0.525

0.0250

0.0250

0.0250

0.0250

0.0500

0.0250

2.50

2.50

2.50

2.50

5.00

7.50

0.500

0.500

0.500

Matrix Spike Dup (2331067-MSD2)

Gasoline Range Organics (C6-C10)

 ${\it Surrogate: Bromofluor obenzene}$

Surrogate: Toluene-d8

Surrogate: 1,2-Dichloroethane-d4

58.2

0.576

0.496

0.536

QC Summary Data

Mack EnergyProject Name:PartitionReported:7 W. Compress RoadProject Number:20046-0001Artesia NM, 88210Project Manager:Natalie Gladden8/4/20233:49:55PM

Artesia NM, 88210		Project Manager	r: Na	ıtalie Gladder	1			8/4	4/2023 3:49:55PN
	Non	halogenated	Organics l	by EPA 80	15D - G	RO			Analyst: IY
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2331067-BLK1)							Prepared: 0	8/02/23 Anal	yzed: 08/03/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.569		0.500		114	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.462		0.500		92.3	70-130			
Surrogate: Toluene-d8	0.546		0.500		109	70-130			
LCS (2331067-BS2)							Prepared: 0	8/02/23 Anal	yzed: 08/03/23
Gasoline Range Organics (C6-C10)	58.1	20.0	50.0		116	70-130			
Surrogate: Bromofluorobenzene	0.546		0.500		109	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.459		0.500		91.8	70-130			
Surrogate: Toluene-d8	0.487		0.500		97.4	70-130			
Matrix Spike (2331067-MS2)				Source:	E308014-	27	Prepared: 0	8/02/23 Anal	yzed: 08/03/23
Gasoline Range Organics (C6-C10)	60.2	20.0	50.0	ND	120	70-130			
Surrogate: Bromofluorobenzene	0.571		0.500		114	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.485		0.500		97.0	70-130			
Surrogate: Toluene-d8	0.533		0.500		107	70-130			

50.0

0.500

0.500

0.500

20.0

Source: E308014-27

116

115

99.1

107

ND

70-130

70-130

70-130

70-130

3.39

envirotech Inc.

Prepared: 08/02/23 Analyzed: 08/03/23

Mack Energy	Project Name:	Reported:	
7 W. Compress Road	Project Number:	20046-0001	•
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/4/2023 3:49:55PM

Artesia NM, 88210		Project Manage	r: Na	talie Gladder	1				8/4/2023 3:49:55PM			
Nonhalogenated Organics by EPA 8015D - DRO/ORO Analyst: KM												
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit				
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes			
Blank (2331061-BLK1)							Prepared: 0	8/02/23 A	Analyzed: 08/03/23			
Diesel Range Organics (C10-C28)	ND	25.0										
Oil Range Organics (C28-C36)	ND	50.0										
Surrogate: n-Nonane	47.3		50.0		94.6	50-200						
LCS (2331061-BS1)							Prepared: 0	8/02/23 A	Analyzed: 08/03/23			
Diesel Range Organics (C10-C28)	256	25.0	250		103	38-132						
Surrogate: n-Nonane	47.1		50.0		94.2	50-200						
Matrix Spike (2331061-MS1)				Source:	E308016-2	24	Prepared: 0	8/02/23 A	Analyzed: 08/03/23			
Diesel Range Organics (C10-C28)	278	25.0	250	ND	111	38-132						
Surrogate: n-Nonane	46.5		50.0		93.0	50-200						
Matrix Spike Dup (2331061-MSD1)				Source:	E308016-2	24	Prepared: 0	8/02/23 A	Analyzed: 08/03/23			
Diesel Range Organics (C10-C28)	275	25.0	250	ND	110	38-132	1.00	20				
Surrogate: n-Nonane	46.0		50.0		92.0	50-200						

Mack Energy 7 W. Compress Road		Project Name: Project Number:		artition 0046-0001					Reported:
Artesia NM, 88210		Project Number: Project Manager:		oo46-0001 Iatalie Gladden				8/4/2023 3:49:55PM	
		Anions	by EPA	300.0/9056A					Analyst: BA
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2331073-BLK1)							Prepared: 0	8/02/23 A	Analyzed: 08/03/23
Chloride	ND	20.0							
LCS (2331073-BS1)							Prepared: 0	8/02/23 A	Analyzed: 08/03/23
Chloride	270	20.0	250		108	90-110			
Matrix Spike (2331073-MS1)				Source: 1	E 308017 -2	21	Prepared: 0	8/02/23 A	Analyzed: 08/03/23
Chloride	285	20.0	250	ND	114	80-120			
Matrix Spike Dup (2331073-MSD1)				Source: 1	E 308017 -2	21	Prepared: 0	8/02/23 A	Analyzed: 08/03/23
Chloride	283	20.0	250	ND	113	80-120	0.804	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

ſ	Mack Energy	Project Name:	Partition	
١	7 W. Compress Road	Project Number:	20046-0001	Reported:
١	Artesia NM, 88210	Project Manager:	Natalie Gladden	08/04/23 15:49

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.



roject	Information	

ndard	Page EPA F	of rogra	d by OCD: 5/15
MI CC	State	RC	/2025 11:11:27
	Remark		W.F.
		*	Page 12 of 13
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	Pastiti					Attenti	ion: ES				Lab	WOH			Job N			1D	1	3D	Standa	ard	CWA	SDWA
Project I	Manager:	J. C	Jad	den		Addres	s: 27	724 NW CO	JUNTY ROA	(D	E3	30	301	6			∞		X					DCDA
Address			.,					HOBBS,	NM 88240)		,		,	Analy	sis an	d Method	i T			_	- 1		RCRA
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Time Sampled	Date Sampled	Watrix	No. of Containers	Sample 1D						ingleselates	DRO/ORU by	GRO/DRU by	RTEX 5y 8021	VOC 5y 8260	Metals 6010	Chloride 300.0		RGDOC	REDOC				Remarks	
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Additio	inal Instru	ctions:																						
I, (field sa	mpler), attest	to the validit	y and auther	nticity of this sa	empie. Lam	aware tha	ai tampering	with or intenti	ionally mistabe	lling the san	aple loc	ation,					uiring them c at an avg t							mpled or recen
	ne of collectio					ction.		Sampled by:	Jun >	OKS						EO ITHE	e at an eve t	emp and			-	145×C-		RANGE KANG
	shed by: (Sign	rature)	. Dat		Time		Received by	y: (Signature)	woode-	Date	77	} Itm	337	0	15	j) salakus	rd on ligh		12	line (): ii	ney.			
Juan	501:5		05	101/23	Time		Mucle Beceived to	w (Signature)	unscelle	Date	- du	7 Tirr	BE.		4.26	reterior e	AB, (D) PI (IGN)							
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Sample N	Matrix: S - Soil,	sd Solid, Sp	; - Sludge, A	Aqueous, O	Other		00-	τ 🔾	.(Conta	iner T	Abe: 8	; · gla:	ss, p	poly	/plast	ic, ag - a	mber	glass,	1 · VO	A coport (or the	anaturic of	the above
Note: Sa	imples are di	scarded 30	days after	results are re	ported unle	ess othe	rarrangem	ents are mad	le. Mazardoi	is samples	will be	16.1111	ned to	chen	(or di	sposec	of at the	cheni	expens	e inc	s rehour,	or the s	marysts Ul	THE BURNE

samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Printed: 8/3/2023 9:32:08AM

Envirotech Analytical Laboratory

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.

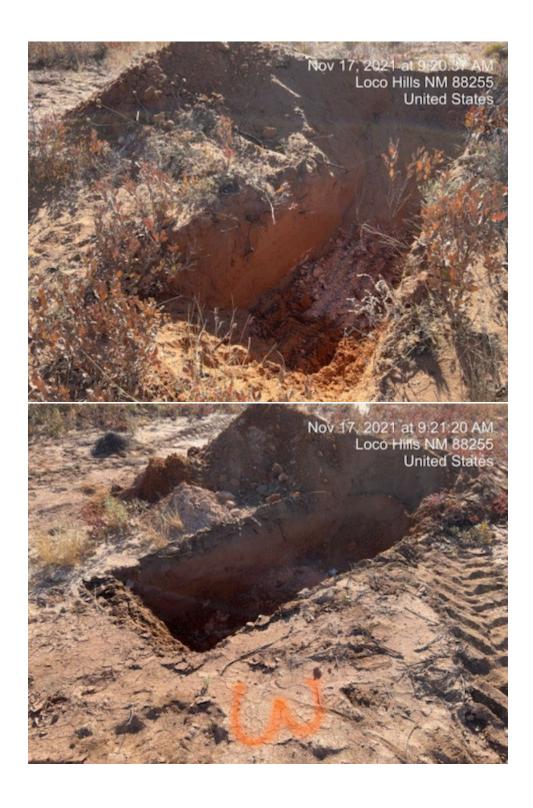
Client:	Mack Energy	Date Received:	08/03/23	06:30	Work Order ID:	E308018
Phone:	(575) 390-6397	Date Logged In:	08/02/23	15:40	Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:		17:00 (1 day TAT)	88···	
Chain of	Custody (COC)					
1. Does tl	he sample ID match the COC?		Yes			
	he number of samples per sampling site location ma	tch the COC	Yes			
3. Were s	amples dropped off by client or carrier?		Yes	Carrier: C	ourier	
4. Was th	e COC complete, i.e., signatures, dates/times, reque	sted analyses?	No			
5. Were a	Il samples received within holding time?	·	Yes			
	Note: Analysis, such as pH which should be conducted in i.e, 15 minute hold time, are not included in this disucssi			r	Comme	nts/Resolution
	Furn Around Time (TAT) e COC indicate standard TAT, or Expedited TAT?		Yes		Times sampled are not	documented on the
Sample C					COC.	
7. Was a	sample cooler received?		Yes			
8. If yes,	was cooler received in good condition?		Yes			
9. Was th	e sample(s) received intact, i.e., not broken?		Yes			
	custody/security seals present?		No			
	, were custody/security seals intact?		NA			
· ·	the sample received on ice? If yes, the recorded temp is 4°C.	ie 6°+2°C	NA Yes			
	Note: Thermal preservation is not required, if samples arminutes of sampling	e received w/i 15				
	visible ice, record the temperature. Actual sample	temperature: 4°	<u>C</u>			
	<u>Container</u>					
	queous VOC samples present?		No			
	OC samples collected in VOA Vials?		NA			
	head space less than 6-8 mm (pea sized or less)?		NA			
	a trip blank (TB) included for VOC analyses?	_	NA			
	on-VOC samples collected in the correct containers		Yes			
	appropriate volume/weight or number of sample contain	ners collected?	Yes			
Field Lal						
	field sample labels filled out with the minimum info	ormation:	3 7			
	ample ID? Date/Time Collected?		Yes			
	follectors name?		Yes No			
	Preservation		110			
	the COC or field labels indicate the samples were p	reserved?	No			
22. Are s	ample(s) correctly preserved?		NA			
	filteration required and/or requested for dissolved n	netals?	No			
Multipha	ase Sample Matrix					
-	the sample have more than one phase, i.e., multipha	se?	No			
	, does the COC specify which phase(s) is to be analy		NA			
		•	11/1			
	eact Laboratory	.m.r)	NI-			
	amples required to get sent to a subcontract laborato a subcontract laboratory specified by the client and i	•	No NA	Cubaantii t I	. NI A	
	• • •	i so wilo:	INA	Subcontract Lab	: NA	
Client I	<u>nstruction</u>					
						11. - 11.10
						_ (3)
Signat	ture of client authorizing changes to the COC or sample dis	position.			Date	envirotech Inc.

MACK ENERGY: PARTITION FEDERAL

DELINEATION PHOTOS







Page 181 of 33

Natalie Gladden

From: Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>

Sent: Friday, July 21, 2023 3:07 PM

To: Natalie Gladden

Cc: Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD

Subject: RE: [EXTERNAL] Mack Energy - Partition Federal Composite Notification

Good afternoon Natalie,

The OCD has received your notification. 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.

Sincerely,

Shelly

Shelly Wells * Environmental Specialist-Advanced Administrative Permitting Program EMNRD-Oil Conservation Division 1220 S. St. Francis Drive|Santa Fe, NM-87505 (505)469-7520|Shelly.Wells@emnrd.nm.gov http://www.emnrd.state.nm.us/OCD/

From: Harimon, Jocelyn, EMNRD < Jocelyn. Harimon@emnrd.nm.gov>

Sent: Friday, July 21, 2023 1:30 PM

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

Subject: FW: [EXTERNAL] Mack Energy - Partition Federal Composite Notification

Importance: High

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



From: Natalie Gladden < <u>natalie@energystaffingllc.com</u>>

Sent: Friday, July 21, 2023 1:05 PM

To: ocdonline, emnrd, EMNRD < emnrd.ocdonline@emnrd.nm.gov >; CFO_Spill, BLM_NM < BLM_NM CFO_Spill@blm.gov >; Amos, James A < JAMOS@BLM.GOV >;

Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD

<Jocelyn.Harimon@emnrd.nm.gov>

Cc: mattbuckles@mec.com

Subject: [EXTERNAL] Mack Energy - Partition Federal Composite Notification

Importance: High

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

All,

ESS has completed the delineation and remediation portion of this project. At this time, we would like to request the 48 hour notification for the composite sampling that needs to be completed for the below release:

Site Name: Partition Federal

DOR: 3/15/2020

Incident Number: NRM2008663010

If you have any questions or concerns, please do not hesitate to contact me.

Natalie Gladden

Director of Environmental and Regulatory Services

Energy Staffing Services, LLC.

2724 NW County Road Hobbs, NM 88240 Cell: 575-390-6397

Office: 575-393-9048

Received by OCD: 5/15/2025 11:11:27 AM



Company Name: MACK Location Name: PARTITION Release Date:

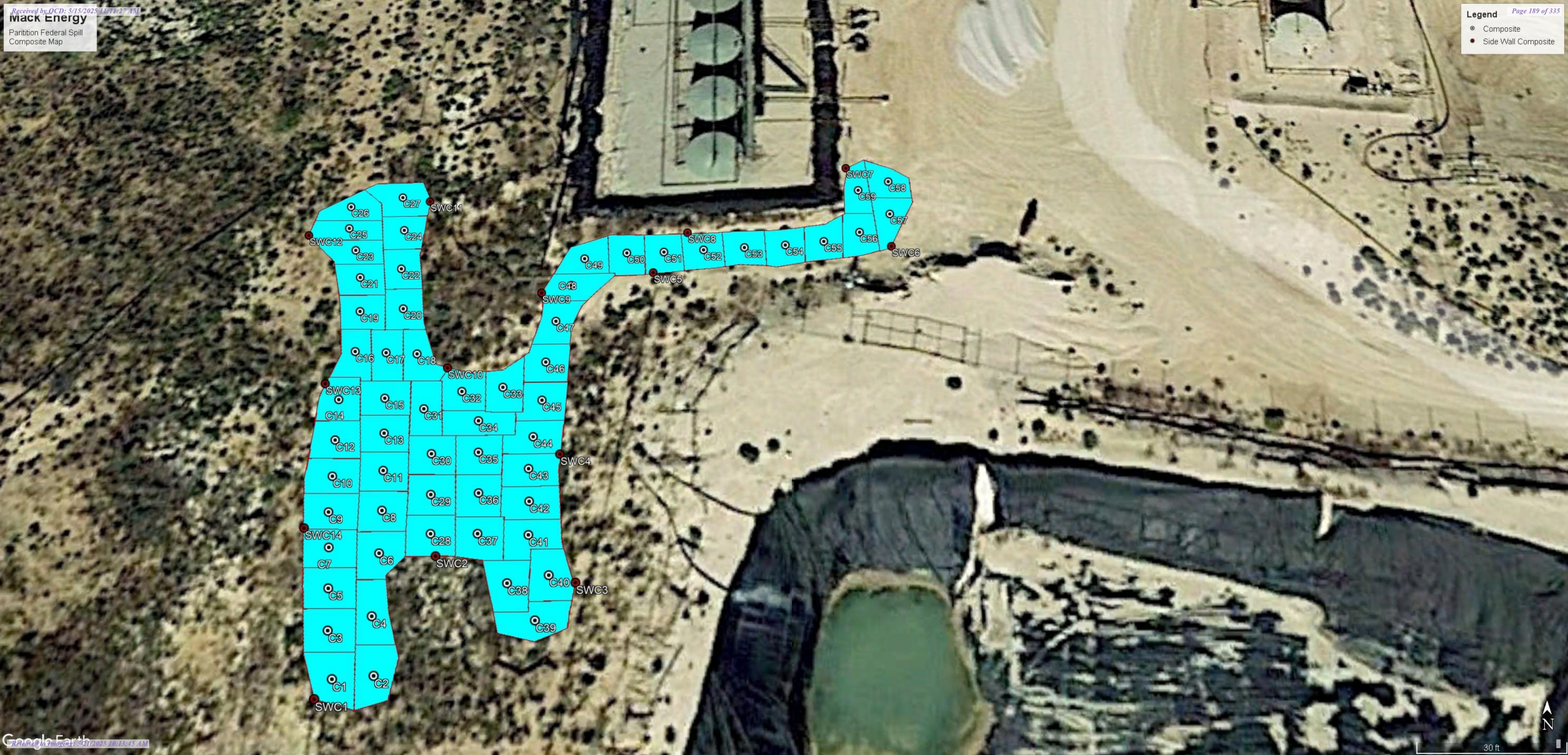
SP ID	Depth	Titr	PID	L-BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL	Soil	Notes
COMP1	1	240	L	ND	ND	ND	ND	ND	25.2		
COMP2	1	240	L	ND	ND	ND	ND	ND	25.3		
601403	4	240		ND	ND	ND	ND	ND	25		
COMP3	1	240	L	ND	ND	ND	ND	ND	25		
COMP4	1	240	L	ND	ND	ND	ND	ND	24.9		
COIVII		240		IVE	IVE	140	IVE	110	24.5		
COMP5	1	240	L	ND	ND	ND	ND	ND	25.4		
COMP6	1	160	L	ND	ND	ND	ND	ND	ND		
COMP7	1	160	L	ND	ND	ND	ND	ND	ND		
COMP8	1	160	L	ND	ND	ND	ND	ND	ND		
COIVIPS	<u> </u>	100	L	ND	ND	ND	ND	ND	IND		
COMP9	1	160	L	ND	ND	ND	ND	ND	ND		
COMP10	1	160	L	ND	ND	ND	ND	ND	ND		
COMP11	1	160	L	ND	ND	ND	ND	ND	ND		
COMPA	4	4.60		ND	ND	ND	ND	ND	NID		
COMP12	1	160	L	ND	ND	ND	ND	ND	ND		
COMP13	1	160	L	ND	ND	ND	ND	ND	ND		
201411 13	1	100	_	140	140	140	140	140	140		
COMP14	1	160	L	ND	ND	ND	ND	ND	ND		
COMP15	1	160	L	ND	ND	ND	ND	ND	ND		
COMP16	1	160	L	ND	ND	ND	ND	ND	ND		

COMP17	1	160	L	ND	ND	ND	ND	ND	ND	
COMP18	1	160	L	ND	ND	ND	ND	ND	ND	
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COMP19	1	160	L	ND	ND	ND	ND	ND	ND	
COMP20	1	160	L	ND	ND	ND	ND	ND	ND	
COMPZO	1	100	L	IND	IND	IND	IND	IND	ND	
COMP21	1	240	L	ND	ND	ND	ND	ND	ND	
COMP22	1	240	L	ND	ND	ND	ND	ND	ND	
COMP23	1	240	L	ND	ND	ND	ND	ND	ND	
COMP24	1	240	L	ND	ND	ND	ND	ND	ND	
COMP25	1	240	L	ND	ND	ND	ND	ND	ND	
COMP25	1	240	L	ND	ND	ND	ND	ND	ND	
COMP26	1	240	L	ND	ND	ND	ND	ND	ND	
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COMP27	1	240	L	ND	ND	ND	ND	ND	ND	
COMP28	1	240	L	ND	ND	ND	ND	ND	ND	
COMP29	1	240	L	ND	ND	ND	ND	ND	ND	
COLARSO	1	4.00		NID	NID	NID	NID	ND	ND	
COMP30	1	160	L	ND	ND	ND	ND	ND	ND	
COMP31	1	160	L	ND	ND	ND	ND	ND	ND	
COIVII 31	-	100	_	140	140	ND	140	140	IVD	
COMP32	1	160	L	ND	ND	ND	ND	ND	76.2	
COMP33	1	160	L	ND	ND	ND	ND	ND	ND	

COMP34	1	160	L	ND	ND	ND	ND	ND	ND	
COMP35	1	160	L	ND	ND	ND	ND	ND	ND	
6014036	4	1.00		A16	116	416	ALD.	ND	AUD.	
COMP36	1	160	L	ND	ND	ND	ND	ND	ND	
COMP37	1	160	L	ND	ND	ND	ND	ND	ND	
COIVIF37	1	100	L	ND	ND	ND	ND	ND	ND	
COMP38	1	160	L	ND	ND	ND	ND	ND	ND	
COMP39	1	160	L	ND	ND	ND	ND	ND	ND	
COMP40	1	160	L	ND	ND	ND	ND	ND	ND	
COMP41	1	160	L	ND	ND	ND	ND	ND	ND	
COMP42	1	160	L	ND	ND	ND	ND	ND	ND	
COMP42	1	100	L	ND	IND	ND	ND	ND	ND	
COMP43	1	160	L	ND	ND	ND	ND	ND	ND	
			_							
COMP44	1	160	L	ND	ND	ND	ND	ND	ND	
COMP45	1	160	L	ND	ND	ND	ND	ND	ND	
COMP46	1	240	L	ND	ND	ND	ND	ND	ND	
CON4D47	1	240		ND	ND	ND	ND	ND	ND	
COMP47	1	240	L	ND	ND	ND	ND	ND	ND	
COMP48	1	240	L	ND	ND	ND	ND	ND	ND	
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COMP49	1	240	L	ND	ND	ND	ND	ND	ND	
COMP50	1	240	L	ND	ND	ND	ND	ND	ND	

COMP51	1	240	L	ND	ND	ND	ND	ND	ND	
COMP52	1	240	L	ND	ND	ND	ND	ND	ND	
COMP53	1	240	L	ND	ND	ND	ND	ND	ND	
COMP54	1	240	L	ND	ND	ND	ND	ND	ND	
COMP34	<u> </u>	240	L	ND	ND	ND	ND	ND	ND	
COMP55	1	240	L	ND	ND	ND	ND	ND	ND	
	_		_							
COMP56	1	240	L	ND	ND	ND	ND	ND	ND	
COMP57	1	240	L	ND	ND	ND	ND	ND	ND	
COMP58	1	240	L	ND	ND	ND	ND	ND	ND	
COMPE	1	240		ND	ND	ND	ND	ND	ND	
COMP59	1	240	L	ND	ND	ND	ND	ND	ND	
SWCOMP1	1	240	L	ND	ND	ND	ND	ND	ND	
31100111112	_	2.10	_	115	110	110	148	148	115	
SWCOMP2	1	240	L	ND	ND	ND	ND	ND	ND	
SWCOMP3	1	240	L	ND	ND	ND	ND	ND	ND	
SWCOMP4	1	240	L	ND	ND	ND	ND	ND	ND	
0144004405		242		***		***			***	
SWCOMP5	1	240	L	ND	ND	ND	ND	ND	ND	
SWCOMP6	1	240	L	ND	ND	ND	ND	ND	ND	
JVVCOIVIFU	T	240	L	IND	IND	IND	NU	IND	IND	
SWCOMP7	1	240	L	ND	ND	ND	ND	ND	ND	
_										
SWCOMP8	1	240	L	ND	ND	ND	ND	ND	ND	

SWCOMP9	1	240	L	ND	ND	ND	ND	ND	ND	
SWCOMP10	1	240	L	ND	ND	ND	ND	ND	ND	
SWCOMP11	1	240	L	ND	ND	ND	ND	ND	ND	
SWCOMP12	1	240	L	ND	ND	ND	ND	ND	ND	
SWCOMP13	1	240	L	ND	ND	ND	ND	ND	ND	
SWCOMP14	1	240	L	ND	ND	ND	ND	ND	ND	



CLIENT: MACK ENERGY

LOCATION: PARTITION FEDERAL

SAMPLE ID	LATITUDE	LONGITUDE
C1	32.823122°	-103.823184°
C2	32.823124°	-103.823155°
C3	32.823152°	-103.823193°
C4	32.823161°	-103.823163°
C5	32.823179°	-103.823198°
C6	32.823202°	-103.823165°
C7	32.823206°	-103.823203°
C8	32.823231°	-103.823168°
C9	32.823230°	-103.823208°
C10	32.823255°	-103.823210°
C11	32.823259°	-103.823172°
C12	32.823281°	-103.823213°
C13	32.823286°	-103.823176°
C14	32.823311°	-103.823216°
C15	32.823312°	-103.823180°
C16	32.823348°	-103.823210°
C17	32.823347°	-103.823185°
C18	32.823346°	-103.823160°
C19	32.823380°	-103.823212°
C20	32.823382°	-103.823177°
C21	32.823408°	-103.823217°
C22	32.823415°	-103.823184°
C23	32.823431°	-103.823225°
C24	32.823448°	-103.823187°
C25	32.823450°	-103.823234°
C26	32.823469°	-103.823236°
C27	32.823477°	-103.823193°
C28	32.823215°	-103.823129°
C29	32.823242°	-103.823133°
C30	32.823271°	-103.823137°
C31	32.823304°	-103.823148°
C32	32.823317°	-103.823120°
C33	32.823320°	-103.823088°
C34	32.823295°	-103.823104°
C35	32.823272°	-103.823101°
C36	32.823243°	-103.823097°
C37	32.823215°	-103.823094°
C38	32.823182°	-103.823068°
C39	32.823158°	-103.823045°
C40	32.823187°	-103.823038°

C41	32.823214°	-103.823056°
C42	32.823237°	-103.823058°
C43	32.823260°	-103.823061°
C44	32.823283°	-103.823060°
C45	32.823310°	-103.823056°
C46	32.823339°	-103.823056°
C47	32.823371°	-103.823051°
C48	32.823400°	-103.823041°
C49	32.823422°	-103.823032°
C50	32.823426°	-103.822997°
C51	32.823426°	-103.822966°
C52	32.823427°	-103.822933°
C53	32.823428°	-103.822899°
C54	32.823429°	-103.822865°
C55	32.823432°	-103.822833°
C56	32.823440°	-103.822803°
C57	32.823456°	-103.822777°
C58	32.823485°	-103.822777°
C59	32.823477°	-103.822803°
SWC1	32.823110°	-103.823194°
SWC2	32.823200°	-103.823123°
SWC3	32.823182°	-103.823018°
SWC4	32.823270°	-103.823038°
SWC5	32.823409°	-103.822974°
SWC6	32.823428°	-103.822777°
SWC7	32.823497°	-103.822813°
SWC8	32.823442°	-103.822947°
SWC9	32.823394°	-103.823065°
SWC10	32.823335°	-103.823134°
SWC11	32.823473°	-103.823169°
SWC12	32.823444°	-103.823267°
SWC13	32.823323°	-103.823229°
SWC14	32.823219°	-103.823224°

Report to:

Natalie Gladden







5796 U.S. Hwy 64 Farmington, NM 87401

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





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Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: Partition

Work Order: E308069

Job Number: 20046-0001

Received: 8/11/2023

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 8/14/23

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.

Date Reported: 8/14/23

Natalie Gladden 7 W. Compress Road Artesia, NM 88210

Project Name: Partition Workorder: E308069

Date Received: 8/11/2023 7:00:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 8/11/2023 7:00:00AM, under the Project Name: Partition.

The analytical test results summarized in this report with the Project Name: Partition 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 reguarding 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

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Sample Summary

Mack Energy	Project Name:	Partition	Donortod	
7 W. Compress Road	Project Number:	20046-0001	Reported:	
Artesia NM, 88210	Project Manager:	Natalie Gladden	08/14/23 15:28	

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP Comp 1 - 1'	E308069-01A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 2 - 1'	E308069-02A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 3 - 1'	E308069-03A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 4 - 1'	E308069-04A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 5 - 1'	E308069-05A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 6 - 1'	E308069-06A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 7 - 1'	E308069-07A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 8 - 1'	E308069-08A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 9 - 1'	E308069-09A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 10 - 1'	E308069-10A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 11 - 1'	E308069-11A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 12 - 1'	E308069-12A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 13 - 1'	E308069-13A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 14 - 1'	E308069-14A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 15 - 1'	E308069-15A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 16 - 1'	E308069-16A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 17 - 1'	E308069-17A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 18 - 1'	E308069-18A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 19 - 1'	E308069-19A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 20 - 1'	E308069-20A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 21 - 1'	E308069-21A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 22 - 1'	E308069-22A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 23 - 1'	E308069-23A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 24 - 1'	E308069-24A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.
SP Comp 25 - 1'	E308069-25A	Soil	08/09/23	08/11/23	Glass Jar, 2 oz.

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 1 - 1' E308069-01

		E500007-01				
		Reporting				
Analyte	Result	Limit	Dilut	ion Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	A	Analyst: IY		Batch: 2332105
Benzene	ND	0.0250	1	08/11/23	08/11/23	
Ethylbenzene	ND	0.0250	1	08/11/23	08/11/23	
Toluene	ND	0.0250	1	08/11/23	08/11/23	
o-Xylene	ND	0.0250	1	08/11/23	08/11/23	
p,m-Xylene	ND	0.0500	1	08/11/23	08/11/23	
Total Xylenes	ND	0.0250	1	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		101 %	70-130	08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		96.0 %	70-130	08/11/23	08/11/23	
Surrogate: Toluene-d8		100 %	70-130	08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	A	Analyst: IY		Batch: 2332105
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		101 %	70-130	08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		96.0 %	70-130	08/11/23	08/11/23	
Surrogate: Toluene-d8		100 %	70-130	08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	A	Analyst: JL		Batch: 2332097
Diesel Range Organics (C10-C28)	ND	25.0	1	08/11/23	08/11/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/11/23	08/11/23	
Surrogate: n-Nonane		95.8 %	50-200	08/11/23	08/11/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	A	Analyst: BA		Batch: 2332102
Chloride	25.2	20.0	1	08/11/23	08/12/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 2 - 1'

E30	101	1/1	00
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		Reporting					
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: 1	ΙΥ		Batch: 2332105
Benzene	ND	0.0250	1	l	08/11/23	08/11/23	
Ethylbenzene	ND	0.0250	1	l	08/11/23	08/11/23	
Toluene	ND	0.0250	1	l	08/11/23	08/11/23	
o-Xylene	ND	0.0250	1	1	08/11/23	08/11/23	
p,m-Xylene	ND	0.0500	1	1	08/11/23	08/11/23	
Total Xylenes	ND	0.0250	1	l	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		99.2 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		96.5 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		101 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: 1	ΙΥ		Batch: 2332105
Gasoline Range Organics (C6-C10)	ND	20.0	1	1	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		99.2 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		96.5 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		101 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: .	IL		Batch: 2332097
Diesel Range Organics (C10-C28)	ND	25.0	1		08/11/23	08/11/23	
Oil Range Organics (C28-C36)	ND	50.0	1	[08/11/23	08/11/23	
Surrogate: n-Nonane		94.0 %	50-200		08/11/23	08/11/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: 1	BA		Batch: 2332102
					08/11/23	08/12/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 3 - 1'

E308069-03

		Reporting					
Analyte	Result	Limit	Dilu	ıtion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: Γ	Y		Batch: 2332105
Benzene	ND	0.0250	1	1	08/11/23	08/11/23	
Ethylbenzene	ND	0.0250	1	1	08/11/23	08/11/23	
Toluene	ND	0.0250	1	1	08/11/23	08/11/23	
o-Xylene	ND	0.0250	1	1	08/11/23	08/11/23	
p,m-Xylene	ND	0.0500	1	1	08/11/23	08/11/23	
Total Xylenes	ND	0.0250	1	1	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		101 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		95.5 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		99.6 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: Γ	Y		Batch: 2332105
Gasoline Range Organics (C6-C10)	ND	20.0	1	1	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		101 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		95.5 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		99.6 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	<u> </u>	Analyst: J	L		Batch: 2332097
Diesel Range Organics (C10-C28)	ND	25.0	1	1	08/11/23	08/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	1	08/11/23	08/12/23	
Surrogate: n-Nonane		96.8 %	50-200		08/11/23	08/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: E	BA		Batch: 2332102
Chloride	25.0	20.0	1	1	08/11/23	08/12/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 4 - 1'

E308069-04

Austra	Dl4	Reporting	D.1	4:	D 1	Auglana I	Notes
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	I	Analyst: IY			Batch: 2332105
Benzene	ND	0.0250	1		08/11/23	08/11/23	
Ethylbenzene	ND	0.0250	1		08/11/23	08/11/23	
Toluene	ND	0.0250	1		08/11/23	08/11/23	
o-Xylene	ND	0.0250	1		08/11/23	08/11/23	
p,m-Xylene	ND	0.0500	1		08/11/23	08/11/23	
Total Xylenes	ND	0.0250	1		08/11/23	08/11/23	
Surrogate: Bromofluorobenzene	·	99.7 %	70-130	·	08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		94.5 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		101 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: IY			Batch: 2332105
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		99.7 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		94.5 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		101 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: JL			Batch: 2332097
Diesel Range Organics (C10-C28)	ND	25.0	1		08/11/23	08/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1		08/11/23	08/12/23	
Surrogate: n-Nonane		95.3 %	50-200		08/11/23	08/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: BA	Λ.		Batch: 2332102
Chloride	24.9	20.0	1		08/11/23	08/12/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 5 - 1'

E308069-05 Reporting Analyte Limit Dilution Analyzed Result Prepared Notes Analyst: IY Batch: 2332105 mg/kg mg/kg **Volatile Organic Compounds by EPA 8260B** 08/11/23 08/11/23 ND 0.0250 Benzene 08/11/23 1 08/11/23 Ethylbenzene ND 0.0250ND 0.0250 1 08/11/23 08/11/23 Toluene 1 08/11/23 08/11/23 o-Xylene ND 0.02501 08/11/23 08/11/23 ND 0.0500 p,m-Xylene 08/11/23 08/11/23 1 Total Xylenes ND 0.0250 08/11/23 08/11/23 Surrogate: Bromofluorobenzene 100 % 70-130 08/11/23 08/11/23 Surrogate: 1,2-Dichloroethane-d4 97.3 % 70-130 08/11/23 Surrogate: Toluene-d8 101 % 70-130 08/11/23 Nonhalogenated Organics by EPA 8015D - GRO mg/kg mg/kg Analyst: IY Batch: 2332105 ND 1 08/11/23 08/11/23 20.0 Gasoline Range Organics (C6-C10) Surrogate: Bromofluorobenzene 100 % 08/11/23 08/11/23 70-130 97.3 % 08/11/23 08/11/23 Surrogate: 1,2-Dichloroethane-d4 70-130 08/11/23 Surrogate: Toluene-d8 08/11/23 101 % 70-130 mg/kg Analyst: JL Batch: 2332097 mg/kg Nonhalogenated Organics by EPA 8015D - DRO/ORO 08/11/23 08/12/23 ND 25.0 1 Diesel Range Organics (C10-C28) ND 50.0 1 08/11/23 08/12/23 Oil Range Organics (C28-C36) 94.6 % 50-200 08/11/23 08/12/23 Surrogate: n-Nonane Anions by EPA 300.0/9056A mg/kg mg/kg Analyst: BA Batch: 2332102

20.0

25.4

1

08/11/23

08/12/23



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 6 - 1'

		Reporting					
Analyte	Result	Limit	Dilu	ıtion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105
Benzene	ND	0.0250	1	1	08/11/23	08/11/23	
Ethylbenzene	ND	0.0250	1	1	08/11/23	08/11/23	
Toluene	ND	0.0250	1	1	08/11/23	08/11/23	
o-Xylene	ND	0.0250	1	1	08/11/23	08/11/23	
p,m-Xylene	ND	0.0500	1	1	08/11/23	08/11/23	
Total Xylenes	ND	0.0250	1	1	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		100 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		94.8 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		101 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105
Gasoline Range Organics (C6-C10)	ND	20.0	1	1	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		100 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		94.8 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		101 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2332097
Diesel Range Organics (C10-C28)	ND	25.0	1	1	08/11/23	08/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	1	08/11/23	08/12/23	
Surrogate: n-Nonane		94.6 %	50-200		08/11/23	08/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2332102
					08/11/23	08/12/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 7 - 1'

		E308069-07					
Reporting							
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: I	Y		Batch: 2332105
Benzene	ND	0.0250	1		08/11/23	08/11/23	
Ethylbenzene	ND	0.0250	1		08/11/23	08/11/23	
Toluene	ND	0.0250	1		08/11/23	08/11/23	
o-Xylene	ND	0.0250	1		08/11/23	08/11/23	
p,m-Xylene	ND	0.0500	1		08/11/23	08/11/23	
Total Xylenes	ND	0.0250	1	l	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		100 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		97.4 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		98.4 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: I	Y		Batch: 2332105
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		100 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		97.4 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		98.4 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: J	L		Batch: 2332097
Diesel Range Organics (C10-C28)	ND	25.0	1		08/11/23	08/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	l	08/11/23	08/12/23	
Surrogate: n-Nonane		95.5 %	50-200		08/11/23	08/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: I	BA		Batch: 2332102



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 8 - 1'

		E308069-08					
Reporting							
Analyte	Result	Limit	Dilu	ition	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105
Benzene	ND	0.0250	1	[08/11/23	08/11/23	
Ethylbenzene	ND	0.0250	1	l	08/11/23	08/11/23	
Toluene	ND	0.0250	1	l	08/11/23	08/11/23	
o-Xylene	ND	0.0250	1	l	08/11/23	08/11/23	
p,m-Xylene	ND	0.0500	1	[08/11/23	08/11/23	
Total Xylenes	ND	0.0250	1	l	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		103 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		97.9 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		97.2 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105
Gasoline Range Organics (C6-C10)	ND	20.0	1	[08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		103 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		97.9 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		97.2 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	ЛL		Batch: 2332097
Diesel Range Organics (C10-C28)	ND	25.0	1		08/11/23	08/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	1	08/11/23	08/12/23	
Surrogate: n-Nonane		96.5 %	50-200		08/11/23	08/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2332102
Chloride	ND	20.0	1	1	08/11/23	08/12/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 9 - 1'

		E308069-09					
Reporting							
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105
Benzene	ND	0.0250	1	[08/11/23	08/11/23	
Ethylbenzene	ND	0.0250	1	l	08/11/23	08/11/23	
Toluene	ND	0.0250	1	l	08/11/23	08/11/23	
o-Xylene	ND	0.0250	1	l	08/11/23	08/11/23	
p,m-Xylene	ND	0.0500	1	l	08/11/23	08/11/23	
Total Xylenes	ND	0.0250	1	l	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		99.5 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		99.3 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		102 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105
Gasoline Range Organics (C6-C10)	ND	20.0	1	l	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		99.5 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		99.3 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		102 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	Л		Batch: 2332097
Diesel Range Organics (C10-C28)	ND	25.0	1	1	08/11/23	08/12/23	_
Oil Range Organics (C28-C36)	ND	50.0	1	1	08/11/23	08/12/23	
Surrogate: n-Nonane		95.1 %	50-200		08/11/23	08/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2332098
Chloride	ND	20.0	1	1	08/11/23	08/11/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 10 - 1'

		E308069-10					
		Reporting					
Analyte	Result	Limit	Dilu	ıtion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: 1	ΙΥ		Batch: 2332105
Benzene	ND	0.0250	1	1	08/11/23	08/11/23	
Ethylbenzene	ND	0.0250	1	1	08/11/23	08/11/23	
Toluene	ND	0.0250	1	1	08/11/23	08/11/23	
o-Xylene	ND	0.0250	1	1	08/11/23	08/11/23	
p,m-Xylene	ND	0.0500	1	1	08/11/23	08/11/23	
Total Xylenes	ND	0.0250	1	1	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		99.0 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		95.8 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		99.9 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: 1	ΙΥ		Batch: 2332105
Gasoline Range Organics (C6-C10)	ND	20.0	1	l	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		99.0 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		95.8 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		99.9 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: .	ΠL		Batch: 2332097
Diesel Range Organics (C10-C28)	ND	25.0	1	1	08/11/23	08/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	1	08/11/23	08/12/23	
Surrogate: n-Nonane		95.1 %	50-200		08/11/23	08/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: 1	ВА		Batch: 2332098
Chloride	ND	20.0	1	1	08/11/23	08/11/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 11 - 1'

E308069-11									
Reporting									
Analyte	Result	Limit	Dilu	ıtion	Prepared	Analyzed	Notes		
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105		
Benzene	ND	0.0250	1	1	08/11/23	08/11/23			
Ethylbenzene	ND	0.0250	1	1	08/11/23	08/11/23			
Toluene	ND	0.0250	1	1	08/11/23	08/11/23			
o-Xylene	ND	0.0250	1	1	08/11/23	08/11/23			
p,m-Xylene	ND	0.0500	1	1	08/11/23	08/11/23			
Total Xylenes	ND	0.0250	1	1	08/11/23	08/11/23			
Surrogate: Bromofluorobenzene		98.3 %	70-130		08/11/23	08/11/23			
Surrogate: 1,2-Dichloroethane-d4		96.9 %	70-130		08/11/23	08/11/23			
Surrogate: Toluene-d8		102 %	70-130		08/11/23	08/11/23			
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105		
Gasoline Range Organics (C6-C10)	ND	20.0	1	1	08/11/23	08/11/23			
Surrogate: Bromofluorobenzene		98.3 %	70-130		08/11/23	08/11/23			
Surrogate: 1,2-Dichloroethane-d4		96.9 %	70-130		08/11/23	08/11/23			
Surrogate: Toluene-d8		102 %	70-130		08/11/23	08/11/23			
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	Л		Batch: 2332097		
Diesel Range Organics (C10-C28)	ND	25.0	1	1	08/11/23	08/12/23			
Oil Range Organics (C28-C36)	ND	50.0	1	1	08/11/23	08/12/23			
Surrogate: n-Nonane		96.9 %	50-200		08/11/23	08/12/23			
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2332098		

20.0

08/11/23

08/11/23

ND



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 12 - 1'

E308069-12 Reporting									
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105		
Benzene	ND	0.0250		1	08/11/23	08/11/23			
Ethylbenzene	ND	0.0250		1	08/11/23	08/11/23			
Toluene	ND	0.0250		1	08/11/23	08/11/23			
o-Xylene	ND	0.0250		1	08/11/23	08/11/23			
p,m-Xylene	ND	0.0500		1	08/11/23	08/11/23			
Total Xylenes	ND	0.0250		1	08/11/23	08/11/23			
Surrogate: Bromofluorobenzene		100 %	70-130		08/11/23	08/11/23			
Surrogate: 1,2-Dichloroethane-d4		94.3 %	70-130		08/11/23	08/11/23			
Surrogate: Toluene-d8		101 %	70-130		08/11/23	08/11/23			
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105		
Gasoline Range Organics (C6-C10)	ND	20.0		1	08/11/23	08/11/23			
Surrogate: Bromofluorobenzene		100 %	70-130		08/11/23	08/11/23			
Surrogate: 1,2-Dichloroethane-d4		94.3 %	70-130		08/11/23	08/11/23			
Surrogate: Toluene-d8		101 %	70-130		08/11/23	08/11/23			
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2332097		
Diesel Range Organics (C10-C28)	ND	25.0		1	08/11/23	08/12/23			
Oil Range Organics (C28-C36)	ND	50.0		1	08/11/23	08/12/23			
Surrogate: n-Nonane		95.8 %	50-200		08/11/23	08/12/23			
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2332098		

20.0

08/11/23

08/11/23

ND



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 13 - 1'

E308069-13										
Reporting										
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes			
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105			
Benzene	ND	0.0250		1	08/11/23	08/11/23				
Ethylbenzene	ND	0.0250		1	08/11/23	08/11/23				
Toluene	ND	0.0250		1	08/11/23	08/11/23				
o-Xylene	ND	0.0250		1	08/11/23	08/11/23				
p,m-Xylene	ND	0.0500		1	08/11/23	08/11/23				
Total Xylenes	ND	0.0250		1	08/11/23	08/11/23				
Surrogate: Bromofluorobenzene		102 %	70-130		08/11/23	08/11/23				
Surrogate: 1,2-Dichloroethane-d4		96.8 %	70-130		08/11/23	08/11/23				
Surrogate: Toluene-d8		96.9 %	70-130		08/11/23	08/11/23				
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105			
Gasoline Range Organics (C6-C10)	ND	20.0		1	08/11/23	08/11/23				
Surrogate: Bromofluorobenzene		102 %	70-130		08/11/23	08/11/23				
Surrogate: 1,2-Dichloroethane-d4		96.8 %	70-130		08/11/23	08/11/23				
Surrogate: Toluene-d8		96.9 %	70-130		08/11/23	08/11/23				
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2332097			
Diesel Range Organics (C10-C28)	ND	25.0		1	08/11/23	08/12/23				
Oil Range Organics (C28-C36)	ND	50.0		1	08/11/23	08/12/23				
Surrogate: n-Nonane		95.6 %	50-200		08/11/23	08/12/23				
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2332098			

20.0

08/11/23

08/11/23

ND



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 14 - 1'

		Reporting					
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: 1	IY		Batch: 2332105
Benzene	ND	0.0250	1	l	08/11/23	08/11/23	
Ethylbenzene	ND	0.0250	1	l	08/11/23	08/11/23	
Toluene	ND	0.0250	1	l	08/11/23	08/11/23	
o-Xylene	ND	0.0250	1	l	08/11/23	08/11/23	
p,m-Xylene	ND	0.0500	1	l	08/11/23	08/11/23	
Total Xylenes	ND	0.0250	1	l	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene	·	98.3 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		97.7 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		102 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	-	Analyst: 1	IY		Batch: 2332105
Gasoline Range Organics (C6-C10)	ND	20.0	1	Į.	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		98.3 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		97.7 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		102 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: .	JL		Batch: 2332097
Diesel Range Organics (C10-C28)	ND	25.0	1	1	08/11/23	08/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	[08/11/23	08/12/23	
Surrogate: n-Nonane		96.0 %	50-200		08/11/23	08/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: 1	BA		Batch: 2332098



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 15 - 1'

E308069-15 Reporting									
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105		
Benzene	ND	0.0250		1	08/11/23	08/11/23			
Ethylbenzene	ND	0.0250		1	08/11/23	08/11/23			
Toluene	ND	0.0250		1	08/11/23	08/11/23			
o-Xylene	ND	0.0250		1	08/11/23	08/11/23			
p,m-Xylene	ND	0.0500		1	08/11/23	08/11/23			
Total Xylenes	ND	0.0250		1	08/11/23	08/11/23			
Surrogate: Bromofluorobenzene		104 %	70-130		08/11/23	08/11/23			
Surrogate: 1,2-Dichloroethane-d4		99.2 %	70-130		08/11/23	08/11/23			
Surrogate: Toluene-d8		98.6 %	70-130		08/11/23	08/11/23			
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105		
Gasoline Range Organics (C6-C10)	ND	20.0		1	08/11/23	08/11/23			
Surrogate: Bromofluorobenzene		104 %	70-130		08/11/23	08/11/23			
Surrogate: 1,2-Dichloroethane-d4		99.2 %	70-130		08/11/23	08/11/23			
Surrogate: Toluene-d8		98.6 %	70-130		08/11/23	08/11/23			
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2332097		
Diesel Range Organics (C10-C28)	ND	25.0		1	08/11/23	08/12/23			
Oil Range Organics (C28-C36)	ND	50.0		1	08/11/23	08/12/23			
Surrogate: n-Nonane	·	97.9 %	50-200		08/11/23	08/12/23			
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2332098		

20.0

08/11/23

08/11/23

ND



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 16 - 1'

		Reporting					
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: I	Y		Batch: 2332105
Benzene	ND	0.0250	1		08/11/23	08/11/23	
Ethylbenzene	ND	0.0250	1		08/11/23	08/11/23	
Toluene	ND	0.0250	1		08/11/23	08/11/23	
o-Xylene	ND	0.0250	1		08/11/23	08/11/23	
p,m-Xylene	ND	0.0500	1		08/11/23	08/11/23	
Total Xylenes	ND	0.0250	1		08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		99.1 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		98.2 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		100 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: I	Y		Batch: 2332105
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		99.1 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		98.2 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		100 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: J	L		Batch: 2332097
Diesel Range Organics (C10-C28)	ND	25.0	1		08/11/23	08/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1		08/11/23	08/12/23	
Surrogate: n-Nonane		99.0 %	50-200		08/11/23	08/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: I	BA		Batch: 2332098
						08/11/23	

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 17 - 1'

		Reporting					
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	I	Analyst: I\	7		Batch: 2332105
Benzene	ND	0.0250	1		08/11/23	08/11/23	
Ethylbenzene	ND	0.0250	1		08/11/23	08/11/23	
Toluene	ND	0.0250	1		08/11/23	08/11/23	
o-Xylene	ND	0.0250	1		08/11/23	08/11/23	
p,m-Xylene	ND	0.0500	1		08/11/23	08/11/23	
Total Xylenes	ND	0.0250	1		08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		102 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		97.3 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		97.9 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: IY	7		Batch: 2332105
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		102 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		97.3 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		97.9 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: JI			Batch: 2332097
Diesel Range Organics (C10-C28)	ND	25.0	1		08/11/23	08/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1		08/11/23	08/12/23	
Surrogate: n-Nonane		91.4 %	50-200		08/11/23	08/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: B	A		Batch: 2332098



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 18 - 1'

		Reporting					
Analyte	Result	Limit	Dilu	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105
Benzene	ND	0.0250		1	08/11/23	08/11/23	
Ethylbenzene	ND	0.0250		1	08/11/23	08/11/23	
Toluene	ND	0.0250		1	08/11/23	08/11/23	
o-Xylene	ND	0.0250		1	08/11/23	08/11/23	
p,m-Xylene	ND	0.0500		1	08/11/23	08/11/23	
Total Xylenes	ND	0.0250		1	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		99.0 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		99.0 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		99.4 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2332105
Gasoline Range Organics (C6-C10)	ND	20.0	:	1	08/11/23	08/11/23	
Surrogate: Bromofluorobenzene		99.0 %	70-130		08/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		99.0 %	70-130		08/11/23	08/11/23	
Surrogate: Toluene-d8		99.4 %	70-130		08/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2332097
Diesel Range Organics (C10-C28)	ND	25.0		1	08/11/23	08/12/23	
Oil Range Organics (C28-C36)	ND	50.0		1	08/11/23	08/12/23	
Surrogate: n-Nonane		88.3 %	50-200		08/11/23	08/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2332098
Chloride	ND	20.0		1	08/11/23	08/11/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 19 - 1'

		E308069-19					
Reporting							
Analyte	Result	Limit	Dilu	tion P	repared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: IY			Batch: 2332105
Benzene	ND	0.0250	1	. 0	8/11/23	08/11/23	
Ethylbenzene	ND	0.0250	1	. 0	8/11/23	08/11/23	
Toluene	ND	0.0250	1	. 0	8/11/23	08/11/23	
o-Xylene	ND	0.0250	1	. 0	8/11/23	08/11/23	
p,m-Xylene	ND	0.0500	1	. 0	8/11/23	08/11/23	
Total Xylenes	ND	0.0250	1	. 0	8/11/23	08/11/23	
Surrogate: Bromofluorobenzene		100 %	70-130	0	8/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		97.4 %	70-130	0	8/11/23	08/11/23	
Surrogate: Toluene-d8		100 %	70-130	0	8/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	rg mg/kg Analyst: IY			Batch: 2332105		
Gasoline Range Organics (C6-C10)	ND	20.0	1	. 0	8/11/23	08/11/23	
Surrogate: Bromofluorobenzene		100 %	70-130	0	8/11/23	08/11/23	
Surrogate: 1,2-Dichloroethane-d4		97.4 %	70-130	0	8/11/23	08/11/23	
Surrogate: Toluene-d8		100 %	70-130	0	8/11/23	08/11/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: JL			Batch: 2332097
Diesel Range Organics (C10-C28)	ND	25.0	1	0	8/11/23	08/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	. 0	8/11/23	08/12/23	
Surrogate: n-Nonane		89.5 %	50-200	0	8/11/23	08/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: BA			Batch: 2332098

20.0

1

08/11/23

08/11/23

ND



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 20 - 1'

Dilution Analys	Prepared	Analyzed	Notes
	•	Analyzed	Notes
Analys			
	st: IY		Batch: 2332105
1	08/11/23	08/11/23	
1	08/11/23	08/11/23	
1	08/11/23	08/11/23	
1	08/11/23	08/11/23	
1	08/11/23	08/11/23	
1	08/11/23	08/11/23	
70-130	08/11/23	08/11/23	
70-130	08/11/23	08/11/23	
70-130	08/11/23	08/11/23	
Analy	Analyst: IY		Batch: 2332105
1	08/11/23	08/11/23	
70-130	08/11/23	08/11/23	
70-130	08/11/23	08/11/23	
70-130	08/11/23	08/11/23	
Analy	st: JL		Batch: 2332097
1	08/11/23	08/12/23	
1	08/11/23	08/12/23	
50-200	08/11/23	08/12/23	
Analys	st: BA		Batch: 2332098
	1 1 1 1 1 70-130 70-130 70-130 Analys 1 70-130 70-130 70-130 Analys 1 1 1	1 08/11/23 1 08/11/23 1 08/11/23 1 08/11/23 1 08/11/23 1 08/11/23 70-130 08/11/23 70-130 08/11/23 70-130 08/11/23 70-130 08/11/23 70-130 08/11/23 70-130 08/11/23 70-130 08/11/23 70-130 08/11/23 1 08/11/23 1 08/11/23	1 08/11/23 08/11/23 1 08/11/23 08/11/23 1 08/11/23 08/11/23 1 08/11/23 08/11/23 1 08/11/23 08/11/23 1 08/11/23 08/11/23 70-130 08/11/23 08/11/23 70-130 08/11/23 08/11/23 70-130 08/11/23 08/11/23 70-130 08/11/23 08/11/23 70-130 08/11/23 08/11/23 70-130 08/11/23 08/11/23 70-130 08/11/23 08/11/23 70-130 08/11/23 08/11/23 70-130 08/11/23 08/11/23 70-130 08/11/23 08/11/23 70-130 08/11/23 08/11/23 70-130 08/11/23 08/11/23 1 08/11/23 08/11/23



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 21 - 1'

E308069-21

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: IY		Batch: 2332092
Benzene	ND	0.0250	1	08/11/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/11/23	08/14/23	
Toluene	ND	0.0250	1	08/11/23	08/14/23	
o-Xylene	ND	0.0250	1	08/11/23	08/14/23	
p,m-Xylene	ND	0.0500	1	08/11/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/11/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID		96.6 %	70-130	08/11/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY			Batch: 2332092
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/11/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		84.4 %	70-130	08/11/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: JL		Batch: 2332100
Diesel Range Organics (C10-C28)	ND	25.0	1	08/11/23	08/11/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/11/23	08/11/23	
Surrogate: n-Nonane		93.4 %	50-200	08/11/23	08/11/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: BA		Batch: 2332098
Allions by EPA 500.0/9050A						



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 22 - 1'

E308069-22

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	lyst: IY		Batch: 2332092
Benzene	ND	0.0250	1	08/11/23	08/12/23	
Ethylbenzene	ND	0.0250	1	08/11/23	08/12/23	
Toluene	ND	0.0250	1	08/11/23	08/12/23	
o-Xylene	ND	0.0250	1	08/11/23	08/12/23	
p,m-Xylene	ND	0.0500	1	08/11/23	08/12/23	
Total Xylenes	ND	0.0250	1	08/11/23	08/12/23	
Surrogate: 4-Bromochlorobenzene-PID		96.9 %	70-130	08/11/23	08/12/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY			Batch: 2332092
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/11/23	08/12/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		84.9 %	70-130	08/11/23	08/12/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	lyst: JL		Batch: 2332100
Diesel Range Organics (C10-C28)	ND	25.0	1	08/11/23	08/11/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/11/23	08/11/23	
Surrogate: n-Nonane		94.4 %	50-200	08/11/23	08/11/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	lyst: BA		Batch: 2332098



Chloride

Sample Data

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 23 - 1'

		E308069-23				
		Reporting				
Analyte	Result	Limit	Dilutio	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	An	nalyst: IY		Batch: 2332092
Benzene	ND	0.0250	1	08/11/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/11/23	08/14/23	
Toluene	ND	0.0250	1	08/11/23	08/14/23	
o-Xylene	ND	0.0250	1	08/11/23	08/14/23	
p,m-Xylene	ND	0.0500	1	08/11/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/11/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID		94.0 %	70-130	08/11/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	An	nalyst: IY		Batch: 2332092
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/11/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		84.5 %	70-130	08/11/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	An	alyst: JL		Batch: 2332100
Diesel Range Organics (C10-C28)	ND	25.0	1	08/11/23	08/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/11/23	08/12/23	
Surrogate: n-Nonane		91.4 %	50-200	08/11/23	08/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	An	nalyst: BA		Batch: 2332098

20.0

ND

08/11/23

08/11/23



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 24 - 1'

E308069-24

		2000007 2.				
Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B		mg/kg	Analy	*		Batch: 2332092
Benzene	ND	0.0250	1	08/11/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/11/23	08/14/23	
Toluene	ND	0.0250	1	08/11/23	08/14/23	
o-Xylene	ND	0.0250	1	08/11/23	08/14/23	
p,m-Xylene	ND	0.0500	1	08/11/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/11/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID		94.5 %	70-130	08/11/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	st: IY		Batch: 2332092
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/11/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		85.5 %	70-130	08/11/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	st: JL		Batch: 2332100
Diesel Range Organics (C10-C28)	ND	25.0	1	08/11/23	08/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/11/23	08/12/23	
Surrogate: n-Nonane		92.6 %	50-200	08/11/23	08/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	st: BA		Batch: 2332098
Chloride	ND	20.0	1	08/11/23	08/11/23	



Chloride

Sample Data

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

SP Comp 25 - 1'

		E308069-25				
		Reporting				
Analyte	Result	Limit	Dilutio	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	An	alyst: IY		Batch: 2332092
Benzene	ND	0.0250	1	08/11/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/11/23	08/14/23	
Toluene	ND	0.0250	1	08/11/23	08/14/23	
o-Xylene	ND	0.0250	1	08/11/23	08/14/23	
p,m-Xylene	ND	0.0500	1	08/11/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/11/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID		93.9 %	70-130	08/11/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	An	alyst: IY		Batch: 2332092
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/11/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		83.6 %	70-130	08/11/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	An	alyst: JL		Batch: 2332100
Diesel Range Organics (C10-C28)	ND	25.0	1	08/11/23	08/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/11/23	08/12/23	
Surrogate: n-Nonane		96.3 %	50-200	08/11/23	08/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	An	alyst: BA		Batch: 2332098

20.0

ND

08/11/23

08/11/23



Toluene

o-Xylene

p,m-Xylene

Total Xylenes

Surrogate: Bromofluorobenzene

Surrogate: Toluene-d8

Surrogate: 1,2-Dichloroethane-d4

Matrix Spike Dup (2332105-MSD1)

QC Summary Data Mack Energy Project Name: Partition Reported: 7 W. Compress Road Project Number: 20046-0001 Artesia NM, 88210 Project Manager: Natalie Gladden 8/14/2023 3:28:58PM **Volatile Organic Compounds by EPA 8260B** Analyst: IY Reporting Spike Source Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % Notes Blank (2332105-BLK1) Prepared: 08/11/23 Analyzed: 08/11/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND o-Xylene 0.0250 ND p,m-Xylene 0.0500 Total Xylenes ND 0.0250 Surrogate: Bromofluorobenzene 0.504 0.500 101 70-130 Surrogate: 1,2-Dichloroethane-d4 0.487 0.500 97.3 70-130 0.500 101 70-130 Surrogate: Toluene-d8 0.503 LCS (2332105-BS1) Prepared: 08/11/23 Analyzed: 08/11/23 2.51 0.0250 2.50 100 70-130 Benzene 2.50 93.6 70-130 2.34 Ethylbenzene 0.0250 2.44 0.0250 2.50 97.5 70-130 2.50 100 70-130 0.0250 2.50 o-Xylene 4.93 5.00 98.6 70-130 p,m-Xylene 0.0500 7.43 0.0250 7.50 99.1 70-130 Total Xylenes Surrogate: Bromofluorobenzene 0.510 0.500 102 70-130 0.500 94.9 70-130 Surrogate: 1,2-Dichloroethane-d4 0.475 Surrogate: Toluene-d8 0.500 70-130 0.514 Matrix Spike (2332105-MS1) Source: E308069-09 Prepared: 08/11/23 Analyzed: 08/11/23 2.56 0.0250 2.50 ND 48-131 ND 45-135 Ethylbenzene 2.41 0.0250 2.50 96.5

Benzene	2.27	0.0250	2.50	ND	90.7	48-131	12.2	23	
Ethylbenzene	2.13	0.0250	2.50	ND	85.3	45-135	12.3	27	
Toluene	2.24	0.0250	2.50	ND	89.6	48-130	10.8	24	
o-Xylene	2.25	0.0250	2.50	ND	90.1	43-135	14.7	27	
p,m-Xylene	4.46	0.0500	5.00	ND	89.2	43-135	14.5	27	
Total Xylenes	6.71	0.0250	7.50	ND	89.5	43-135	14.5	27	
Surrogate: Bromofluorobenzene	0.504		0.500		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.465		0.500		93.0	70-130			
Surrogate: Toluene-d8	0.521		0.500		104	70-130			

2.50

2.50

5.00

7.50

0.500

0.500

0.500

2.50

2.61

5.16

7.77

0.505

0.475

0.510

0.0250

0.0250

0.0500

0.0250

ND

ND

ND

ND

99.8

104

103

104

101

95.0

Source: E308069-09

48-130

43-135

43-135

43-135

70-130

70-130

70-130

Prepared: 08/11/23 Analyzed: 08/11/23

		QC Si	umma	ary Data							
Mack Energy 7 W. Compress Road		Project Name: Project Number:		artition 0046-0001					Reported:		
Artesia NM, 88210		Project Manager:	N	latalie Gladden					8/14/2023 3:28:58PM		
		Volatile O	rganics	by EPA 8021	В				Analyst: IY		
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit			
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes		
Blank (2332092-BLK1)							Prepared: 0	8/11/23 A	analyzed: 08/12/23		
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	7.78		8.00		97.2	70-130					
LCS (2332092-BS1)							Prepared: 0	8/11/23 A	analyzed: 08/12/23		
Benzene	5.12	0.0250	5.00		102	70-130					
Ethylbenzene	4.91	0.0250	5.00		98.3	70-130					
Toluene	5.12	0.0250	5.00		102	70-130					
o-Xylene	5.08	0.0250	5.00		102	70-130					
o,m-Xylene	10.1	0.0500	10.0		101	70-130					
Total Xylenes	15.2	0.0250	15.0		101	70-130					
Surrogate: 4-Bromochlorobenzene-PID	7.84		8.00		98.0	70-130					
Matrix Spike (2332092-MS1)				Source: F	308069-	22	Prepared: 0	8/11/23 A	analyzed: 08/12/23		
Benzene	4.86	0.0250	5.00	ND	97.3	54-133					
Ethylbenzene	4.70	0.0250	5.00	ND	93.9	61-133					
Toluene	4.88	0.0250	5.00	ND	97.6	61-130					
p-Xylene	4.84	0.0250	5.00	ND	96.8	63-131					
p,m-Xylene	9.71	0.0500	10.0	ND	97.1	63-131					
Total Xylenes	14.5	0.0250	15.0	ND	97.0	63-131					
Surrogate: 4-Bromochlorobenzene-PID	7.79		8.00		97.4	70-130					
Matrix Spike Dup (2332092-MSD1)				Source: F	308069-	22	Prepared: 0	8/11/23 A	analyzed: 08/12/23		
Benzene	4.73	0.0250	5.00	ND	94.6	54-133	2.84	20			
Ethylbenzene	4.55	0.0250	5.00	ND	90.9	61-133	3.25	20			
Toluene	4.73	0.0250	5.00	ND	94.7	61-130	3.01	20			
o-Xylene	4.69	0.0250	5.00	ND	93.9	63-131	3.04	20			
p,m-Xylene	9.40	0.0500	10.0	ND	94.0	63-131	3.21	20			
Total Virlamas	1.4.1	0.0250	15.0	ND	04.0	62 121	2 15	20			



14.1

7.80

0.0250

15.0

8.00

ND

94.0

97.5

63-131

70-130

3.15

20

Total Xylenes

Surrogate: 4-Bromochlorobenzene-PID

Mack Energy	Project Name:	Partition	Reported:
7 W. Compress Road	Project Number:	20046-0001	•
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

Artesia NM, 88210		Project Manage	r: Na	talie Gladder	1			8/1	4/2023 3:28:58PM	
	Non	halogenated	Organics l	by EPA 80	15D - Gl	RO		Analyst: IY		
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Nistra	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes	
Blank (2332092-BLK1)							Prepared: 0	8/11/23 Analy	yzed: 08/12/23	
Gasoline Range Organics (C6-C10)	ND	20.0								
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.86		8.00		85.7	70-130				
LCS (2332092-BS2)							Prepared: 0	8/11/23 Analy	yzed: 08/12/23	
Gasoline Range Organics (C6-C10)	44.1	20.0	50.0		88.1	70-130				
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.88		8.00		86.0	70-130				
Matrix Spike (2332092-MS2)				Source:	E308069-	22	Prepared: 0	8/11/23 Analy	yzed: 08/14/23	
Gasoline Range Organics (C6-C10)	47.8	20.0	50.0	ND	95.7	70-130				
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.79		8.00		84.9	70-130				
Matrix Spike Dup (2332092-MSD2)				Source:	E308069-	22	Prepared: 0	8/11/23 Analy	yzed: 08/14/23	
Gasoline Range Organics (C6-C10)	45.5	20.0	50.0	ND	91.1	70-130	4.90	20		
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.77		8.00		84.6	70-130				

Mack EnergyProject Name:PartitionReported:7 W. Compress RoadProject Number:20046-0001Artesia NM, 88210Project Manager:Natalie Gladden8/14/2023 3:28:58PM

Nonhalogenated (Organics by	EPA 8015D - GRO
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Analyst: IY

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

	resure				1100				
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2332105-BLK1)							Prepared: 0	8/11/23 Ana	lyzed: 08/11/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.504		0.500		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.487		0.500		97.3	70-130			
Surrogate: Toluene-d8	0.503		0.500		101	70-130			
LCS (2332105-BS2)							Prepared: 0	8/11/23 Ana	lyzed: 08/11/23
Gasoline Range Organics (C6-C10)	53.0	20.0	50.0	·	106	70-130	·	·	
Surrogate: Bromofluorobenzene	0.503		0.500		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.472		0.500		94.4	70-130			
Surrogate: Toluene-d8	0.524		0.500		105	70-130			
Matrix Spike (2332105-MS2)				Source: E308069-09			Prepared: 08/11/23 Analyzed: 08/11/23		
Gasoline Range Organics (C6-C10)	57.7	20.0	50.0	ND	115	70-130			
Surrogate: Bromofluorobenzene	0.513		0.500		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.476		0.500		95.1	70-130			
Surrogate: Toluene-d8	0.520		0.500		104	70-130			
Matrix Spike Dup (2332105-MSD2)				Source:	E308069-	09	Prepared: 08/11/23 Analyzed: 08/11/2		
Gasoline Range Organics (C6-C10)	56.0	20.0	50.0	ND	112	70-130	3.03	20	
Surrogate: Bromofluorobenzene	0.504		0.500		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.485		0.500		96.9	70-130			
Surrogate: Toluene-d8	0.517		0.500		103	70-130			



Mack Energy	Project Name:	Partition	Reported:
7 W. Compress Road	Project Number:	20046-0001	•
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

Artesia NM, 88210		Project Manage	r: Na	ıtalie Gladder	1				8/14/2023 3:28:58PN
	Nonhal	logenated Or	ganics by l	EPA 8015I) - DRO	/ORO			Analyst: JL
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2332097-BLK1)							Prepared: 0	8/11/23 An	alyzed: 08/11/23
iesel Range Organics (C10-C28)	ND	25.0							
til Range Organics (C28-C36)	ND	50.0							
urrogate: n-Nonane	48.0		50.0		96.0	50-200			
.CS (2332097-BS1)							Prepared: 0	8/11/23 An	alyzed: 08/11/23
riesel Range Organics (C10-C28)	241	25.0	250		96.3	38-132			
urrogate: n-Nonane	42.2		50.0		84.4	50-200			
Matrix Spike (2332097-MS1)				Source:	E308069-0	01	Prepared: 0	8/11/23 An	alyzed: 08/11/23
riesel Range Organics (C10-C28)	237	25.0	250	ND	95.0	38-132			
urrogate: n-Nonane	41.0		50.0		81.9	50-200			
Matrix Spike Dup (2332097-MSD1)				Source:	E308069-0	01	Prepared: 0	8/11/23 An	alyzed: 08/11/23
tiesel Range Organics (C10-C28)	249	25.0	250	ND	99.7	38-132	4.89	20	
urrogate: n-Nonane	41.6		50.0		83.3	50-200			



Mack Energy	Project Name:	Partition	Reported:
7 W. Compress Road	Project Number:	20046-0001	•
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

Artesia NM, 88210		Project Manage	r: Na	ıtalie Gladder	1			8	3/14/2023 3:28:58PN
	Nonhal	logenated Or	ganics by l	EPA 8015I) - DRO	/ORO			Analyst: JL
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2332100-BLK1)							Prepared: 0	8/11/23 An	alyzed: 08/11/23
Diesel Range Organics (C10-C28)	ND	25.0							
Dil Range Organics (C28-C36)	ND	50.0							
urrogate: n-Nonane	53.4		50.0		107	50-200			
LCS (2332100-BS1)							Prepared: 0	8/11/23 An	alyzed: 08/11/23
Diesel Range Organics (C10-C28)	263	25.0	250		105	38-132			
urrogate: n-Nonane	46.7		50.0		93.4	50-200			
Matrix Spike (2332100-MS1)				Source:	E308068-2	21	Prepared: 0	8/11/23 An	alyzed: 08/11/23
Diesel Range Organics (C10-C28)	304	25.0	250	33.5	108	38-132			
urrogate: n-Nonane	45.1		50.0		90.2	50-200			
Matrix Spike Dup (2332100-MSD1)				Source:	E308068-2	21	Prepared: 0	8/11/23 An	alyzed: 08/11/23
Diesel Range Organics (C10-C28)	301	25.0	250	33.5	107	38-132	1.20	20	
urrogate: n-Nonane	45.4		50.0		90.8	50-200			



Mack Energy 7 W. Compress Road	Project Name: Project Number:	Partition 20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/14/2023 3:28:58PM

		Anions	by EPA 3	00.0/9056 <i>A</i>	1		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	
Blank (2332098-BLK1)							Prepared: 0	8/11/23 Ana	lyzed: 08/11/23	
Chloride	ND	20.0								
LCS (2332098-BS1)							Prepared: 0	8/11/23 Ana	lyzed: 08/11/23	
Chloride	247	20.0	250		99.0	90-110				
Matrix Spike (2332098-MS1)				Source:	E308069-	09	Prepared: 0	8/11/23 Ana	lyzed: 08/11/23	
Chloride	252	20.0	250	ND	101	80-120				
Matrix Spike Dup (2332098-MSD1)				Source:	E308069-	09	Prepared: 0	8/11/23 Ana	lyzed: 08/11/23	
Chloride	250	20.0	250	ND	99.8	80-120	0.804	20		



Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	2	artition 0046-0001 Jatalie Gladden	ı				Reported: 8/14/2023 3:28:58PM
		Anions	by EPA	300.0/9056 <i>A</i>	\				Analyst: BA
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2332102-BLK1)							Prepared: 0	8/11/23 A	nalyzed: 08/11/23
Chloride	ND	20.0							
LCS (2332102-BS1)							Prepared: 0	8/11/23 A	nalyzed: 08/11/23
Chloride	258	20.0	250		103	90-110			
Matrix Spike (2332102-MS1)				Source:	E308068-	21	Prepared: 0	8/11/23 A	nalyzed: 08/12/23
Chloride	342	20.0	250	86.0	103	80-120			
Matrix Spike Dup (2332102-MSD1)				Source:	E308068-	21	Prepared: 0	8/11/23 A	nalyzed: 08/12/23
Chloride	340	20.0	250	86.0	101	80-120	0.790	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

	Mack Energy	Project Name:	Partition	
-	7 W. Compress Road	Project Number:	20046-0001	Reported:
	Artesia NM, 88210	Project Manager:	Natalie Gladden	08/14/23 15:28

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.



Project I	nforma	tion
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Chain of Custody

Page 1 of 3

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City, Stat					750	Phone: 5	75-393-9048													-		State		-
Phone:					50 20		Natalie@energ	ystaffinglic.com	<u>m</u>	8015	8015									1	NMI CO	UT AZ	TX	-
Email:							Denergystaffing			3	20 /2	073	097	00	Chloride 300.0		N N	×		1-	×	1		
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Bill To

samples is applicable only to those samples received by the Jahoratory with this COC. The leadill Page 41 of 43 lead to the amount paid for on the report.

Lab Use Only

EPA Program

TAT

Client: Moch Energy	Attention: ESS	lab\	NOŘ		***************************************	Job N	umb	ėr, ,	1D	2D 3D	Sta	indard	CWA	SDWA	5/1
Project: Postrtion Project Manager: Natalie Gladden	Address: 2724 NW COUNTY ROAD	E3	808	00	9	200	460-	0001		\times	<u></u>			RCRA	5/2
Address:	City, State, Zip HOBBS, NM 88240	1				Analy:	sis and	d Metho	101			4			/2025
City, State, Zip	Phone: 575-393-9048	so.	:n										State		H
Phone:	EMAIL TO: Natalie@energystaffinglic.com Dakoatah@energystaffinglic.com	, 8015	y SUIS	d	0		0.0		NN			NM CO	UT AZ	XT	1
Email: Report due by:		RC by	RC D	× 807	879	109	Je 30			×		×	L	1	27
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Relinguished by: (Signatur) G. 10.23	Time Received by: (Signature)	1/2	3	07	100)		lenno T			VOA			100	age 23
Sample Matrix: \$ - Soil, \$d - Soild, \$g - Sludge, A - Aqueous, Q - U Mote: Samples are discarded 30 days after results are re-	ther Continued anless other arrangements are made. Hazardous sample	S AMILL S	16, 25,41	111111111	177.1.11	ACATA MATERIAL	dispos	ed of at t	he clier	r glass, v it expense	The	eport for th	e analysis (of the above	12 of 3

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5/21/2025 10:13:4	

Project Information

Chain of Custody

Client: Mach Energy Project: 2c H Hron Project: 1c H Hron City, State, Zip Phone: Small: Small: Sirrer Sampled Sampled Malins Sample ID Soloshas S I SO Cond 21 - 1' SB Cond 24 - 1' SB Cond 25 - 1'	gram
Project Manager: Natalie Gladden Address: 2774 NW COUNTY ROAD City, State, Zip Phone: Email: Report due by: Time Date Sampled Sampled Sampled Sample D Solos/33 S 1 SP Cond 21 - 1' SP Cond 22 - 1' SP Cond 24 - 1' SP Cond 24 - 1' SP Cond 24 - 1'	SDWA
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City, State, Zip Phone: 575-393-9048 EMAIL TO: Natalie@energystaffinglic.com Dakoatah@energystaffinglic.com Dakoatah@energystaffinglic.com State NMI CO UT AZ Dakoatah@energystaffinglic.com Sampled Sampled Sampled Sampled Sampled Sample ID SS Cond 21 - 1' SS Cond 22 - 1' SS Cond 24 - 1' SS Cond 24 - 1'	RCRA
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Printed: 8/11/2023 11:16:37AM

Envirotech Analytical Laboratory

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:	Mack Energy	Date Received:	08/11/23 07:	:00	w	ork Order ID:	E308069
Castady COCO. Coco. Castady Castady Coco. Castady	Phone:	(575) 390-6397	Date Logged In:	08/10/23 15:	:35	Lo	ogged In By:	Alexa Michaels
1. Does the sample ID match the COC? 2. Does the number of samples per sampling site location match the COC 3. Power samples the foreign per sampling site location match the COC 4. Was the COC complete, i.e., signatures, dates/limes, requested analyses; 4. Was the COC complete, i.e., signatures, dates/limes, requested in the field, i.e. 15 minute hold time, are not included in the discussion. Sample Then Around Time CTAY) 6. Sample Cooler received? 7. Was a sample cooler received? 8. If yes, was cooler received? 9. Was the sample (s) received intact, i.e., not broken? 10. Were custody/security seals intact? 11. If yes, were custody/security seals intact? 12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°+2°C Note: Thermal preservation is not required, if samples are received wit 15 minutes of sampling sollected in VOC analyses? 13. If no visible ice, record the temperature. Actual sample temperature: 4°C 14. Are aqueous VOC samples present? 14. Are aqueous VOC samples present? 15. Are VOC samples collected in the orrect containers? 19. Is the paperpoints volume/weight or number of sample containers collected? 20. Were field sample labels filled out with the minimum information: Sample ID received indicate the samples were preservel? 21. Loss the COC or field labels indicate the samples were preservel? 22. Are samples() correctly preserved? 23. La lab filteration required and/or requested for dissolved metals? 24. Is lab filteration required and/or requested for dissolved metals? 25. Are samples have more than one phase, i.e., multiphase? 26. La lab filteration required and/or requested for dissolved metals? 26. Samular International transportance of the contrainers	Email:			08/14/23 17:	:00 (1 day TAT)			
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12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C 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? 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? Date/Time Collected? Collectors name? No Sample Preservation. 21. Does the COC or field labels indicate the samples were preserved? NA 24. Is lab filteration required and/or requested for dissolved metals? Multiphase Sample Matrix 26. Does the sample have more than one phase, i.e., multiphase? No Multiphase Sample have more than one phase, i.e., multiphase? No Subcontract Laboratory 28. Are samples required to get sent to a subcontract laboratory? No Subcontract Laboratory 29. Was a subcontract laboratory specified by the client and if so who? No Subcontract Laboratory No Subcontract Laboratory specified by the client and if so who? No Subcontract Laboratory specified by the client and if so who? No Subcontract Laboratory specified by the client and if so who? No Subcontract Laboratory specified by the client and if so who? No Subcontract Laboratory specified by the client and if so who? No Subcontract Laboratory specified by the client and if so who?	11. If yes	, were custody/security seals intact?						
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Client Instruction	29. Was a	subcontract laboratory specified by the client and if	so who?	NA S	ubcontract Lab	: NA		
	Client In	<u>nstruction</u>						

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

Report to:

Natalie Gladden







5796 U.S. Hwy 64 Farmington, NM 87401

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





envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: Partition

Work Order: E308084

Job Number: 20046-0001

Received: 8/14/2023

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 8/15/23

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.

Date Reported: 8/15/23

Natalie Gladden 7 W. Compress Road Artesia, NM 88210

Project Name: Partition Workorder: E308084

Date Received: 8/14/2023 7:00:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 8/14/2023 7:00:00AM, under the Project Name: Partition.

The analytical test results summarized in this report with the Project Name: Partition 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 reguarding 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

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Envirotech Web Address: www.envirotech-inc.com



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Sample Summary

Mack Energy	Project Name:	Partition	Reported:	
7 W. Compress Road	Project Number:	20046-0001	Reported.	
Artesia NM, 88210	Project Manager:	Natalie Gladden	08/15/23 14:59	

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP Comp 26 - 1'	E308084-01A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 27 - 1'	E308084-02A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 28 - 1'	E308084-03A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 29 - 1'	E308084-04A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 30 - 1'	E308084-05A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 31 - 1'	E308084-06A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 32 - 1'	E308084-07A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 33 - 1'	E308084-08A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 34 - 1'	E308084-09A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 35 - 1'	E308084-10A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 36 - 1'	E308084-11A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 37 - 1'	E308084-12A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 38 - 1'	E308084-13A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 39 - 1'	E308084-14A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 40 - 1'	E308084-15A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 41 - 1'	E308084-16A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 42 - 1'	E308084-17A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 43 - 1'	E308084-18A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 44 - 1'	E308084-19A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 45 - 1'	E308084-20A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 26 - 1' E308084-01

		E300004-01					
Analyte	Result	Reporting Limit	Dilu	ıtion	Prepared	Analyzed	Notes
Analyte	Kesuit	Limit	Dilu	ши	Trepared	Allaryzeu	riotes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2333002
Benzene	ND	0.0250	1	1	08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1	1	08/14/23	08/14/23	
Toluene	ND	0.0250	1	1	08/14/23	08/14/23	
o-Xylene	ND	0.0250	1	1	08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1	1	08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1	1	08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		100 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		95.8 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		101 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0	1	1	08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		100 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		95.8 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		101 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0	1	1	08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	1	08/14/23	08/14/23	
Surrogate: n-Nonane		105 %	50-200		08/14/23	08/14/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2333009
Chloride	ND	20.0	1	1	08/14/23	08/14/23	_



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 27 - 1'

		E308084-02				
		Reporting				
Analyte	Result	Limit	Dilutio	on Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Aı	nalyst: IY		Batch: 2333002
Benzene	ND	0.0250	1	08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/14/23	08/14/23	
Toluene	ND	0.0250	1	08/14/23	08/14/23	
o-Xylene	ND	0.0250	1	08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1	08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		101 %	70-130	08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		96.1 %	70-130	08/14/23	08/14/23	
Surrogate: Toluene-d8		101 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Aı	nalyst: IY		Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		101 %	70-130	08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		96.1 %	70-130	08/14/23	08/14/23	
Surrogate: Toluene-d8		101 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Aı	nalyst: KM		Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0	1	08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/14/23	08/14/23	
Surrogate: n-Nonane		103 %	50-200	08/14/23	08/14/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Aı	nalyst: BA		Batch: 2333009
Chloride	ND	20.0	1	08/14/23	08/14/23	<u> </u>



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 28 - 1'

		Reporting					
Analyte	Result	Limit	Dilut	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: IY			Batch: 2333002
Benzene	ND	0.0250	1		08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1		08/14/23	08/14/23	
Toluene	ND	0.0250	1		08/14/23	08/14/23	
o-Xylene	ND	0.0250	1		08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1		08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		96.8 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		97.6 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		101 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: IY			Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		96.8 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		97.6 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		101 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: KN	Л		Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0	1		08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1		08/14/23	08/14/23	
Surrogate: n-Nonane		106 %	50-200		08/14/23	08/14/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: BA	Λ		Batch: 2333009



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 29 - 1'

		Reporting					
Analyte	Result	Limit	Dilut	tion Prep	ared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	A	Analyst: IY			Batch: 2333002
Benzene	ND	0.0250	1	08/1	4/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/1	4/23	08/14/23	
Toluene	ND	0.0250	1	08/1	4/23	08/14/23	
o-Xylene	ND	0.0250	1	08/1	4/23	08/14/23	
p,m-Xylene	ND	0.0500	1	08/1	4/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/1	4/23	08/14/23	
Surrogate: Bromofluorobenzene		105 %	70-130	08/1	4/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		96.8 %	70-130	08/1	4/23	08/14/23	
Surrogate: Toluene-d8		97.1 %	70-130	08/1	4/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	P	Analyst: IY			Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/1	4/23	08/14/23	
Surrogate: Bromofluorobenzene		105 %	70-130	08/1	4/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		96.8 %	70-130	08/1	4/23	08/14/23	
Surrogate: Toluene-d8		97.1 %	70-130	08/1	4/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	A	Analyst: KM			Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0	1	08/1	4/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/1	4/23	08/14/23	
Surrogate: n-Nonane		105 %	50-200	08/1	4/23	08/14/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	A	Analyst: BA			Batch: 2333009



Mack EnergyProject Name:Partition7 W. Compress RoadProject Number:20046-0001Reported:Artesia NM, 88210Project Manager:Natalie Gladden8/15/20232:59:12PM

SP Comp 30 - 1'

		Reporting					
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: IY			Batch: 2333002
Benzene	ND	0.0250	1		08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1		08/14/23	08/14/23	
Toluene	ND	0.0250	1		08/14/23	08/14/23	
o-Xylene	ND	0.0250	1		08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1		08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		106 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		99.6 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		98.4 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: IY			Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		106 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		99.6 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		98.4 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: KN	М		Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0	1		08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1		08/14/23	08/14/23	
Surrogate: n-Nonane		116 %	50-200		08/14/23	08/14/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: BA	A		Batch: 2333009
						·	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 31 - 1'

E308084-06								
		Reporting						
Analyte	Result	Limit	Dilı	ution	Prepared	Analyzed	Notes	
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2333002	
Benzene	ND	0.0250		1	08/14/23	08/14/23		
Ethylbenzene	ND	0.0250		1	08/14/23	08/14/23		
Toluene	ND	0.0250		1	08/14/23	08/14/23		
o-Xylene	ND	0.0250		1	08/14/23	08/14/23		
p,m-Xylene	ND	0.0500		1	08/14/23	08/14/23		
Total Xylenes	ND	0.0250	:	1	08/14/23	08/14/23		
Surrogate: Bromofluorobenzene		106 %	70-130		08/14/23	08/14/23		
Surrogate: 1,2-Dichloroethane-d4		94.8 %	70-130		08/14/23	08/14/23		
Surrogate: Toluene-d8		98.5 %	70-130		08/14/23	08/14/23		
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2333002	
Gasoline Range Organics (C6-C10)	ND	20.0		1	08/14/23	08/14/23		
Surrogate: Bromofluorobenzene		106 %	70-130		08/14/23	08/14/23		
Surrogate: 1,2-Dichloroethane-d4		94.8 %	70-130		08/14/23	08/14/23		
Surrogate: Toluene-d8		98.5 %	70-130		08/14/23	08/14/23		
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2333004	
Diesel Range Organics (C10-C28)	ND	25.0		1	08/14/23	08/14/23		
Oil Range Organics (C28-C36)	ND	50.0		1	08/14/23	08/14/23		
Surrogate: n-Nonane		106 %	50-200		08/14/23	08/14/23		
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2333009	
Chloride	ND	20.0		1	08/14/23	08/14/23		



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 32 - 1'

		Reporting					
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	I	Analyst: I	Y		Batch: 2333002
Benzene	ND	0.0250	1		08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1		08/14/23	08/14/23	
Toluene	ND	0.0250	1		08/14/23	08/14/23	
o-Xylene	ND	0.0250	1		08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1		08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene	·	107 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		97.4 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		98.5 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: I	Y		Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		107 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		97.4 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		98.5 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: I	KM		Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0	1		08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1		08/14/23	08/14/23	
Surrogate: n-Nonane		106 %	50-200		08/14/23	08/14/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: I	ВА		Batch: 2333009
	76.2	20.0	1		08/14/23	08/14/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 33 - 1'

		Reporting					
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: IY			Batch: 2333002
Benzene	ND	0.0250	1		08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1		08/14/23	08/14/23	
Toluene	ND	0.0250	1		08/14/23	08/14/23	
o-Xylene	ND	0.0250	1		08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1		08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		107 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		96.8 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		99.3 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: IY	-		Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		107 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		96.8 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		99.3 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: Kl	M		Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0	1		08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1		08/14/23	08/14/23	
Surrogate: n-Nonane		106 %	50-200		08/14/23	08/14/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: B	Α		Batch: 2333009



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 34 - 1'

		Reporting					
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: IY			Batch: 2333002
Benzene	ND	0.0250	1		08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1		08/14/23	08/14/23	
Toluene	ND	0.0250	1		08/14/23	08/14/23	
o-Xylene	ND	0.0250	1		08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1		08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		106 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		97.4 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		98.4 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: IY	?		Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		106 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		97.4 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		98.4 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: K	M		Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0	1		08/14/23	08/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1		08/14/23	08/15/23	
Surrogate: n-Nonane		105 %	50-200		08/14/23	08/15/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: B.	A		Batch: 2333009



Mack EnergyProject Name:Partition7 W. Compress RoadProject Number:20046-0001Reported:Artesia NM, 88210Project Manager:Natalie Gladden8/15/20232:59:12PM

SP Comp 35 - 1'

		Reporting					
Analyte	Result	Limit	Dilut	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	I	Analyst: l	ΙΥ		Batch: 2333002
Benzene	ND	0.0250	1		08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1		08/14/23	08/14/23	
Toluene	ND	0.0250	1		08/14/23	08/14/23	
o-Xylene	ND	0.0250	1		08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1		08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		106 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		99.7 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		98.9 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: l	ΙΥ		Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		106 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		99.7 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		98.9 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: l	KM		Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0	1		08/14/23	08/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1		08/14/23	08/15/23	
Surrogate: n-Nonane		106 %	50-200		08/14/23	08/15/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: l	ВА		Batch: 2333009



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 36 - 1'

		Reporting					
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	I	Analyst: I	ď		Batch: 2333002
Benzene	ND	0.0250	1		08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1		08/14/23	08/14/23	
Toluene	ND	0.0250	1		08/14/23	08/14/23	
o-Xylene	ND	0.0250	1		08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1		08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		105 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		94.3 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		99.1 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: I	Y		Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		105 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		94.3 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		99.1 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: K	M		Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0	1		08/14/23	08/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1		08/14/23	08/15/23	
Surrogate: n-Nonane		104 %	50-200		08/14/23	08/15/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: B	A		Batch: 2333009
					08/14/23	08/14/23	



Mack EnergyProject Name:Partition7 W. Compress RoadProject Number:20046-0001Reported:Artesia NM, 88210Project Manager:Natalie Gladden8/15/20232:59:12PM

SP Comp 37 - 1'

		Reporting					
Analyte	Result	Limit	Dilut	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: IY			Batch: 2333002
Benzene	ND	0.0250	1		08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1		08/14/23	08/14/23	
Toluene	ND	0.0250	1		08/14/23	08/14/23	
o-Xylene	ND	0.0250	1		08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1		08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		107 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		96.8 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		97.4 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: IY			Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		107 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		96.8 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		97.4 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: KN	М		Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0	1	_	08/14/23	08/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1		08/14/23	08/15/23	
Surrogate: n-Nonane		106 %	50-200		08/14/23	08/15/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: BA	A		Batch: 2333009
					08/14/23	08/14/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 38 - 1'

E308084-13								
		Reporting						
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes	
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2333002	
Benzene	ND	0.0250		1	08/14/23	08/14/23		
Ethylbenzene	ND	0.0250		1	08/14/23	08/14/23		
Toluene	ND	0.0250		1	08/14/23	08/14/23		
o-Xylene	ND	0.0250		1	08/14/23	08/14/23		
p,m-Xylene	ND	0.0500		1	08/14/23	08/14/23		
Total Xylenes	ND	0.0250		1	08/14/23	08/14/23		
Surrogate: Bromofluorobenzene		101 %	70-130		08/14/23	08/14/23		
Surrogate: 1,2-Dichloroethane-d4		95.2 %	70-130		08/14/23	08/14/23		
Surrogate: Toluene-d8		102 %	70-130		08/14/23	08/14/23		
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2333002	
Gasoline Range Organics (C6-C10)	ND	20.0		1	08/14/23	08/14/23		
Surrogate: Bromofluorobenzene		101 %	70-130		08/14/23	08/14/23		
Surrogate: 1,2-Dichloroethane-d4		95.2 %	70-130		08/14/23	08/14/23		
Surrogate: Toluene-d8		102 %	70-130		08/14/23	08/14/23		
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2333004	
Diesel Range Organics (C10-C28)	ND	25.0		1	08/14/23	08/15/23		
Oil Range Organics (C28-C36)	ND	50.0		1	08/14/23	08/15/23		
Surrogate: n-Nonane		103 %	50-200		08/14/23	08/15/23		
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2333009	

20.0

1

08/14/23

08/14/23

ND



Chloride

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 39 - 1'

		E308084-14						
Reporting								
Analyte	Result	Limit	Di	lution	Prepared	Analyzed	Notes	
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	: IY		Batch: 2333002	
Benzene	ND	0.0250		1	08/14/23	08/14/23		
Ethylbenzene	ND	0.0250		1	08/14/23	08/14/23		
Toluene	ND	0.0250		1	08/14/23	08/14/23		
o-Xylene	ND	0.0250		1	08/14/23	08/14/23		
p,m-Xylene	ND	0.0500		1	08/14/23	08/14/23		
Total Xylenes	ND	0.0250		1	08/14/23	08/14/23		
Surrogate: Bromofluorobenzene		100 %	70-130		08/14/23	08/14/23		
Surrogate: 1,2-Dichloroethane-d4		94.9 %	70-130		08/14/23	08/14/23		
Surrogate: Toluene-d8		103 %	70-130		08/14/23	08/14/23		
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	: IY		Batch: 2333002	
Gasoline Range Organics (C6-C10)	ND	20.0		1	08/14/23	08/14/23		
Surrogate: Bromofluorobenzene		100 %	70-130		08/14/23	08/14/23		
Surrogate: 1,2-Dichloroethane-d4		94.9 %	70-130		08/14/23	08/14/23		
Surrogate: Toluene-d8		103 %	70-130		08/14/23	08/14/23		
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	: KM		Batch: 2333004	
Diesel Range Organics (C10-C28)	ND	25.0		1	08/14/23	08/15/23		
Oil Range Organics (C28-C36)	ND	50.0		1	08/14/23	08/15/23		
Surrogate: n-Nonane		105 %	50-200		08/14/23	08/15/23		

mg/kg

20.0

Analyst: BA

08/14/23

08/14/23

mg/kg

ND



Batch: 2333009

Anions by EPA 300.0/9056A

Chloride

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 40 - 1'

E308084-15

		Reporting					
Analyte	Result	Limit	Dilut	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	A	Analyst: IY			Batch: 2333002
Benzene	ND	0.0250	1		08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1		08/14/23	08/14/23	
Toluene	ND	0.0250	1		08/14/23	08/14/23	
o-Xylene	ND	0.0250	1		08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1		08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		97.9 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		96.0 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		100 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	A	Analyst: IY			Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		97.9 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		96.0 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		100 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	I	Analyst: KM	1		Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0	1		08/14/23	08/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1		08/14/23	08/15/23	
Surrogate: n-Nonane		107 %	50-200		08/14/23	08/15/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	A	Analyst: BA	L		Batch: 2333009



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 41 - 1'

E308084-16

		Reporting					
Analyte	Result	Limit	Dilut	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	A	Analyst: IY			Batch: 2333002
Benzene	ND	0.0250	1		08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1		08/14/23	08/14/23	
Toluene	ND	0.0250	1		08/14/23	08/14/23	
o-Xylene	ND	0.0250	1		08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1		08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		100 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		94.5 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		103 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	A	Analyst: IY			Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		100 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		94.5 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		103 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	A	Analyst: KN	1		Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0	1		08/14/23	08/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1		08/14/23	08/15/23	
Surrogate: n-Nonane	·	107 %	50-200		08/14/23	08/15/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	I	Analyst: BA			Batch: 2333009
inions by Eliteudio/2000il							



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 42 - 1'

		E308084-17				
		Reporting				
Analyte	Result	Limit	Dilutio	on Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Ar	nalyst: IY		Batch: 2333002
Benzene	ND	0.0250	1	08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/14/23	08/14/23	
Toluene	ND	0.0250	1	08/14/23	08/14/23	
o-Xylene	ND	0.0250	1	08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1	08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		100 %	70-130	08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		96.2 %	70-130	08/14/23	08/14/23	
Surrogate: Toluene-d8		102 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ar	nalyst: IY		Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		100 %	70-130	08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		96.2 %	70-130	08/14/23	08/14/23	
Surrogate: Toluene-d8		102 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ar	nalyst: KM		Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0	1	08/14/23	08/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/14/23	08/15/23	
Surrogate: n-Nonane		104 %	50-200	08/14/23	08/15/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ar	nalyst: BA		Batch: 2333009
Chloride	ND	•				



Oil Range Organics (C28-C36)

Anions by EPA 300.0/9056A

Surrogate: n-Nonane

Chloride

Sample Data

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 43 - 1' E308084-18

Reporting Analyte Limit Dilution Result Prepared Analyzed Notes Analyst: IY Batch: 2333002 mg/kg mg/kg Volatile Organic Compounds by EPA 8260B 08/14/23 ND 0.0250 08/14/23 Benzene 08/14/23 08/14/23 Ethylbenzene ND 0.02501 ND 0.0250 08/14/23 08/14/23 Toluene 1 08/14/23 08/14/23 o-Xylene ND 0.025008/14/23 08/14/23 ND 0.0500 1 p,m-Xylene 08/14/23 08/14/23 1 Total Xylenes ND 0.0250 08/14/23 08/14/23 Surrogate: Bromofluorobenzene 97.1 % 70-130 Surrogate: 1,2-Dichloroethane-d4 94.4 % 70-130 08/14/23 08/14/23 Surrogate: Toluene-d8 101 % 70-130 08/14/2308/14/23 Nonhalogenated Organics by EPA 8015D - GRO mg/kg mg/kg Analyst: IY Batch: 2333002 ND 1 08/14/23 08/14/23 20.0 Gasoline Range Organics (C6-C10) Surrogate: Bromofluorobenzene 97.1 % 08/14/23 08/14/23 70-130 08/14/23 Surrogate: 1,2-Dichloroethane-d4 94.4 % 70-130 08/14/23 Surrogate: Toluene-d8 08/14/23 08/14/23 101 % 70-130 mg/kg Analyst: KM Batch: 2333004 mg/kg Nonhalogenated Organics by EPA 8015D - DRO/ORO 08/15/23 ND 25.0 1 08/14/23 Diesel Range Organics (C10-C28)

50.0

mg/kg

20.0

106 %

1

1

Analyst: BA

50-200

08/14/23

08/14/23

08/14/23

08/15/23

08/15/23

08/15/23

Batch: 2333009

ND

mg/kg

ND

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 44 - 1'

E308084-19

		Reporting					
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2333002
Benzene	ND	0.0250		1	08/14/23	08/14/23	
Ethylbenzene	ND	0.0250		1	08/14/23	08/14/23	
Toluene	ND	0.0250		1	08/14/23	08/14/23	
o-Xylene	ND	0.0250		1	08/14/23	08/14/23	
p,m-Xylene	ND	0.0500		1	08/14/23	08/14/23	
Total Xylenes	ND	0.0250		1	08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		99.3 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		93.6 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		101 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0		1	08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		99.3 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		93.6 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		101 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0		1	08/14/23	08/15/23	
Oil Range Organics (C28-C36)	ND	50.0		1	08/14/23	08/15/23	
Surrogate: n-Nonane		105 %	50-200		08/14/23	08/15/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2333009
Chloride	ND	20.0		1	08/14/23	08/15/23	•



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

SP Comp 45 - 1'

E308084-20

		Reporting					
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: IY	,		Batch: 2333002
Benzene	ND	0.0250	1		08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1		08/14/23	08/14/23	
Toluene	ND	0.0250	1		08/14/23	08/14/23	
o-Xylene	ND	0.0250	1		08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1		08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		99.5 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		99.0 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		101 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: IY	7		Batch: 2333002
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/14/23	08/14/23	
Surrogate: Bromofluorobenzene		99.5 %	70-130		08/14/23	08/14/23	
Surrogate: 1,2-Dichloroethane-d4		99.0 %	70-130		08/14/23	08/14/23	
Surrogate: Toluene-d8		101 %	70-130		08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: Kl	M		Batch: 2333004
Diesel Range Organics (C10-C28)	ND	25.0	1		08/14/23	08/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1		08/14/23	08/15/23	
Surrogate: n-Nonane		107 %	50-200		08/14/23	08/15/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: B	A		Batch: 2333009



QC Summary Data

Mack Energy Project Name: Partition Reported: 7 W. Compress Road Project Number: 20046-0001 Artesia NM, 88210 Project Manager: Natalie Gladden 8/15/2023 2:59:12PM **Volatile Organic Compounds by EPA 8260B** Analyst: IY Reporting Spike Source Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % % Notes Blank (2333002-BLK1) Prepared: 08/14/23 Analyzed: 08/14/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND o-Xylene 0.0250 ND p,m-Xylene 0.0500 ND 0.0250 Total Xylenes Surrogate: Bromofluorobenzene 0.498 0.500 99.6 70-130 Surrogate: 1,2-Dichloroethane-d4 0.480 0.500 95.9 70-130 0.500 101 70-130 Surrogate: Toluene-d8 0.503 LCS (2333002-BS1) Prepared: 08/14/23 Analyzed: 08/14/23 2.60 0.0250 2.50 104 70-130 Benzene 2.50 96.5 70-130 2.41 Ethylbenzene 0.0250 2.49 0.0250 2.50 99.7 70-130 2.58 70-130 0.0250 2.50 103 o-Xylene 5.10 5.00 102 70-130 p,m-Xylene 0.0500 7.69 0.0250 7.50 102 70-130 Total Xylenes Surrogate: Bromofluorobenzene 0.508 0.500 102 70-130 0.500 96.6 70-130 Surrogate: 1,2-Dichloroethane-d4 0.483 70-130 Surrogate: Toluene-d8 0.510 0.500 Matrix Spike (2333002-MS1) Source: E308084-03 Prepared: 08/14/23 Analyzed: 08/14/23 2.66 0.0250 2.50 ND 48-131 45-135 Ethylbenzene 2.45 0.0250 2.50 ND 98.1 48-130 Toluene 2.54 0.0250 2.50 ND 101 2.61 0.0250 2.50 ND 105 43-135 o-Xylene ND 102 43-135 p,m-Xylene 5.12 0.0500 5.00 Total Xylenes 7.74 0.0250 7.50 ND 103 43-135 Surrogate: Bromofluorobenzene 0.509 0.500 102 70-130 0.475 0.500 95.0 70-130 Surrogate: 1,2-Dichloroethane-d4 0.500 70-130 0.515 Surrogate: Toluene-d8

Source: E308084-03

107

97.6

101

104

103

103

103

96.2

102

48-131

45-135

48-130

43-135

43-135

43-135

70-130

70-130

70-130

0.357

0.552

0.0197

0.864

0.117

0.213

ND

ND

ND

ND

ND

ND



Prepared: 08/14/23 Analyzed: 08/14/23

23

27

24

27

27

27

Matrix Spike Dup (2333002-MSD1)

Ethylbenzene

Toluene

o-Xylene

p,m-Xylene

Total Xylenes

Surrogate: Toluene-d8

Surrogate: Bromofluorobenzene

Surrogate: 1,2-Dichloroethane-d4

2.66

2.54

2.59

5.13

7.72

0.514

0.481

0.511

0.0250

0.0250

0.0250

0.0250

0.0500

0.0250

2.50

2.50

2.50

2.50

5.00

7.50

0.500

0.500

0.500

Surrogate: Toluene-d8

QC Summary Data

Mack EnergyProject Name:PartitionReported:7 W. Compress RoadProject Number:20046-0001Artesia NM, 88210Project Manager:Natalie Gladden8/15/2023 2:59:12PM

Nonhalogenated	Organics	by EPA	8015D - GRO
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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
DI 1 (2222002 DI 1/1)							1.0	0/14/22 4 1	1 00/14/22

	mg/kg	mg/kg	mg/kg	mg/kg	70	70	70	70	Notes
Blank (2333002-BLK1)							Prepared: 0	08/14/23	Analyzed: 08/14/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.498		0.500		99.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.480		0.500		95.9	70-130			
Surrogate: Toluene-d8	0.503		0.500		101	70-130			
LCS (2333002-BS2)							Prepared: 0	08/14/23	Analyzed: 08/14/23
Gasoline Range Organics (C6-C10)	56.2	20.0	50.0		112	70-130			
Surrogate: Bromofluorobenzene	0.511		0.500		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.485		0.500		97.0	70-130			
Surrogate: Toluene-d8	0.519		0.500		104	70-130			
Matrix Spike (2333002-MS2)				Source:	E308084-	03	Prepared: 0	08/14/23	Analyzed: 08/14/23
Gasoline Range Organics (C6-C10)	57.7	20.0	50.0	ND	115	70-130			
Surrogate: Bromofluorobenzene	0.501		0.500		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.478		0.500		95.6	70-130			
Surrogate: Toluene-d8	0.516		0.500		103	70-130			
Matrix Spike Dup (2333002-MSD2)				Source:	E308084-	03	Prepared: 0	08/14/23	Analyzed: 08/14/23
Gasoline Range Organics (C6-C10)	56.9	20.0	50.0	ND	114	70-130	1.32	20	
Surrogate: Bromofluorobenzene	0.499		0.500		99.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.459		0.500		91.8	70-130			

0.500

0.520

104

70-130



QC Summary Data

Mack Energy	Project Name:	Partition	Reported:
7 W. Compress Road	Project Number:	20046-0001	•
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 2:59:12PM

Artesia NM, 88210		Project Manage	r: Na	ıtalie Gladder	1				8/15/2023 2:59:12PN
	Nonha	logenated Or	ganics by	EPA 8015I) - DRO	/ORO			Analyst: KM
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2333004-BLK1)							Prepared: 0	8/14/23 Ar	alyzed: 08/14/23
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	52.1		50.0		104	50-200			
LCS (2333004-BS1)							Prepared: 0	8/14/23 Ar	alyzed: 08/14/23
Diesel Range Organics (C10-C28)	247	25.0	250		99.0	38-132			
Surrogate: n-Nonane	50.9		50.0		102	50-200			
Matrix Spike (2333004-MS1)				Source:	E308084-	01	Prepared: 0	8/14/23 Ar	alyzed: 08/14/23
Diesel Range Organics (C10-C28)	242	25.0	250	ND	96.6	38-132			
Surrogate: n-Nonane	49.4		50.0		98.9	50-200			
Matrix Spike Dup (2333004-MSD1)				Source:	E308084-	01	Prepared: 0	8/14/23 Ar	alyzed: 08/14/23
Diesel Range Organics (C10-C28)	246	25.0	250	ND	98.3	38-132	1.75	20	
Surrogate: n-Nonane	48.7		50.0		97.4	50-200			



QC Summary Data

Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager	20	artition 0046-0001 atalie Gladder	ı				Reported: 8/15/2023 2:59:12PM
		Anions	by EPA 3	300.0/9056	4				Analyst: BA
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2333009-BLK1)							Prepared: 0	8/14/23 A	nalyzed: 08/14/23
Chloride	ND	20.0							
LCS (2333009-BS1)							Prepared: 0	8/14/23 A	nalyzed: 08/14/23
Chloride	249	20.0	250		99.5	90-110			
Matrix Spike (2333009-MS1)				Source:	E308084-	01	Prepared: 0	8/14/23 A	nalyzed: 08/14/23
Chloride	250	20.0	250	ND	99.8	80-120			
Matrix Spike Dup (2333009-MSD1)				Source:	E308084-	01	Prepared: 0	8/14/23 A	nalyzed: 08/14/23
Chloride	249	20.0	250	ND	99.4	80-120	0.441	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

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	08/15/23 14:59

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.



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	Client: Mack En
2	Project: Portiso Project Manager /
1000	Address:
1	City, State, Zip

Chain of Custody

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Isamples is applicable only to those samples received by the bihoratory with this COC. The liabili Page 32 of 33 real to the amount paid for on the report.

Printed: 8/14/2023 11:09:05AM

Envirotech Analytical Laboratory

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:	Mack Energy	Date Received:	08/14/23 07:00		Work Order ID:	E308084
Phone:	(575) 390-6397	Date Logged In:	08/11/23 16:27		Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	08/15/23 17:00	(1 day TAT)		
1. Does th	Custody (COC) e sample ID match the COC? e number of samples per sampling site location ma	tch the COC	Yes			
	mples dropped off by client or carrier?	ion the coc	Yes	a : c		
	COC complete, i.e., signatures, dates/times, requestions	stad analysas?	Yes Yes	Carrier: <u>C</u>	<u>Courier</u>	
	I samples received within holding time?	sied analyses:	Yes			
	Note: Analysis, such as pH which should be conducted in i.e, 15 minute hold time, are not included in this disucssist.		103	ı	Commen	nts/Resolution
	urn Around Time (TAT)		***		Project Partition has be	en separated into 2
	COC indicate standard TAT, or Expedited TAT?		Yes		_	•
Sample C					reports due to high sam	•
	ample cooler received?		Yes		Workorders are as follo	ows: E308084 &
•	vas cooler received in good condition?		Yes		E308085. Time sample	ed not provided on
	sample(s) received intact, i.e., not broken?		Yes		COC per client.	-
10. Were	custody/security seals present?		No		o o o por onom	
11. If yes,	were custody/security seals intact?		NA			
	sample received on ice? If yes, the recorded temp is 4°C, Note: Thermal preservation is not required, if samples ar minutes of sampling	e received w/i 15	Yes			
13. If no v	isible ice, record the temperature. Actual sample	temperature: 4°	<u>C</u>			
Sample C						
	ueous VOC samples present?		No			
	OC samples collected in VOA Vials?		NA			
	head space less than 6-8 mm (pea sized or less)?		NA			
	trip blank (TB) included for VOC analyses?		NA			
18. Are no	on-VOC samples collected in the correct containers	?	Yes			
19. Is the a	ppropriate volume/weight or number of sample contain	ners collected?	Yes			
	el Yeld sample labels filled out with the minimum info The mode in the minimum info The	ormation:	Yes			
	ate/Time Collected?		Yes			
Co	ollectors name?		No			
Sample P	<u>reservation</u>					
	he COC or field labels indicate the samples were pr	reserved?	No			
22. Are sa	mple(s) correctly preserved?		NA			
24. Is lab	filteration required and/or requested for dissolved n	netals?	No			
Multipha	se Sample Matrix					
26. Does t	he sample have more than one phase, i.e., multipha	se?	No			
27. If yes,	does the COC specify which phase(s) is to be analy	zed?	NA			
Subcontr	act Laboratory					
	mples required to get sent to a subcontract laborato	rv?	No			
	subcontract laboratory specified by the client and it	•		contract Lab	v NA	
			540	contract Euc	, 1111	
Client In	struction					

Report to:

Natalie Gladden







5796 U.S. Hwy 64 Farmington, NM 87401

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





envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: Partition

Work Order: E308085

Job Number: 20046-0001

Received: 8/14/2023

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 8/15/23

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.

Date Reported: 8/15/23

Natalie Gladden 7 W. Compress Road Artesia, NM 88210

Project Name: Partition Workorder: E308085

Date Received: 8/14/2023 7:00:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 8/14/2023 7:00:00AM, under the Project Name: Partition.

The analytical test results summarized in this report with the Project Name: Partition 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 reguarding 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

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Laboratory Administrator Office: 505-632-1881

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ljarboe@envirotech-inc.com

Office: 505-421-LABS(5227)

Rayny Hagan

Technical Representative

West Texas Midland/Odessa Area

Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

Mack Energy	Project Name:	Partition	Domonto do
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	08/15/23 15:03

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP Comp 46 - 1'	E308085-01A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 47 - 1'	E308085-02A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 48 - 1'	E308085-03A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 49 - 1'	E308085-04A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 50 - 1'	E308085-05A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 51 - 1'	E308085-06A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 52 - 1'	E308085-07A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 53 - 1'	E308085-08A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 54 - 1'	E308085-09A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 55 - 1'	E308085-10A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 56 - 1'	E308085-11A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 57 - 1'	E308085-12A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 58 - 1'	E308085-13A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.
SP Comp 59 - 1'	E308085-14A	Soil	08/10/23	08/14/23	Glass Jar, 2 oz.

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

SP Comp 46 - 1'

		E308085-01				
		Reporting				
Analyte	Result	Limit	Dilutio	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	An	alyst: IY		Batch: 2333001
Benzene	ND	0.0250	1	08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/14/23	08/14/23	
Toluene	ND	0.0250	1	08/14/23	08/14/23	
o-Xylene	ND	0.0250	1	08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1	08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/14/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID		95.4 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	An	alyst: IY		Batch: 2333001
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/14/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.3 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	An	alyst: KM		Batch: 2333003
Diesel Range Organics (C10-C28)	ND	25.0	1	08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/14/23	08/14/23	
Surrogate: n-Nonane		91.1 %	50-200	08/14/23	08/14/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	An	alyst: BA		Batch: 2333008
Chloride	ND	20.0	1	08/14/23	08/14/23	



Sample Data

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

SP Comp 47 - 1'

		E308085-02				
		Reporting				
Analyte	Result	Limit	Dilution	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	alyst: IY		Batch: 2333001
Benzene	ND	0.0250	1	08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/14/23	08/14/23	
Toluene	ND	0.0250	1	08/14/23	08/14/23	
o-Xylene	ND	0.0250	1	08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1	08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/14/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID		94.6 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	alyst: IY		Batch: 2333001
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/14/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.7 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	alyst: KM		Batch: 2333003
Diesel Range Organics (C10-C28)	ND	25.0	1	08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/14/23	08/14/23	
Surrogate: n-Nonane		95.2 %	50-200	08/14/23	08/14/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	alyst: BA		Batch: 2333008
Chloride	ND	20.0	1	08/14/23	08/14/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

SP Comp 48 - 1'

		E308085-03				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: IY		Batch: 2333001
Benzene	ND	0.0250	1	08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/14/23	08/14/23	
Toluene	ND	0.0250	1	08/14/23	08/14/23	
o-Xylene	ND	0.0250	1	08/14/23	08/14/23	
o,m-Xylene	ND	0.0500	1	08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/14/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID		95.5 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: IY		Batch: 2333001
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/14/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.3 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: KM		Batch: 2333003
Diesel Range Organics (C10-C28)	ND	25.0	1	08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/14/23	08/14/23	
Surrogate: n-Nonane		91.9 %	50-200	08/14/23	08/14/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: BA		Batch: 2333008
Chloride	ND	20.0	1	08/14/23	08/14/23	



Chloride

Sample Data

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

SP Comp 49 - 1'

	E308085-04					
Result	Limit	Diluti	ion I	Prepared	Analyzed	Notes
mg/kg	mg/kg	A	Analyst: IY			Batch: 2333001
ND	0.0250	1	(08/14/23	08/14/23	
ND	0.0250	1	(08/14/23	08/14/23	
ND	0.0250	1	(08/14/23	08/14/23	
ND	0.0250	1	(08/14/23	08/14/23	
ND	0.0500	1	(08/14/23	08/14/23	
ND	0.0250	1	(08/14/23	08/14/23	
	95.3 %	70-130	(08/14/23	08/14/23	
mg/kg	mg/kg	А	Analyst: IY			Batch: 2333001
ND	20.0	1	(08/14/23	08/14/23	
	91.8 %	70-130	(08/14/23	08/14/23	
mg/kg	mg/kg	A	Analyst: KM			Batch: 2333003
ND	25.0	1	(08/14/23	08/14/23	
ND	50.0	1	(08/14/23	08/14/23	
	94.0 %	50-200	(08/14/23	08/14/23	
mg/kg	mg/kg	A	Analyst: BA			Batch: 2333008
	ND Mg/kg ND	Result Reporting mg/kg mg/kg ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0500 ND 0.0250 ND 0.0250 MD 0.0250 MD 0.0250 95.3 % mg/kg Mg/kg mg/kg ND 20.0 91.8 % mg/kg ND 25.0 ND 50.0 94.0 %	Reporting Result Limit Dilut mg/kg mg/kg A ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0500 1 ND 0.0250 1 ND 0.0250 1 MD 0.0250 1 95.3 % 70-130 70-130 mg/kg mg/kg A ND 20.0 1 Mg/kg mg/kg A ND 25.0 1 ND 50.0 1 94.0 % 50-200	Reporting Result Limit Dilution I mg/kg mg/kg Analyst: IY ND 0.0250 1 0 ND 0.0250 1 0 ND 0.0250 1 0 ND 0.0500 1 0 ND 0.0250 1 0 ND 0.0250 1 0 mg/kg mg/kg Analyst: IY ND 20.0 1 0 mg/kg mg/kg Analyst: KM ND 25.0 1 0 mg/kg mg/kg Analyst: KM ND 50.0 1 0	Reporting Limit Dilution Prepared mg/kg mg/kg Analyst: IY ND 0.0250 1 08/14/23 ND 0.0250 1 08/14/23 ND 0.0250 1 08/14/23 ND 0.0500 1 08/14/23 ND 0.0250 1 08/14/23 MD 0.0250 1 08/14/23 mg/kg mg/kg Analyst: IY ND 20.0 1 08/14/23 mg/kg mg/kg Analyst: KM ND 25.0 1 08/14/23 ND 25.0 1 08/14/23 ND 50.0 1 08/14/23	Reporting Result Limit Dilution Prepared Analyzed mg/kg mg/kg Analyst: IY ND 0.0250 1 08/14/23 08/14/23 ND 0.0250 1 08/14/23 08/14/23 ND 0.0250 1 08/14/23 08/14/23 ND 0.0500 1 08/14/23 08/14/23 ND 0.0250 1 08/14/23 08/14/23 ND 0.0250 1 08/14/23 08/14/23 MD 0.0250 1 08/14/23 08/14/23 mg/kg mg/kg Analyst: IY ND 20.0 1 08/14/23 08/14/23 Mg/kg mg/kg Analyst: KM ND 25.0 1 08/14/23 08/14/23 ND 25.0 1 08/14/23 08/14/23 08/14/23 ND 50.0 1 08/14/23 08/14/23 ND 50.0 1 08/14/23 <t< td=""></t<>

20.0

ND

08/14/23

08/14/23



Chloride

Sample Data

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

SP Comp 50 - 1'

E308085-05						
		Reporting				
Analyte	Result	Limit	Dilution	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	alyst: IY		Batch: 2333001
Benzene	ND	0.0250	1	08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/14/23	08/14/23	
Toluene	ND	0.0250	1	08/14/23	08/14/23	
o-Xylene	ND	0.0250	1	08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1	08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/14/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID		95.4 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	alyst: IY		Batch: 2333001
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/14/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		92.3 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	alyst: KM		Batch: 2333003
Diesel Range Organics (C10-C28)	ND	25.0	1	08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/14/23	08/14/23	
Surrogate: n-Nonane		94.4 %	50-200	08/14/23	08/14/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	alyst: BA		Batch: 2333008

20.0

ND

08/14/23

08/14/23



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

SP Comp 51 - 1'

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		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	yst: IY		Batch: 2333001
Benzene	ND	0.0250	1	08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/14/23	08/14/23	
Toluene	ND	0.0250	1	08/14/23	08/14/23	
o-Xylene	ND	0.0250	1	08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1	08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/14/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID		94.8 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	yst: IY		Batch: 2333001
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/14/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.9 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	yst: KM		Batch: 2333003
Diesel Range Organics (C10-C28)	ND	25.0	1	08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/14/23	08/14/23	
Surrogate: n-Nonane		93.5 %	50-200	08/14/23	08/14/23	
		_		4 D.4		D . 1 2222000
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	yst: BA		Batch: 2333008



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

SP Comp 52 - 1'

E308085-07

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: IY		Batch: 2333001
Benzene	ND	0.0250	1	08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/14/23	08/14/23	
Toluene	ND	0.0250	1	08/14/23	08/14/23	
o-Xylene	ND	0.0250	1	08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1	08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/14/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID		95.2 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: IY		Batch: 2333001
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/14/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		92.4 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: KM		Batch: 2333003
Diesel Range Organics (C10-C28)	ND	25.0	1	08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/14/23	08/14/23	
Surrogate: n-Nonane		95.0 %	50-200	08/14/23	08/14/23	
A . I EDA 200 0/00#CA	mg/kg	mg/kg	Anal	yst: BA		Batch: 2333008
Anions by EPA 300.0/9056A	0 0					



Chloride

Sample Data

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

SP Comp 53 - 1'

		E308085-08				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	vst: IY		Batch: 2333001
Benzene	ND	0.0250	1	08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/14/23	08/14/23	
Toluene	ND	0.0250	1	08/14/23	08/14/23	
o-Xylene	ND	0.0250	1	08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1	08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/14/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID		94.7 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	vst: IY		Batch: 2333001
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/14/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		92.4 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	vst: KM		Batch: 2333003
Diesel Range Organics (C10-C28)	ND	25.0	1	08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/14/23	08/14/23	
Surrogate: n-Nonane		95.3 %	50-200	08/14/23	08/14/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	vst: BA		Batch: 2333008

20.0

ND

08/14/23

08/14/23



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

SP Comp 54 - 1'

E308085-09

		Reporting					
Analyte	Result	Limit	Diluti	ion P	repared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	A	Analyst: IY			Batch: 2333001
Benzene	ND	0.0250	1	0	8/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1	0	8/14/23	08/14/23	
Toluene	ND	0.0250	1	0	8/14/23	08/14/23	
o-Xylene	ND	0.0250	1	0	8/14/23	08/14/23	
o,m-Xylene	ND	0.0500	1	0	8/14/23	08/14/23	
Total Xylenes	ND	0.0250	1	0	8/14/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID		95.0 %	70-130	0	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	A	Analyst: IY			Batch: 2333001
Gasoline Range Organics (C6-C10)	ND	20.0	1	0	8/14/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.6%	70-130	0	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	A	Analyst: KM			Batch: 2333003
Diesel Range Organics (C10-C28)	ND	25.0	1	0	8/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	0	8/14/23	08/14/23	
Surrogate: n-Nonane		94.5 %	50-200	0	08/14/23	08/14/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	A	Analyst: BA			Batch: 2333008
Chloride	ND	20.0	1		8/14/23	08/14/23	

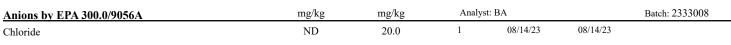


Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

SP Comp 55 - 1' E308085-10

Analyte Result Limit Dilution Prepared Analyzed Notes Volatile Organics by EPA 8021B mg/kg mg/kg Analyst: IY Batch: 2333001 Benzene ND 0.0250 1 08/14/23 08/14/23 Ethylbenzene ND 0.0250 1 08/14/23 08/14/23 Toluene ND 0.0250 1 08/14/23 08/14/23 o-Xylene ND 0.0250 1 08/14/23 08/14/23 p,m-Xylene ND 0.0500 1 08/14/23 08/14/23 Total Xylenes ND 0.0250 1 08/14/23 08/14/23 Surrogate: 4-Bromochlorobenzene-PID 95.1 % 70-130 08/14/23 08/14/23 Nonhalogenated Organics by EPA 8015D - GRO mg/kg mg/kg Analyst: IY Batch: 2333001			Reporting				
Benzene ND 0.0250 1 08/14/23 08/14/23	Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Ethylbenzene ND 0.0250 1 08/14/23 08/14/23 Toluene ND 0.0250 1 08/14/23 08/14/23 08/14/23 o-Xylene ND 0.0250 1 08/14/23 08/14/23 o-Xylene ND 0.0250 1 08/14/23 08/14/23 p,m-Xylene ND 0.0500 1 08/14/23 08/14/23 Total Xylenes ND 0.0250 1 08/14/23 08/14/23 Surrogate: 4-Bromochlorobenzene-PID 95.1 % 70-130 08/14/23 08/14/23	Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst	:: IY	·	Batch: 2333001
Toluene ND 0.0250 1 08/14/23 08/14/23 o-Xylene ND 0.0250 1 08/14/23 08/14/23 p,m-Xylene ND 0.0500 1 08/14/23 08/14/23 Total Xylenes ND 0.0250 1 08/14/23 08/14/23 O8/14/23 Surrogate: 4-Bromochlorobenzene-PID 95.1 % 70-130 08/14/23 08/14/23	Benzene	ND	0.0250	1	08/14/23	08/14/23	
o-Xylene ND 0.0250 1 08/14/23 08/14/23 p,m-Xylene ND 0.0500 1 08/14/23 08/14/23 08/14/23 Total Xylenes ND 0.0250 1 08/14/23 08/14/23 08/14/23 Surrogate: 4-Bromochlorobenzene-PID 95.1 % 70-130 08/14/23 08/14/23	Ethylbenzene	ND	0.0250	1	08/14/23	08/14/23	
p,m-Xylene ND 0.0500 1 08/14/23 08/14/23 Total Xylenes ND 0.0250 1 08/14/23 08/14/23 Surrogate: 4-Bromochlorobenzene-PID 95.1 % 70-130 08/14/23 08/14/23	Toluene	ND	0.0250	1	08/14/23	08/14/23	
Total Xylenes ND 0.0250 1 08/14/23 08/14/23 Surrogate: 4-Bromochlorobenzene-PID 95.1 % 70-130 08/14/23 08/14/23	o-Xylene	ND	0.0250	1	08/14/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID 95.1 % 70-130 08/14/23	p,m-Xylene	ND	0.0500	1	08/14/23	08/14/23	
7011 /V	Total Xylenes	ND	0.0250	1	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO mg/kg mg/kg Analyst: IY Batch: 2333001	Surrogate: 4-Bromochlorobenzene-PID		95.1 %	70-130	08/14/23	08/14/23	
	Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst	:: IY		Batch: 2333001

Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ar	nalyst: IY		Batch: 2333001
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/14/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.2 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ar	nalyst: KM		Batch: 2333003
Diesel Range Organics (C10-C28)	ND	25.0	1	08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/14/23	08/14/23	
Surrogate: n-Nonane		90.8 %	50-200	08/14/23	08/14/23	
				1 / D4		D 1 2222000



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

SP Comp 56 - 1'

E30		

		Reporting				
Analyte	Result	Limit	Dilution	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	alyst: IY		Batch: 2333001
Benzene	ND	0.0250	1	08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/14/23	08/14/23	
Toluene	ND	0.0250	1	08/14/23	08/14/23	
o-Xylene	ND	0.0250	1	08/14/23	08/14/23	
o,m-Xylene	ND	0.0500	1	08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/14/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID		95.5 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	alyst: IY		Batch: 2333001
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/14/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.0 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	alyst: KM		Batch: 2333003
Diesel Range Organics (C10-C28)	ND	25.0	1	08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/14/23	08/14/23	
Surrogate: n-Nonane		91.6%	50-200	08/14/23	08/14/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	alyst: BA		Batch: 2333008
Chloride	ND	20.0	1	08/14/23	08/14/23	·



Chloride

Sample Data

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

SP Comp 57 - 1'

		E308085-12				
		Reporting				
Analyte	Result	Limit	Dilution	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	alyst: IY		Batch: 2333001
Benzene	ND	0.0250	1	08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/14/23	08/14/23	
Toluene	ND	0.0250	1	08/14/23	08/14/23	
o-Xylene	ND	0.0250	1	08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1	08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/14/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID		94.7 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	alyst: IY		Batch: 2333001
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/14/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.5 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	alyst: KM		Batch: 2333003
Diesel Range Organics (C10-C28)	ND	25.0	1	08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/14/23	08/14/23	
Surrogate: n-Nonane		92.9 %	50-200	08/14/23	08/14/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	alyst: BA		Batch: 2333008

20.0

ND

08/14/23

08/15/23



Surrogate: n-Nonane

Chloride

Anions by EPA 300.0/9056A

Sample Data

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

SP Comp 58 - 1' E308085-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	yst: IY		Batch: 2333001
Benzene	ND	0.0250	1	08/14/23	08/14/23	
Ethylbenzene	ND	0.0250	1	08/14/23	08/14/23	
Toluene	ND	0.0250	1	08/14/23	08/14/23	
o-Xylene	ND	0.0250	1	08/14/23	08/14/23	
p,m-Xylene	ND	0.0500	1	08/14/23	08/14/23	
Total Xylenes	ND	0.0250	1	08/14/23	08/14/23	
Surrogate: 4-Bromochlorobenzene-PID		93.2 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	yst: IY		Batch: 2333001
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/14/23	08/14/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		92.3 %	70-130	08/14/23	08/14/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	yst: KM		Batch: 2333003
Diesel Range Organics (C10-C28)	ND	25.0	1	08/14/23	08/14/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/14/23	08/14/23	

92.5 %

20.0

mg/kg

ND

50-200

08/14/23

08/14/23

Analyst: BA

1

08/14/23

08/15/23

Batch: 2333008



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

SP Comp 59 - 1'

E308085-14

Result	Limit	Dilutio	on Prepared	Analyzed	Notes
mg/kg	mg/kg	A	nalyst: IY		Batch: 2333001
ND	0.0250	1	08/14/23	08/14/23	
ND	0.0250	1	08/14/23	08/14/23	
ND	0.0250	1	08/14/23	08/14/23	
ND	0.0250	1	08/14/23	08/14/23	
ND	0.0500	1	08/14/23	08/14/23	
ND	0.0250	1	08/14/23	08/14/23	
	94.0 %	70-130	08/14/23	08/14/23	
mg/kg	mg/kg	A	nalyst: IY		Batch: 2333001
ND	20.0	1	08/14/23	08/14/23	
	90.2 %	70-130	08/14/23	08/14/23	
mg/kg	mg/kg	A	nalyst: KM		Batch: 2333003
ND	25.0	1	08/14/23	08/14/23	
ND	50.0	1	08/14/23	08/14/23	
	92.5 %	50-200	08/14/23	08/14/23	
mg/kg	mg/kg	A	nalyst: BA		Batch: 2333008
	mg/kg ND	mg/kg mg/kg ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0500 ND 0.0250 mg/kg mg/kg ND 20.0 90.2 % mg/kg mg/kg ND 25.0 ND 50.0	Result Limit Diluti mg/kg mg/kg A ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0500 1 ND 0.0250 1 MD 0.0250 1 MD 0.0250 1 94.0 % 70-130 70-130 mg/kg mg/kg A ND 20.0 1 mg/kg mg/kg A ND 25.0 1 ND 50.0 1	Result Limit Dilution Prepared mg/kg mg/kg Analyst: IY ND 0.0250 1 08/14/23 ND 0.0250 1 08/14/23 ND 0.0250 1 08/14/23 ND 0.0250 1 08/14/23 ND 0.0500 1 08/14/23 ND 0.0250 1 08/14/23 mg/kg mg/kg Analyst: IY ND 20.0 1 08/14/23 mg/kg mg/kg Analyst: KM ND 25.0 1 08/14/23 ND 25.0 1 08/14/23 ND 50.0 1 08/14/23	Result Limit Dilution Prepared Analyzed mg/kg mg/kg Analyst: IY ND 0.0250 1 08/14/23 08/14/23 ND 0.0500 1 08/14/23 08/14/23 ND 0.0250 1 08/14/23 08/14/23 mg/kg mg/kg Analyst: IY ND 08/14/23 ND 20.0 1 08/14/23 08/14/23 mg/kg mg/kg Analyst: KM ND 25.0 1 08/14/23 08/14/23 ND 25.0 1 08/14/23 08/14/23 ND 50.0 1 08/14/23 08/14/23



QC Summary Data

Mack Energy Project Name: Partition Reported: 7 W. Compress Road Project Number: 20046-0001 Artesia NM, 88210 Project Manager: Natalie Gladden 8/15/2023 3:03:20PM **Volatile Organics by EPA 8021B** Analyst: IY Reporting Spike Source Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % % Notes Blank (2333001-BLK1) Prepared: 08/14/23 Analyzed: 08/14/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND o-Xylene 0.0250 ND p,m-Xylene 0.0500 Total Xylenes ND 0.0250 Surrogate: 4-Bromochlorobenzene-PID 7.61 8.00 95.1 70-130 LCS (2333001-BS1) Prepared: 08/14/23 Analyzed: 08/14/23 4.98 99.5 70-130 5.00 Benzene 0.0250 Ethylbenzene 4.95 0.0250 5.00 98.9 70-130 4.99 0.0250 5.00 99.7 70-130 Toluene o-Xylene 4.98 0.0250 5.00 99.6 70-130 10.1 10.0 101 70-130 0.0500 p.m-Xvlene 100 70-130 15.1 15.0 Total Xylenes 0.0250 8.00 95.5 70-130 Surrogate: 4-Bromochlorobenzene-PID 7.64 Matrix Spike (2333001-MS1) Source: E308083-02 Prepared: 08/14/23 Analyzed: 08/14/23 5.18 0.0250 5.00 ND 54-133 Benzene ND 103 61-133 Ethylbenzene 5.14 0.0250 5.00 Toluene 5.20 0.0250 5.00 ND 104 61-130 ND 103 63-131 5.15 5.00 0.0250 o-Xylene p,m-Xylene 10.5 0.0500 10.0 ND 105 63-131 15.6 0.0250 15.0 ND 63-131 Total Xylenes 70-130 Surrogate: 4-Bromochlorobenzene-PID 7.62 8.00 Matrix Spike Dup (2333001-MSD1) Source: E308083-02 Prepared: 08/14/23 Analyzed: 08/14/23 4.80 0.0250 5.00 ND 54-133 7.53 20 4.79 61-133 0.0250 5.00 ND 95.7 7.11 20 Ethylbenzene Toluene 4 82 0.0250 5.00 ND 96.5 61-130 7 49 20 4.78 5.00 ND 95.7 63-131 7.36 20 o-Xylene 0.0250

10.0

15.0

8.00

0.0500

0.0250

ND

ND

97.6

97.0

95.3

63-131

63-131

70-130

7.00

7.12

20

20



p,m-Xylene

Total Xylenes

Surrogate: 4-Bromochlorobenzene-PID

9.76

14.5

7.62

QC Summary Data

Mack Energy	Project Name:	Partition	Reported:
7 W. Compress Road	Project Number:	20046-0001	•
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

Artesia NM, 88210		Project Manage	r: Na	ıtalie Gladder	ı				8/15/2023 3:03:20PM	
	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	
									110100	
Blank (2333001-BLK1)							Prepared: 0	8/14/23 Aı	nalyzed: 08/14/23	
Gasoline Range Organics (C6-C10)	ND	20.0								
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.25		8.00		90.7	70-130				
LCS (2333001-BS2)							Prepared: 0	8/14/23 Aı	nalyzed: 08/14/23	
Gasoline Range Organics (C6-C10)	52.6	20.0	50.0		105	70-130				
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.36		8.00		92.1	70-130				
Matrix Spike (2333001-MS2)				Source: E308083-02			Prepared: 08/14/23 Analyzed: 08/14/23			
Gasoline Range Organics (C6-C10)	51.5	20.0	50.0	ND	103	70-130				
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.12		8.00		89.0	70-130				
Matrix Spike Dup (2333001-MSD2)				Source: E308083-02			Prepared: 0	Prepared: 08/14/23 Analyzed: 08/14/23		
Gasoline Range Organics (C6-C10)	51.0	20.0	50.0	ND	102	70-130	1.06	20		
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.17		8.00		89.6	70-130				



Mack Energy	Project Name:	Partition	Reported:
7 W. Compress Road	Project Number:	20046-0001	•
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/15/2023 3:03:20PM

Artesia NM, 88210		Project Manager	r: Na	talie Gladder	1				8/15/2023 3:03:20PN
	Nonha	logenated Or	ganics by l	EPA 8015I) - DRO	/ORO			Analyst: KM
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2333003-BLK1)							Prepared: 0	8/14/23 An	alyzed: 08/14/23
riesel Range Organics (C10-C28)	ND	25.0							
vil Range Organics (C28-C36)	ND	50.0							
urrogate: n-Nonane	52.2		50.0		104	50-200			
.CS (2333003-BS1)							Prepared: 0	8/14/23 An	alyzed: 08/14/23
tiesel Range Organics (C10-C28)	222	25.0	250		88.8	38-132			
urrogate: n-Nonane	46.1		50.0		92.2	50-200			
Matrix Spike (2333003-MS1)				Source:	E308085-0	08	Prepared: 0	8/14/23 An	alyzed: 08/14/23
tiesel Range Organics (C10-C28)	227	25.0	250	ND	91.0	38-132			
urrogate: n-Nonane	46.4		50.0		92.8	50-200			
Matrix Spike Dup (2333003-MSD1)				Source:	E308085-0	08	Prepared: 0	8/14/23 An	alyzed: 08/14/23
tiesel Range Organics (C10-C28)	232	25.0	250	ND	92.8	38-132	1.98	20	
urrogate: n-Nonane	47.1		50.0		94.2	50-200			



Mack Energy		Project Name:	P	artition					Reported:
7 W. Compress Road Artesia NM, 88210		Project Number: Project Manager		0046-0001 [atalie Gladder	1				8/15/2023 3:03:20PM
		Anions	by EPA	300.0/9056	1				Analyst: BA
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2333008-BLK1)							Prepared: 0	8/14/23 A	nalyzed: 08/14/23
Chloride	ND	20.0							
LCS (2333008-BS1)							Prepared: 0	8/14/23 A	nalyzed: 08/14/23
Chloride	248	20.0	250		99.1	90-110			
Matrix Spike (2333008-MS1)				Source:	E308083-	01	Prepared: 0	8/14/23 A	nalyzed: 08/14/23
Chloride	360	20.0	250	110	99.8	80-120			
Matrix Spike Dup (2333008-MSD1)				Source:	E308083-	01	Prepared: 0	8/14/23 A	nalyzed: 08/14/23
Chloride	361	20.0	250	110	100	80-120	0.283	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

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	08/15/23 15:03

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.



More: Sarapies are discended 30 days after results are reported unless other are made. Hazardous samples will be returned to them or disposed of at the client experts are made. The report for the analysis of the above.

Container Type: 8 - glass, p - poly/plastic, ag - amber glass, v - VOA

6

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Chain of Custody

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nail:							ah@energystaffingflc.com		DRO/ORO by 8015	GRO/ORO by 8015	1708	097	0.0	Chloride 300.0		S	34			X	OT AL	111
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Note: Samples are discarded 30 days after results are reported unless other arrangements are m Is amples is applicable only to those samples received by the laboratory with this COC. The liabiling Page 26 of 27 led to the amount paid for on the report.

Printed: 8/14/2023 11:13:20AM

Envirotech Analytical Laboratory

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.

	10 1 10 ponde concerning those forms (1 month 2 1 month 5 of the		1			
Client:	Mack Energy	Date Received:	08/14/23 07:00	0	Work Order ID:	E308085
Phone:	(575) 390-6397	Date Logged In:	08/11/23 16:30	0	Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	08/15/23 17:0	0 (1 day TAT)		
Chain of	Custody (COC)					
	e sample ID match the COC?		Yes			
	e sample 1D match the COC? e number of samples per sampling site location mat	ch the COC				
	mples dropped off by client or carrier?		Yes Yes	Comion C	Zavnian	
	COC complete, i.e., signatures, dates/times, reques	ted analyses?	No	Carrier: <u>C</u>	<u>Courier</u>	
	I samples received within holding time?	ica anaryses:	Yes			
3. Were an	Note: Analysis, such as pH which should be conducted in i.e, 15 minute hold time, are not included in this disucssic		103		Comments	s/Resolution
Sample T	urn Around Time (TAT)					
6. Did the	COC indicate standard TAT, or Expedited TAT?		Yes		Project Partition has bee	n separated into 2
Sample C	<u>ooler</u>				reports due to high samp	ole volume.
7. Was a s	ample cooler received?		Yes		Workorders are as follow	vs: E308084 &
8. If yes, v	vas cooler received in good condition?		Yes		E308085. Time sampled	
9. Was the	sample(s) received intact, i.e., not broken?		Yes		1	i not provided on
10. Were	custody/security seals present?		No		COC per client.	
	were custody/security seals intact?		NA			
	sample received on ice? If yes, the recorded temp is 4°C, Note: Thermal preservation is not required, if samples are minutes of sampling isible ice, record the temperature. Actual sample	received w/i 15	Yes			
		temperature. 4 v	<u>~</u>			
Sample C	ontainer ueous VOC samples present?		No			
	OC samples collected in VOA Vials?		No NA			
	head space less than 6-8 mm (pea sized or less)?		NA NA			
			NA NA			
	trip blank (TB) included for VOC analyses?					
	on-VOC samples collected in the correct containers? ppropriate volume/weight or number of sample contain		Yes Yes			
Field Lab	•	ers confected?	168			
	er ield sample labels filled out with the minimum info	rmation:				
	mple ID?	illiation.	Yes			
	ate/Time Collected?		Yes			
Co	ollectors name?		No			
Sample P	<u>reservation</u>					
21. Does t	he COC or field labels indicate the samples were pr	eserved?	No			
	mple(s) correctly preserved?		NA			
24. Is lab	filteration required and/or requested for dissolved m	etals?	No			
Multipha	se Sample Matrix					
26. Does t	he sample have more than one phase, i.e., multiphas	e?	No			
27. If yes,	does the COC specify which phase(s) is to be analy	zed?	NA			
Subcontra	act Laboratory					
	mples required to get sent to a subcontract laborator	v?	No			
	subcontract laboratory specified by the client and if	-		bcontract Lab	o: NA	
Client In	struction					

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

Report to:

Natalie Gladden







5796 U.S. Hwy 64 Farmington, NM 87401

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





envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: Partition

Work Order: E308104

Job Number: 20046-0001

Received: 8/15/2023

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 8/16/23

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.

Date Reported: 8/16/23

Natalie Gladden 7 W. Compress Road Artesia, NM 88210

Project Name: Partition Workorder: E308104

Date Received: 8/15/2023 7:15:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 8/15/2023 7:15:00AM, under the Project Name: Partition.

The analytical test results summarized in this report with the Project Name: Partition 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 reguarding 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

ljarboe@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

Mack Energy	Project Name:	Partition	Reported:
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	08/16/23 13:51

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW Comp 1 - 1'	E308104-01A	Soil	08/11/23	08/15/23	Glass Jar, 2 oz.
SW Comp 2 - 1'	E308104-02A	Soil	08/11/23	08/15/23	Glass Jar, 2 oz.
SW Comp 3 - 1'	E308104-03A	Soil	08/11/23	08/15/23	Glass Jar, 2 oz.
SW Comp 4 - 1'	E308104-04A	Soil	08/11/23	08/15/23	Glass Jar, 2 oz.
SW Comp 5 - 1'	E308104-05A	Soil	08/11/23	08/15/23	Glass Jar, 2 oz.
SW Comp 6 - 1'	E308104-06A	Soil	08/11/23	08/15/23	Glass Jar, 2 oz.
SW Comp 7 - 1'	E308104-07A	Soil	08/11/23	08/15/23	Glass Jar, 2 oz.
SW Comp 8 - 1'	E308104-08A	Soil	08/11/23	08/15/23	Glass Jar, 2 oz.
SW Comp 9 - 1'	E308104-09A	Soil	08/11/23	08/15/23	Glass Jar, 2 oz.
SW Comp 10 - 1'	E308104-10A	Soil	08/11/23	08/15/23	Glass Jar, 2 oz.
SW Comp 11 - 1'	E308104-11A	Soil	08/11/23	08/15/23	Glass Jar, 2 oz.
SW Comp 12 - 1'	E308104-12A	Soil	08/11/23	08/15/23	Glass Jar, 2 oz.
SW Comp 13 - 1'	E308104-13A	Soil	08/11/23	08/15/23	Glass Jar, 2 oz.
SW Comp 14 - 1'	E308104-14A	Soil	08/11/23	08/15/23	Glass Jar, 2 oz.

Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

SW Comp 1 - 1' E308104-01

	E300104-01				
Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
mg/kg	mg/kg	Anal	yst: IY		Batch: 2333022
ND	0.0250	1	08/15/23	08/16/23	
ND	0.0250	1	08/15/23	08/16/23	
ND	0.0250	1	08/15/23	08/16/23	
ND	0.0250	1	08/15/23	08/16/23	
ND	0.0500	1	08/15/23	08/16/23	
ND	0.0250	1	08/15/23	08/16/23	
	94.8 %	70-130	08/15/23	08/16/23	
mg/kg	mg/kg	Anal	yst: IY		Batch: 2333022
ND	20.0	1	08/15/23	08/16/23	
	91.5 %	70-130	08/15/23	08/16/23	
mg/kg	mg/kg	Anal	yst: KM		Batch: 2333032
ND	25.0	1	08/15/23	08/15/23	
ND	50.0	1	08/15/23	08/15/23	
	98.6 %	50-200	08/15/23	08/15/23	
mg/kg	mg/kg	Anal	yst: BA		Batch: 2333026
ND	20.0	1	08/15/23	08/15/23	
	mg/kg ND ND ND ND ND ND ND ND ND Mg/kg ND mg/kg	Result Reporting Limit mg/kg mg/kg ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0250 ND 0.0500 ND 0.0250 MD 0.0250 94.8 % mg/kg mg/kg mg/kg ND 20.0 91.5 % mg/kg ND 25.0 ND 50.0 98.6 % mg/kg mg/kg mg/kg	Reporting Result Limit Dilution mg/kg mg/kg Anal ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0250 1 ND 0.0500 1 ND 0.0250 1 mg/kg mg/kg Anal ND 20.0 1 91.5 % 70-130 mg/kg mg/kg Anal ND 25.0 1 ND 50.0 1 98.6 % 50-200 mg/kg mg/kg Anal	Reporting Result Limit Dilution Prepared mg/kg mg/kg Analyst: IY ND 0.0250 1 08/15/23 mg/kg mg/kg Analyst: IY ND 20.0 1 08/15/23 mg/kg mg/kg Analyst: KM ND 25.0 1 08/15/23 ND 50.0 1 08/15/23 ND 50.0 1 08/15/23 ND 50.0 1 08/15/23 ND 50.0 1 08/15/23 mg/kg mg/kg Analyst: BA	Reporting Result Limit Dilution Prepared Analyzed mg/kg mg/kg Analyst: IY ND 0.0250 1 08/15/23 08/16/23 ND 0.0500 1 08/15/23 08/16/23 ND 0.0250 1 08/15/23 08/16/23 mg/kg mg/kg Analyst: IY ND 08/16/23 mg/kg mg/kg Analyst: IY ND 20.0 1 08/15/23 08/16/23 mg/kg mg/kg Analyst: KM ND 25.0 1 08/15/23 08/16/23 ND 25.0 1 08/15/23 08/15/23 08/15/23 ND 50.0 1 08/15/23 08/15/23 ND 50.0 1 08/15/23



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

SW Comp 2 - 1'

		200010:02				
Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	st: IY		Batch: 2333022
Benzene	ND	0.0250	1	08/15/23	08/16/23	
Ethylbenzene	ND	0.0250	1	08/15/23	08/16/23	
Toluene	ND	0.0250	1	08/15/23	08/16/23	
o-Xylene	ND	0.0250	1	08/15/23	08/16/23	
p,m-Xylene	ND	0.0500	1	08/15/23	08/16/23	
Total Xylenes	ND	0.0250	1	08/15/23	08/16/23	
Surrogate: 4-Bromochlorobenzene-PID		95.5 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	st: IY		Batch: 2333022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/15/23	08/16/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.7 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	st: KM		Batch: 2333032
Diesel Range Organics (C10-C28)	ND	25.0	1	08/15/23	08/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/15/23	08/15/23	
Surrogate: n-Nonane		85.3 %	50-200	08/15/23	08/15/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	st: BA		Batch: 2333026
Chloride	ND	20.0	1	08/15/23	08/15/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

SW Comp 3 - 1'

E30	180	04 -	03

		Reporting				
Analyte	Result	Limit	Dilutio	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	An	alyst: IY		Batch: 2333022
Benzene	ND	0.0250	1	08/15/23	08/16/23	
Ethylbenzene	ND	0.0250	1	08/15/23	08/16/23	
Toluene	ND	0.0250	1	08/15/23	08/16/23	
o-Xylene	ND	0.0250	1	08/15/23	08/16/23	
o,m-Xylene	ND	0.0500	1	08/15/23	08/16/23	
Total Xylenes	ND	0.0250	1	08/15/23	08/16/23	
Surrogate: 4-Bromochlorobenzene-PID		94.9 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	An	alyst: IY		Batch: 2333022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/15/23	08/16/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.8 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	An	alyst: KM		Batch: 2333032
Diesel Range Organics (C10-C28)	ND	25.0	1	08/15/23	08/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/15/23	08/15/23	
Surrogate: n-Nonane		95.7 %	50-200	08/15/23	08/15/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	An	alyst: BA		Batch: 2333026
· · · · · · · · · · · · · · · · · · ·	ND	20.0	-	08/15/23	08/15/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

SW Comp 4 - 1'

E308104-04						
		Reporting				
Analyte	Result	Limit	Dilution	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	alyst: IY		Batch: 2333022
Benzene	ND	0.0250	1	08/15/23	08/16/23	
Ethylbenzene	ND	0.0250	1	08/15/23	08/16/23	
Toluene	ND	0.0250	1	08/15/23	08/16/23	
p-Xylene	ND	0.0250	1	08/15/23	08/16/23	
o,m-Xylene	ND	0.0500	1	08/15/23	08/16/23	
Total Xylenes	ND	0.0250	1	08/15/23	08/16/23	
Surrogate: 4-Bromochlorobenzene-PID		94.3 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	alyst: IY		Batch: 2333022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/15/23	08/16/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		92.8 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	ılyst: KM		Batch: 2333032
Diesel Range Organics (C10-C28)	ND	25.0	1	08/15/23	08/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/15/23	08/15/23	
Surrogate: n-Nonane		93.9 %	50-200	08/15/23	08/15/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	ılyst: BA		Batch: 2333026
Chloride	ND	20.0	1	08/15/23	08/15/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

SW Comp 5 - 1'

E30	101	ΛA	05
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		200010.00				
Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	-	7 mary zea	Batch: 2333022
Benzene	ND	0.0250	1	08/15/23	08/16/23	
Ethylbenzene	ND	0.0250	1	08/15/23	08/16/23	
Toluene	ND	0.0250	1	08/15/23	08/16/23	
o-Xylene	ND	0.0250	1	08/15/23	08/16/23	
p,m-Xylene	ND	0.0500	1	08/15/23	08/16/23	
Total Xylenes	ND	0.0250	1	08/15/23	08/16/23	
Surrogate: 4-Bromochlorobenzene-PID		94.8 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	st: IY		Batch: 2333022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/15/23	08/16/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.6 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	st: KM		Batch: 2333032
Diesel Range Organics (C10-C28)	ND	25.0	1	08/15/23	08/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/15/23	08/15/23	
Surrogate: n-Nonane		94.5 %	50-200	08/15/23	08/15/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	st: BA		Batch: 2333026
Chloride	ND	20.0	1	08/15/23	08/15/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

SW Comp 6 - 1'

		Reporting				
Analyte	Result	Limit	Dilution	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	alyst: IY		Batch: 2333022
Benzene	ND	0.0250	1	08/15/23	08/16/23	
Ethylbenzene	ND	0.0250	1	08/15/23	08/16/23	
Toluene	ND	0.0250	1	08/15/23	08/16/23	
o-Xylene	ND	0.0250	1	08/15/23	08/16/23	
o,m-Xylene	ND	0.0500	1	08/15/23	08/16/23	
Total Xylenes	ND	0.0250	1	08/15/23	08/16/23	
Surrogate: 4-Bromochlorobenzene-PID		95.2 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	alyst: IY		Batch: 2333022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/15/23	08/16/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.7 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	alyst: KM		Batch: 2333032
Diesel Range Organics (C10-C28)	ND	25.0	1	08/15/23	08/15/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/15/23	08/15/23	
Surrogate: n-Nonane		96.2 %	50-200	08/15/23	08/15/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	alyst: BA		Batch: 2333026
	ND	20.0	-	08/15/23	08/15/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

SW Comp 7 - 1'

		E308104-07				
		Reporting				
Analyte	Result	Limit	Dilutio	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	An	alyst: IY		Batch: 2333022
Benzene	ND	0.0250	1	08/15/23	08/16/23	
Ethylbenzene	ND	0.0250	1	08/15/23	08/16/23	
Toluene	ND	0.0250	1	08/15/23	08/16/23	
o-Xylene	ND	0.0250	1	08/15/23	08/16/23	
p,m-Xylene	ND	0.0500	1	08/15/23	08/16/23	
Total Xylenes	ND	0.0250	1	08/15/23	08/16/23	
Surrogate: 4-Bromochlorobenzene-PID		94.1 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	An	alyst: IY		Batch: 2333022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/15/23	08/16/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.7 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	An	alyst: KM		Batch: 2333032
Diesel Range Organics (C10-C28)	ND	25.0	1	08/15/23	08/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/15/23	08/16/23	
Surrogate: n-Nonane		93.6 %	50-200	08/15/23	08/16/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	An	alyst: BA		Batch: 2333026
Chloride	ND	20.0	1	08/15/23	08/15/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

SW Comp 8 - 1'

		E308104-08				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	lyst: IY		Batch: 2333022
Benzene	ND	0.0250	1	08/15/23	08/16/23	
Ethylbenzene	ND	0.0250	1	08/15/23	08/16/23	
Toluene	ND	0.0250	1	08/15/23	08/16/23	
o-Xylene	ND	0.0250	1	08/15/23	08/16/23	
p,m-Xylene	ND	0.0500	1	08/15/23	08/16/23	
Total Xylenes	ND	0.0250	1	08/15/23	08/16/23	
Surrogate: 4-Bromochlorobenzene-PID		95.2 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	lyst: IY		Batch: 2333022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/15/23	08/16/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.1 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	lyst: KM		Batch: 2333032
Diesel Range Organics (C10-C28)	ND	25.0	1	08/15/23	08/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/15/23	08/16/23	
Surrogate: n-Nonane		95.7 %	50-200	08/15/23	08/16/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	lyst: BA		Batch: 2333026
Chloride	ND	20.0	1	08/15/23	08/15/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

SW Comp 9 - 1'

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	st: IY		Batch: 2333022
Benzene	ND	0.0250	1	08/15/23	08/16/23	
Ethylbenzene	ND	0.0250	1	08/15/23	08/16/23	
Toluene	ND	0.0250	1	08/15/23	08/16/23	
o-Xylene	ND	0.0250	1	08/15/23	08/16/23	
p,m-Xylene	ND	0.0500	1	08/15/23	08/16/23	
Total Xylenes	ND	0.0250	1	08/15/23	08/16/23	
Surrogate: 4-Bromochlorobenzene-PID		95.3 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	st: IY		Batch: 2333022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/15/23	08/16/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.7 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	st: KM		Batch: 2333032
Diesel Range Organics (C10-C28)	ND	25.0	1	08/15/23	08/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/15/23	08/16/23	
Surrogate: n-Nonane		95.5 %	50-200	08/15/23	08/16/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	st: BA		Batch: 2333026
Chloride	ND	20.0	1	08/15/23	08/15/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

SW Comp 10 - 1'

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	st: IY		Batch: 2333022
Benzene	ND	0.0250	1	08/15/23	08/16/23	
Ethylbenzene	ND	0.0250	1	08/15/23	08/16/23	
Toluene	ND	0.0250	1	08/15/23	08/16/23	
o-Xylene	ND	0.0250	1	08/15/23	08/16/23	
p,m-Xylene	ND	0.0500	1	08/15/23	08/16/23	
Total Xylenes	ND	0.0250	1	08/15/23	08/16/23	
Surrogate: 4-Bromochlorobenzene-PID		96.1 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	st: IY		Batch: 2333022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/15/23	08/16/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.3 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	st: KM		Batch: 2333032
Diesel Range Organics (C10-C28)	ND	25.0	1	08/15/23	08/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/15/23	08/16/23	
Surrogate: n-Nonane		85.0 %	50-200	08/15/23	08/16/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	st: BA		Batch: 2333026
Chloride	ND	20.0	1	08/15/23	08/15/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

SW Comp 11 - 1'

		Reporting				
Analyte	Result	Limit	Dilutio	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	An	alyst: IY		Batch: 2333022
Benzene	ND	0.0250	1	08/15/23	08/16/23	
Ethylbenzene	ND	0.0250	1	08/15/23	08/16/23	
Toluene	ND	0.0250	1	08/15/23	08/16/23	
o-Xylene	ND	0.0250	1	08/15/23	08/16/23	
o,m-Xylene	ND	0.0500	1	08/15/23	08/16/23	
Total Xylenes	ND	0.0250	1	08/15/23	08/16/23	
Surrogate: 4-Bromochlorobenzene-PID		94.3 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	An	alyst: IY		Batch: 2333022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/15/23	08/16/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.5 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	An	alyst: KM		Batch: 2333032
Diesel Range Organics (C10-C28)	ND	25.0	1	08/15/23	08/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/15/23	08/16/23	
Surrogate: n-Nonane		85.1 %	50-200	08/15/23	08/16/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	An	alyst: BA		Batch: 2333026
Chloride	ND	20.0	1	08/15/23	08/15/23	•



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

SW Comp 12 - 1'

		Reporting				
Analyte	Result	Limit	Dilutio	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ar	alyst: IY		Batch: 2333022
Benzene	ND	0.0250	1	08/15/23	08/16/23	
Ethylbenzene	ND	0.0250	1	08/15/23	08/16/23	
Toluene	ND	0.0250	1	08/15/23	08/16/23	
p-Xylene	ND	0.0250	1	08/15/23	08/16/23	
o,m-Xylene	ND	0.0500	1	08/15/23	08/16/23	
Total Xylenes	ND	0.0250	1	08/15/23	08/16/23	
Surrogate: 4-Bromochlorobenzene-PID		93.9 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ar	alyst: IY		Batch: 2333022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/15/23	08/16/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.5 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ar	alyst: KM		Batch: 2333032
Diesel Range Organics (C10-C28)	ND	25.0	1	08/15/23	08/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/15/23	08/16/23	
Surrogate: n-Nonane		96.7 %	50-200	08/15/23	08/16/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ar	alyst: BA		Batch: 2333026
Chloride	ND	20.0	1	08/15/23	08/15/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

SW Comp 13 - 1'

		Reporting				
Analyte	Result	Limit	Dilution	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	An	alyst: IY		Batch: 2333022
Benzene	ND	0.0250	1	08/15/23	08/16/23	
Ethylbenzene	ND	0.0250	1	08/15/23	08/16/23	
Toluene	ND	0.0250	1	08/15/23	08/16/23	
o-Xylene	ND	0.0250	1	08/15/23	08/16/23	
o,m-Xylene	ND	0.0500	1	08/15/23	08/16/23	
Total Xylenes	ND	0.0250	1	08/15/23	08/16/23	
Surrogate: 4-Bromochlorobenzene-PID		95.2 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	An	alyst: IY		Batch: 2333022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/15/23	08/16/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.9 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	An	alyst: KM		Batch: 2333032
Diesel Range Organics (C10-C28)	ND	25.0	1	08/15/23	08/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/15/23	08/16/23	
Surrogate: n-Nonane		94.3 %	50-200	08/15/23	08/16/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	An	alyst: BA		Batch: 2333026
	ND	20.0		08/15/23	08/15/23	



Mack Energy	Project Name:	Partition	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

SW Comp 14 - 1'

		Reporting				
Analyte	Result	Limit	Dilutio	on Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ar	nalyst: IY		Batch: 2333022
Benzene	ND	0.0250	1	08/15/23	08/16/23	
Ethylbenzene	ND	0.0250	1	08/15/23	08/16/23	
Toluene	ND	0.0250	1	08/15/23	08/16/23	
o-Xylene	ND	0.0250	1	08/15/23	08/16/23	
o,m-Xylene	ND	0.0500	1	08/15/23	08/16/23	
Total Xylenes	ND	0.0250	1	08/15/23	08/16/23	
Surrogate: 4-Bromochlorobenzene-PID		95.9 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ar	nalyst: IY		Batch: 2333022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/15/23	08/16/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.7 %	70-130	08/15/23	08/16/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ar	nalyst: KM		Batch: 2333032
Diesel Range Organics (C10-C28)	ND	25.0	1	08/15/23	08/16/23	
Oil Range Organics (C28-C36)	ND	50.0	1	08/15/23	08/16/23	
Surrogate: n-Nonane		90.3 %	50-200	08/15/23	08/16/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ar	nalyst: BA		Batch: 2333026
· · · · · · · · · · · · · · · · · · ·	ND	20.0	1	08/15/23	08/15/23	



		QC SI	amma	ry Data	ι				
Mack Energy		Project Name:		rtition					Reported:
7 W. Compress Road		Project Number:	20	20046-0001					
Artesia NM, 88210		Project Manager:	Na	atalie Gladden					8/16/2023 1:51:20PM
		Volatile Oı	rganics b	y EPA 802	1B				Analyst: IY
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2333022-BLK1)							Prepared: 0	8/15/23 A	nalyzed: 08/15/23
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	7.51		8.00		93.9	70-130			
LCS (2333022-BS1)							Prepared: 0	8/15/23 A	nalyzed: 08/15/23
Benzene	4.74	0.0250	5.00		94.9	70-130			
Ethylbenzene	4.79	0.0250	5.00		95.7	70-130			
Toluene	4.83	0.0250	5.00		96.5	70-130			
o-Xylene	4.83	0.0250	5.00		96.7	70-130			
p,m-Xylene	9.76	0.0500	10.0		97.6	70-130			
Total Xylenes	14.6	0.0250	15.0		97.3	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.54		8.00		94.2	70-130			
Matrix Spike (2333022-MS1)				Source: 1	E 308104 -	11	Prepared: 0	8/15/23 A	nalyzed: 08/16/23
Benzene	4.59	0.0250	5.00	ND	91.9	54-133			
Ethylbenzene	4.67	0.0250	5.00	ND	93.5	61-133			
Toluene	4.69	0.0250	5.00	ND	93.7	61-130			
o-Xylene	4.73	0.0250	5.00	ND	94.6	63-131			
p,m-Xylene	9.53	0.0500	10.0	ND	95.3	63-131			
Total Xylenes	14.3	0.0250	15.0	ND	95.0	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.65		8.00		95.6	70-130			
Matrix Spike Dup (2333022-MSD1)				Source: 1	E308104-	11	Prepared: 0	8/15/23 A	nalyzed: 08/16/23
Benzene	4.80	0.0250	5.00	ND	96.1	54-133	4.47	20	
Ethylbenzene	4.87	0.0250	5.00	ND	97.3	61-133	4.03	20	
Toluene	4.90	0.0250	5.00	ND	98.0	61-130	4.48	20	
o-Xylene	4.89	0.0250	5.00	ND	97.9	63-131	3.44	20	
p,m-Xylene	9.91	0.0500	10.0	ND	99.1	63-131	3.90	20	
				ND				20	

8.00

7.55

70-130



Surrogate: 4-Bromochlorobenzene-PID

Mack Energy	Project Name:	Partition	Reported:
7 W. Compress Road	Project Number:	20046-0001	•
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

Artesia NM, 88210		Project Manage	r: Na	italie Gladder	1			8/	/16/2023 1:51:20PM
	Non	halogenated	Organics	by EPA 80	15D - GI	RO			Analyst: IY
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	N.
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2333022-BLK1)							Prepared: 0	8/15/23 Ana	alyzed: 08/15/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.24		8.00		90.5	70-130			
LCS (2333022-BS2)							Prepared: 0	8/15/23 Ana	alyzed: 08/15/23
Gasoline Range Organics (C6-C10)	45.4	20.0	50.0		90.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.30		8.00		91.3	70-130			
Matrix Spike (2333022-MS2)				Source:	E308104-1	11	Prepared: 0	8/15/23 Ana	alyzed: 08/16/23
Gasoline Range Organics (C6-C10)	43.9	20.0	50.0	ND	87.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.23		8.00		90.4	70-130			
Matrix Spike Dup (2333022-MSD2)				Source:	E308104-	11	Prepared: 0	8/15/23 Ana	alyzed: 08/16/23
Gasoline Range Organics (C6-C10)	46.6	20.0	50.0	ND	93.3	70-130	6.01	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.29		8.00		91.1	70-130			



Mack Energy	Project Name:	Partition	Reported:
7 W. Compress Road	Project Number:	20046-0001	•
Artesia NM, 88210	Project Manager:	Natalie Gladden	8/16/2023 1:51:20PM

Artesia NM, 88210		Project Manage	r: Na	talie Gladder	1				8/16/2023 1:51:20PM
Nonhalogenated Organics by EPA 8015D - DRO/ORO									
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2333032-BLK1)							Prepared: 0	8/15/23	Analyzed: 08/15/23
tiesel Range Organics (C10-C28)	ND	25.0							
vil Range Organics (C28-C36)	ND	50.0							
urrogate: n-Nonane	49.7		50.0		99.4	50-200			
.CS (2333032-BS1)							Prepared: 0	8/15/23	Analyzed: 08/15/23
viesel Range Organics (C10-C28)	257	25.0	250		103	38-132			
urrogate: n-Nonane	47.7		50.0		95.3	50-200			
Matrix Spike (2333032-MS1)				Source:	E308095-	02	Prepared: 0	8/15/23	Analyzed: 08/15/23
viesel Range Organics (C10-C28)	266	25.0	250	ND	107	38-132			
urrogate: n-Nonane	46.1		50.0		92.3	50-200			
Matrix Spike Dup (2333032-MSD1)				Source:	E308095-	02	Prepared: 0	8/15/23	Analyzed: 08/15/23
tiesel Range Organics (C10-C28)	276	25.0	250	ND	110	38-132	3.50	20	
urrogate: n-Nonane	42.9		50.0		85.7	50-200			



				-					
Mack Energy		Project Name:		artition					Reported:
7 W. Compress Road Artesia NM, 88210		Project Number: Project Manager:		0046-0001 Tatalie Gladden					8/16/2023 1:51:20PM
		Anions	by EPA	300.0/9056A	<u>.</u>				Analyst: BA
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2333026-BLK1)							Prepared: 08	8/15/23 <i>A</i>	analyzed: 08/15/23
Chloride	ND	20.0							
LCS (2333026-BS1)							Prepared: 08	8/15/23 A	analyzed: 08/15/23
Chloride	252	20.0	250		101	90-110			
Matrix Spike (2333026-MS1)				Source: 1	E308104-0)1	Prepared: 08	8/15/23 A	analyzed: 08/15/23
Chloride	271	20.0	250	ND	108	80-120			
Matrix Spike Dup (2333026-MSD1)				Source: 1	E308104-0)1	Prepared: 08	8/15/23 A	analyzed: 08/15/23
Chloride	270	20.0	250	ND	108	80-120	0.387	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

ſ	Mack Energy	Project Name:	Partition	
١	7 W. Compress Road	Project Number:	20046-0001	Reported:
١	Artesia NM, 88210	Project Manager:	Natalie Gladden	08/16/23 13:51

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.



Project Information

Received by OCD: 5/15/2025 11:11:27 AM



Project Information

Chain of Custody

Page <u>2</u> of **Z**

Client:	Mack /	Energy	,		146	Bill To		100		La	ab Us	se On	ly	A PARTY OF THE PAR			TA	T		EPA P	rogram
Project: Postillon Attention: ENERG				Attention: ENERGY STAFFING ST	FFING SERVICES			Lab WO#			Job Number			2D		Standard		CWA	SDWA		
				Address: 2724 NW COUNTY RD		E308104		1	20046-0001				X								
Address:						City, State, Zip HOBBS, NM 882	240					Analy	sis a	nd Metho	d			7	22		RCRA
City, Stat	e, Zip					Phone: 575-393-9048															
Phone:						Email: NATALIE@ENERGYSTAFFIN	NGLLC.COM	315	315											State	
Email:						BRITTNEY@ENERGYSTAFFI	NGLLC.COM	by 8015	0 8 (21	0	0	0.00		Σ			N	м со	UT AZ	TX
Report	ue by:				3723			RO	RO	y 80	826	601	le 30			X			×		
Time Sampled	Date Sampled	Matrix	No of Containers	Sample ID			Lab Number	DRO/ORO	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0		верос	BGDOC				Remarks	
	08/11/13	5	1	SU	Cone	11 - 1'	(1								X						
	(((Sw	Conp	12 - 1'	12								<						
))	500	Conp	13 - 1'	13)						
	08/11/23	5	1	SW	Conp	14 = 1'	14								X						
<u> </u>																					
							10.00														
					in the same of the					+	-							+			
Additio	nal Instruc	tions:	1					1							J						
						sware that tampering with or intentionally misl	labelling the sampl	e locat	tion,				10	iring thermal at an avg tem							ed or received
			Date	may be ground	Time				Time			71130	Section 1				se On				
Juan	ned by: (Sign	۸	1 2000	5/11/23	120	Redeived by: (Signature)	1 B. 10	1.2	1	20	0	Rec	eive	d on ice:		7/ 1		ıy			
Cam	ned by (Sign	faul	6 B	3.14.2	Time /	30 Mull My Myle	10 B.14	4-2	Time	173	35	<u>T1</u>			<u>T2</u>			_ I	3		
Relinquis	ned by: (Sign	ature) Mb	50 6	3.14.23	Time 23	Received by: (Signature)	S IN			7:15	The Complete	AVG	Ter	np °C_	O.						
				Aqueous, O - O								oly/p	lastic	, ag - amb	er gla						
Note: Sar	nples are dis	carded 30	days after r	esults are rep	orted unle	ss other arrangements are made. Hazard	dous samples wil	l be re	eturne	d to cl	lient o	r dispo	sed (of at the cli	ent ex	ense	. The r	eport fo	or the ana	lysis of the	above
samples i	s applicable	only to tho	se samples	received by t	he laborate	ory with this COC. The liability of the labor	ratory is limited t	o the	amou	nt pai	d for a	on the	repor	t.							



Printed: 8/15/2023 9:18:58AM

Envirotech Analytical Laboratory

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.

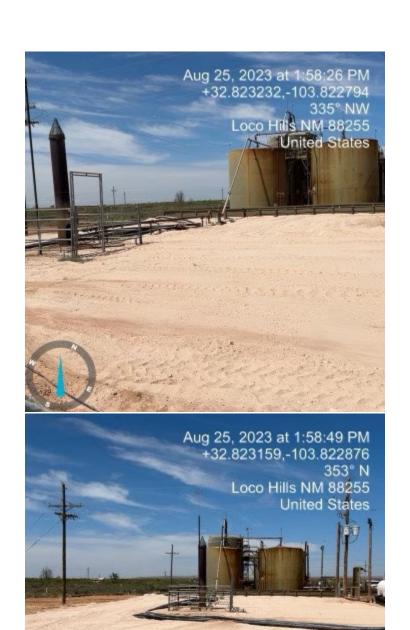
Client:	Mack Energy	Date Received:	08/15/23 07:1	5		Work Order ID:	E308104
Phone:	(575) 390-6397	Date Logged In:	08/14/23 15:5	9		Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	08/16/23 17:0	0 (1 day TAT)			
	0 4 1 (000)						
	Custody (COC)						
	e sample ID match the COC?	ah tha COC	Yes				
	e number of samples per sampling site location mat	on the COC	Yes				
	amples dropped off by client or carrier?	. 1 1 0	Yes	Carrier: C	Courier		
	c COC complete, i.e., signatures, dates/times, reques	sted analyses?	No				
5. were at	l samples received within holding time? Note: Analysis, such as pH which should be conducted ir i.e, 15 minute hold time, are not included in this disucssion		Yes			<u>Comments</u>	s/Resolution
Sample T	urn Around Time (TAT)						1.1. 000
6. Did the	COC indicate standard TAT, or Expedited TAT?		Yes		_	oled not provi	ded on COC per
Sample C	<u>ooler</u>				client.		
7. Was a s	ample cooler received?		Yes				
8. If yes, v	was cooler received in good condition?		Yes				
9. Was the	e 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				
	e sample received on ice? If yes, the recorded temp is 4°C, Note: Thermal preservation is not required, if samples are minutes of sampling visible ice, record the temperature. Actual sample	e received w/i 15	Yes				
		temperature. 4	<u>~</u>				
Sample C	ueous VOC samples present?		No				
	OC samples collected in VOA Vials?		NO NA				
	head space less than 6-8 mm (pea sized or less)?		NA NA				
			NA NA				
	trip blank (TB) included for VOC analyses?)					
	on-VOC samples collected in the correct containers; uppropriate volume/weight or number of sample contain		Yes Yes				
		iers conecteur	168				
Field Lab	rield sample labels filled out with the minimum info	rmation:					
	imple ID?	illiation.	Yes				
	ate/Time Collected?		Yes				
Co	ollectors name?		No				
Sample P	<u>reservation</u>						
21. Does t	the COC or field labels indicate the samples were pr	eserved?	No				
	mple(s) correctly preserved?		NA				
24. Is lab	filteration required and/or requested for dissolved m	netals?	No				
Multipha	se Sample Matrix						
26. Does t	he sample have more than one phase, i.e., multipha	se?	No				
27. If yes,	does the COC specify which phase(s) is to be analy	zed?	NA				
Subcontra	act Laboratory						
	mples required to get sent to a subcontract laborator	rv?	No				
	subcontract laboratory specified by the client and if	•		bcontract Lab	o: na		
	struction						
Chent In	<u>struction</u>						

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

MACK ENERGY: PARTITION FEDERAL FINAL PHOTOS











Sante Fe Main Office Phone: (505) 476-3441 General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS

Action 463573

QUESTIONS

Operator:	OGRID:				
MACK ENERGY CORP	13837				
P.O. Box 960	Action Number:				
Artesia, NM 882110960	463573				
	Action Type:				
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)				

QUESTIONS

Prerequisites				
Incident ID (n#)	nRM2008663010			
Incident Name	NRM2008663010 PARTITION FEDERAL @ 30-015-43530			
Incident Type	Oil Release			
Incident Status	Reclamation Report Received			
Incident Well	[30-015-43530] PARTITION 13 FEDERAL NC #005H			

Location of Release Source					
Please answer all the questions in this group.					
Site Name	PARTITION FEDERAL				
Date Release Discovered	03/15/2020				
Surface Owner	Federal				

Incident Details				
Please answer all the questions in this group.				
Incident Type	Oil Release			
Did this release result in a fire or is the result of a fire	No			
Did this release result in any injuries	No			
Has this release reached or does it have a reasonable probability of reaching a watercourse	No			
Has this release endangered or does it have a reasonable probability of endangering public health	No			
Has this release substantially damaged or will it substantially damage property or the environment	No			
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No			

Nature and Volume of Release					
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.					
Crude Oil Released (bbls) Details	Cause: Equipment Failure Other (Specify) Crude Oil Released: 90 BBL Recovered: 60 BBL Lost: 30 BBL.				
Produced Water Released (bbls) Details	Not answered.				
Is the concentration of chloride in the produced water >10,000 mg/l	Not answered.				
Condensate Released (bbls) Details	Not answered.				
Natural Gas Vented (Mcf) Details	Not answered.				
Natural Gas Flared (Mcf) Details	Not answered.				
Other Released Details	Not answered.				
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.				

General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS, Page 2

Action 463573

QUESTIONS (d	continued)
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QUESTI	IONS (continued)				
Operator: MACK ENERGY CORP P.O. Box 960 Artesia, NM 882110960	OGRID:				
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)				
QUESTIONS					
Nature and Volume of Release (continued)					
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.				
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes				
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.				
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.	e. gas only) are to be submitted on the C-129 form.				
Initial Response The responsible party must undertake the following actions immediately unless they could create a s	safety hazard that would result in injury.				
The source of the release has been stopped	True				
The impacted area has been secured to protect human health and the environment	True				
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True				
All free liquids and recoverable materials have been removed and managed appropriately	True				
If all the actions described above have not been undertaken, explain why	N/A				
	ation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of ted or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of evaluation in the follow-up C-141 submission.				
to report and/or file certain release notifications and perform corrective actions for releate OCD does not relieve the operator of liability should their operations have failed to	knowledge and understand that pursuant to OCD rules and regulations all operators are required ases which may endanger public health or the environment. The acceptance of a C-141 report by adequately investigate and remediate contamination that pose a threat to groundwater, surface t does not relieve the operator of responsibility for compliance with any other federal, state, or				
I hereby agree and sign off to the above statement	Name: Natalie Gladden Title: Environmental Email: natalie@energystaffingllc.com Date: 05/15/2025				

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Phone: (505) 629-6116

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

QUESTIONS, Page 3

Action 463573

QUESTIONS (continued)

Operator:	OGRID:				
MACK ENERGY CORP	13837				
P.O. Box 960	Action Number:				
Artesia, NM 882110960	463573				
	Action Type:				
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)				

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approva release discovery date.	l and beyond). This information must be provided to the appropriate district office no later than 90 days after the
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 26 and 50 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release ar	nd the following surface areas:
A continuously flowing watercourse or any other significant watercourse	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Greater than 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to	the appropriate district office no later than 90 days after the release discovery date.
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination	n associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in mi	illigrams per kilograms.)
Chloride (EPA 300.0 or SM4500 Cl B)	284
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	13030
GRO+DRO (EPA SW-846 Method 8015M)	13030
BTEX (EPA SW-846 Method 8021B or 8260B)	0.3
Benzene (EPA SW-846 Method 8021B or 8260B)	0.3
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes complete which includes the anticipated timelines for beginning and completing the remediation.	d efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC,
On what estimated date will the remediation commence	08/05/2023
On what date will (or did) the final sampling or liner inspection occur	08/09/2023
On what date will (or was) the remediation complete(d)	08/25/2023
What is the estimated surface area (in square feet) that will be reclaimed	5585
What is the estimated volume (in cubic yards) that will be reclaimed	207
What is the estimated surface area (in square feet) that will be remediated	6814
What is the estimated volume (in cubic yards) that will be remediated	763
These estimated dates and measurements are recognized to be the best guess or calculation at th	e time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to

significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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QUESTIONS, Page 4

Action 463573

QUESTIONS	(continued)
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Operator:	OGRID:
MACK ENERGY CORP	13837
P.O. Box 960	Action Number:
Artesia, NM 882110960	463573
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the	annropriate district office no later than 90 days after the release discovery date
This remediation will (or is expected to) utilize the following processes to remediate	
(Select all answers below that apply.)	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	LEA LAND LANDFILL [fEEM0112342028]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

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.

Name: Natalie Gladden
Title: Environmental
Email: natalie@energystaffingllc.com
Date: 05/15/2025

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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

QUESTIONS, Page 5

Action 463573

QUESTIONS (continued)

Operator:	OGRID:
MACK ENERGY CORP	13837
P.O. Box 960	Action Number:
Artesia, NM 882110960	463573
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS, Page 6

Action 463573

QUESTIONS (continued)

Operator:	OGRID:
MACK ENERGY CORP	13837
P.O. Box 960	Action Number:
Artesia, NM 882110960	463573
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded 463624	
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	07/24/2023
What was the (estimated) number of samples that were to be gathered	73
What was the sampling surface area in square feet	6814

Remediation Closure Request		
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.		
Requesting a remediation closure approval with this submission	Yes	
Have the lateral and vertical extents of contamination been fully delineated	Yes	
Was this release entirely contained within a lined containment area	No	
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes	
What was the total surface area (in square feet) remediated	6814	
What was the total volume (cubic yards) remediated	763	
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes	
What was the total surface area (in square feet) reclaimed	5585	
What was the total volume (in cubic yards) reclaimed	207	
Summarize any additional remediation activities not included by answers (above)	N/A	

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 (in .pdf format) 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.

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.

Name: Natalie Gladden
Title: Environmental
Email: natalie@energystaffingllc.com
Date: 05/15/2025

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

QUESTIONS, Page 7

Action 463573

QUESTIONS (continued)

Operator.	COND.	
MACK ENERGY CORP	13837	
P.O. Box 960	Action Number:	
Artesia, NM 882110960	463573	
	Action Type:	
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)	
QUESTIONS		
Reclamation Report		
Only answer the questions in this group if all reclamation steps have been completed.		
Requesting a reclamation approval with this submission	Yes	
What was the total reclamation surface area (in square feet) for this site	5585	
What was the total volume of replacement material (in cubic yards) for this site	207	
	four feet of non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 over must include a top layer, which is either the background thickness of topsoil or one foot of suitable material	
Is the soil top layer complete and is it suitable material to establish vegetation	Yes	
On what (estimated) date will (or was) the reseeding commence(d)	08/25/2023	
Summarize any additional reclamation activities not included by answers (above)	SEEDED WITH BLM #3 SEED	
	reclamation requirements and any conditions or directives of the OCD. This demonstration should be in the form tf field notes, photographs of reclaimed area, and a narrative of the reclamation activities. Refer to 19.15.29.13	
to report and/or file certain release notifications and perform corrective actions for releatithe OCD does not relieve the operator of liability should their operations have failed to water, human health or the environment. In addition, OCD acceptance of a C-141 report	knowledge and understand that pursuant to OCD rules and regulations all operators are required asses which may endanger public health or the environment. The acceptance of a C-141 report by adequately investigate and remediate contamination that pose a threat to groundwater, surface it does not relieve the operator of responsibility for compliance with any other federal, state, or ially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed ing notification to the OCD when reclamation and re-vegetation are complete.	
I hereby agree and sign off to the above statement	Name: Natalie Gladden Title: Environmental Email: natalie@energystaffinglic.com	

Date: 05/15/2025

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QUESTIONS, Page 8

Action 463573

QUESTIONS (continued)

Operator:	OGRID:
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P.O. Box 960	Action Number:
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	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Revegetation Report		
Only answer the questions in this group if all surface restoration, reclamation and re-vegetation obligations have been satisfied.		
Requesting a restoration complete approval with this submission	No	
Per Paragraph (4) of Subsection (D) of 19.15.29.13 NMAC for any major or minor release containing liquids, the responsible party must notify the division when reclamation and re-vegetation are complete.		

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CONDITIONS

Action 463573

CONDITIONS

Operator:	OGRID:
MACK ENERGY CORP	13837
P.O. Box 960	Action Number:
Artesia, NM 882110960	463573
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

CONDITIONS

(Created By	Condition	Condition Date
	rhamlet	We have received your reclamation/remediation closure report for Incident #NRM2008663010 PARTITION FEDERAL, thank you. The reclamation/remediation closure report is approved. For future reference, the reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical.	5/21/2025