Received by OCD: 7/25/2022 10:52:55 AM Form C-141 Sta

State of New Mexico

Page 6

Oil Conservation Division

Incident ID	NAPP2124247509
District RP	
Facility ID	
Application ID	

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Closure

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

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

Printed Name: htalie Gladden	Title: Env. + Reg. Director
Printed Name: Atalic Giladden Signature: Jubili Galadden	Date: 1/17/22
	Telephone: 575-390-60357

OCD	Only

Received by: ____ Robert Hamlet

Date: 11/17/2022

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

Closure Approved by: <u>Robert Hamlet</u>	Date: <u>11/17/2022</u>
Printed Name: Robert Hamlet	Title: <u>Environmental Specialist - Advanced</u>



LOGAN 35 SWD CLOSURE REQUEST

API NO. 30-015-30409 LEGALS: U/L N, SECTION 35 SOUTH, TOWNSHIP 17 SOUTH, RANGE 27 EAST EDDY COUNTY, NEW MEXICO

> DATE OF RELEASE: 08/20/21 INCIDENT NO. NAPP2124247509

> > July 14, 2022

PREPARED BY:



Released to Imaging: 11/17/2022 9:16:10 AM

July 14, 2022

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

Bureau of Land Management C/O Jim Amos 620 E. Green Street Carlsbad, NM 88220

Redwood Operating, LLC C/O Matt Buckles PO BOX 1370 Artesia, NM 88211

Subject: Closure Request for Redwood Operating - Logan 35 SWD

API No. 30-015-30409 (Logan 35 B Fed #009 – closest well) Incident No. NAPP2124247509 Unit Letter N, Section 35, Township 17 South, Range 27 East Eddy County, New Mexico

To Whom it May Concern:

Redwood Operating has retained Energy Staffing (ESS), to conduct a spill assessment, delineation, and remediation for the Logan 35 SWD (hereafter referred to as the "Logan") for the produced water release that occurred on August 20, 2021. Matt Buckles with Redwood, provided the immediate notification of the release to the *New Mexico Oil Conservation Division (NMOCD),* District II Office and to the *Bureau of Land Management (BLM)* on Friday August 20th of 2021 at 7:17 p.m. On behalf of Redwood Operating, ESS submitted the initial C141 Release Notification, along with the spill calculator form used to determine the volume of the release (attached) on August 21st of 2021 and assigned the NMOCD Incident ID Number of NAPP2124247509 to this release (Attached).

This report provides a detailed description of the spill assessment, delineation and remedial activities conducted at the Logan and demonstrates 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/BLM for the closure of the above-mentioned release.

Incident Description

On August 20th of 2021, the leak on the flowline was located by Redwood Staff. Upon arrival it was observed that the transition on the poly flowline had failed causing the release. The release occurred in the pasture. Approximately 50bbls of produced water was released, with no recovery of standing fluids as it had soaked in once the leak was repaired.

ESS conducted a full site assessment the following day of the release. The area of impact was measured at measured 11,167 sq. ft., not the original reported size of 35,000 sq. ft. Please see the site map attached herein.

Site Characterization

The release at the Logan occurred on federal land and is located at latitude 32.7857 and longitude -103.575140, located 3.48 miles southeast of Riverside, New Mexico. The legal description for the site is Unit Letter N, Section 35, Township 17 South and Range 37 East in Eddy County, New Mexico. Please see the site map attached herein.

The Logan consists of open range land, surrounded by production pads, facilities, and production flowlines. This area is historically side oats grama, little bluestem and other perennial grasses. Please see the Rangeland and Vegetation Classification information attached.

The United States Department of Agriculture Natural Resource Conservation Services, indicates that the soil type found in the area of the Logan, consists of 18.7% Gypsum Land-Cottonwood Complex with 0-3% slopes and 81.3% Reeves-Gypsum Land Complex with 0-3% slopes. (Soil Map Attached). In the area of the Logan the FEMA National Flood Hazard Layer, indicates that there is 0.2% annual chance of a flood hazard in this area (see map attached).

There is "high potential" for Karst Geology to be present near the Logan site, 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 Logan. This site is not near a continuously flowing watercourse and or lakebed with $\frac{1}{2}$ a mile from the release. No other critical or community features at the Logan were found. (Attached Watercourse Map).

The nearest and most recent water well to the site according to the *New Mexico Office of the State Engineer* is RA 12612 POD1, which is located 3363' from the site and drilled in 2018 with no water well depth available. RA 03917 is located 2454' from the site, drilled in 1958 with 50'dgw. RA 12456 POD1, 3813' from the site, drilled in 2016 with 92'dgw. The other three listed were drilled in the period of 1947-1962. An extended groundwater search was conducted using the *OSE POD Location Mapping System* and it has been determined that two other wells are within the ½ a mile radius of the site. The first one sits on the boundary of the ½ mile radius, labelled RA02996, permitted in 1953 with no groundwater data available. The second one listed is outside the ½ mile radius, labelled RA-12568-POD1, permitted in 2017 with no groundwater information available. Please find the NMOSE, OSE POD and the groundwater map attached to this report.

Closure Criteria Determination

The Closure Criteria for Soils impacted by a Release is shown in the below chart. No groundwater data was found within a ½ mile radius from the release point, being on Federal Land and with having a "high karst potential," this site fell under the <50' to groundwater.

DGW	Constituent	ent Method			
≤ 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 the soil at the Logan 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.*

The guidance document provides direction for Redwood 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 the 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 Evaluation

On August 21st of 2021, ESS staff arrived on site to conduct a full site assessment of the release area. It was observed that the line had been repaired and the fluid had soaked in and no standing fluid was visible. Crews mapped out the impacted area, set the sample points, photographed the release area, flagged the area, and called in the one-call. Find initial site photos attached herein.

On August 24th, ESS crews began the delineation process. A total of 10 vertical sample points and 8 horizontal sample points were placed and GPS'd. Numerous buried and surface lines were found in the impact zone. Surface samples indicated that BTEX, TPH and Chlorides were elevated. SP9 and SP10 were in areas of thick Gypsum rock. Crews were unable to gather enough soil for lab analysis on these two samples points but were able to gather 10 grams of soil to conduct field tests. Crews spent several days exposing all of the buried lines. Please find the surface sample data along with lab analysis below:

SOULTIE	SAMI LE DAT								/ 1
SP ID	Depth	Titr	PID	L-BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL
SP1	SURF	560	LOW	ND	ND	40.4	ND	40.4	284
SP2	SURF	>4000	ND	ND	ND	ND	ND	ND	17800

SURFACE SAMPLE DATA

SP3	SURF	>4000	LOW	ND	ND	55.4	ND	55.4	23700
SP4	SURF	>4000	HIGH	0.604	ND	59	51	110	31800
SP5	SURF	>4000	ND	ND	ND	ND	ND	ND	23700
SP6	SURF	>4000	HIGH	0.0315	ND	209	335	544	23600
SP7	SURF	>4000	HIGH	ND	ND	30.3	59.9	90.2	23600
SP8	SURF	>4000	ND	ND	ND	ND	ND	ND	9450
SP9	SURF								
SP10	SURF								

Crews continued the vertical delineation of the impacted area by use of backhoe. All sample points were delineated to clean analysis except for SP6, where refusal occurred at 10bgs due to a large cap, which would need to be excavated and busted out during the remediation phase of the project. SP6 was further delineated when composite sampling was conducted. Once bottom hole samples were clear of contaminates, samples were jarred and submitted to the lab for analysis. Again, SP6 was submitted to the lab when refusal occurred to document concentrations of contaminates. Attached to this report you will locate the complete sample data along with confirmed lab analysis. Below, please find the vertical delineation field data along with the confirmation lab results:

SP ID	Depth	Titr	PID	L-BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL
SP1	8'	480	ND	ND	ND	ND	ND	ND	527
SP2	6'	40	ND	ND	ND	ND	ND	ND	ND
SP3	10'	40	ND	ND	ND	ND	ND	ND	ND
SP4	9'	120	ND	ND	ND	ND	ND	ND	ND
SP5	6'	60	ND	ND	ND	ND	ND	ND	ND
SP6	10'	>4000	ND	ND	ND	34.4	ND	34.4	20200
SP7	10'	400	ND	ND	ND	ND	ND	ND	382
SP8	9'	200	ND	ND	ND	ND	ND	ND	221
SP9	8'	500	ND	ND	ND	ND	ND	ND	445
SP10	8'	500	ND	ND	ND	ND	ND	ND	503

VERTICAL BOTTOM HOLE SAMPLE DATA

Horizontal samples were placed, GPS'd, field evaluated and submitted to the lab for confirmation. SW9 thru SW11 and SW13 resulted in elevated concentrations of TPH and were further delineated during the excavation phase of the project. Below you will find the horizontal data lab analysis, along with the sample data and lab analysis attached to this report:

				L-					
SP ID	Depth	Titr	PID	BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL
SW1	3'	80	ND	ND	ND	ND	ND	ND	74.3
SW2	3'	60	ND	ND	ND	ND	ND	ND	ND
SW3	3'	100	ND	ND	ND	ND	ND	ND	57
SW4	3'	40	ND	ND	ND	ND	ND	ND	ND
SW5	3'	20	ND	ND	ND	ND	ND	ND	ND
SW6	2'	160	ND	ND	ND	ND	ND	ND	143
SW7	2'	120	ND	ND	ND	ND	ND	ND	137
SW8	2'	200	ND	ND	ND	ND	ND	ND	181
SW9	2'	300	LOW	ND	ND	58.2	ND	58.2	279
SW10	2'	340	LOW	ND	ND	74.8	ND	74.8	295
SW11	3'	60	HIGH	ND	ND	92.1	157	249.1	45.7
SW12	2'	40	ND	ND	ND	ND	ND	ND	32.5
SW13	2'	200	LOW	ND	ND	52.3	ND	52.3	242
SW14	2'	240	ND	ND	ND	48.1	ND	48.1	227

HORIZONTAL SAMPLE DATA

Excavating of contaminated soil began on April 4th of 2022. SP1, SP9, SP10 was excavated to 8'bgs. SP8 and SP4 were excavated to 8'. SP2 and SP5 were excavated to 6' and SP3, SP6 and SP7 were excavated to 10'bgs. A total of 2,989.56 cy of contaminated soil was hauled to Lealand. A total of 1,104 cy of caliche was backhauled from Lealand and 2,020 cy of topsoil was purchased from a local landowner, with a combined total of 3,124 cy of backfill which was backhauled to location.

On April 11^{th,} an email was sent to the OCD and BLM for the composite notification protocol. After the excavation was completed, a total of 56 bottom hole composites and 13 sidewall composites were obtained, field evaluated, jarred, and send to Envirotech Lab for confirmation. Below you will find the final lab analysis for the composites obtained by ESS. See sample log and lab analysis attached herein.

SP ID	Depth	Titr	PID	L-BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL
COMP 1	10'	60	ND	ND	ND	ND	ND	ND	46.7
COMP 2	10'	40	ND	ND	ND	ND	ND	ND	30.2
COMP 3	8'	60	ND	ND	ND	ND	ND	ND	56.9
COMP 4	8'	80	ND	ND	ND	ND	ND	ND	76
COMP 5	8'	60	ND	ND	ND	ND	ND	ND	50.3
COMP 6	10'	100	ND	ND	ND	ND	ND	ND	80.2
COMP 7	10'	240	ND	ND	ND	ND	ND	ND	223
COMP 8	8'	160	ND	ND	ND	ND	ND	ND	146

COMP 9	8'	240	ND	ND	ND	ND	ND	ND	116
COMP 10	10'	20	ND	ND	ND	ND	ND	ND	23.7
COMP 11	10	80	ND	ND	ND	ND	ND	ND	69.6
COMP 12	6'	140	ND	ND	ND	ND	ND	ND	113
COMP 13	6'	40	ND	ND	ND	ND	ND	ND	32.7
COMP 14	10'	80	ND	ND	ND	ND	ND	ND	76.2
COMP 15	10 ¹	100	ND	ND	ND	ND	ND	ND	93.9
COMP 16	6'	140	ND	ND	ND	ND	ND	ND	110
COMP 17	6'	80	ND	ND	ND	ND	ND	ND	66.8
COMP 18	9'	220	ND	ND	ND	ND	ND	ND	204
COMP 19	9'	100	ND	ND	ND	ND	ND	ND	106
COMP 20	9'	100	ND	ND	ND	ND	ND	ND	72
COMP 21	9'	60	ND	ND	ND	ND	ND	ND	52.1
COMP 22	9'	100	ND	ND	ND	ND	ND	ND	109
COMP 23	9'	140	ND	ND	ND	ND	ND	ND	120
COMP 24	9'	20	ND						
COMP 25	9'	20	ND						
COMP 26	9'	20	ND						
COMP 27	6'	ND	ND	ND	ND	ND	ND	ND	ND
COMP 28	6'	ND	ND	ND	ND	ND	ND	ND	ND
COMP 29	6'	20	ND						
COMP 30	6'	40	ND						
COMP 31	6'	20	ND						
COMP 32	6'	ND	ND	ND	ND	ND	ND	ND	ND
COMP 33	6'	ND	ND	ND	ND	ND	ND	ND	ND
COMP 34	6'	ND	ND	ND	ND	ND	ND	ND	ND
COMP 35	10'	20	ND						
COMP 36	10'	40	ND						
COMP 37	10'	ND	ND	ND	ND	ND	ND	ND	ND
COMP 38	10'	20	ND						
COMP 39	10'	ND	ND	ND	ND	ND	ND	ND	ND
COMP 40	10'	ND	ND	ND	ND	ND	ND	ND	ND
COMP 41	10'	20	ND						
COMP 42	10'	ND	ND	ND	ND	ND	ND	ND	ND
COMP 43	10'	40	ND						
COMP 45	9'	60	ND						
COMP 46	9'	40	ND						
COMP 47	9'	ND	ND	ND	ND	ND	ND	ND	ND
COMP 48	9'	ND	ND	ND	ND	ND	ND	ND	ND
COMP 49	9'	ND	ND	ND	ND	ND	ND	ND	ND
COMP 50	9'	ND	ND	ND	ND	ND	ND	ND	ND
COMP 51	9'	20	ND						

COMP 52	8'	ND							
COMP 53	8'	ND							
COMP 54	8'	40	ND						
COMP 55	8'	ND							
COMP 56	8'	ND							
SWC 1		ND							
SWC 2		20	ND						
SWC 3		ND							
SWC 4		ND	ND	ND	ND	ND	NÐ	ND	ND
SWC 5		ND							
SWC 6		20	ND						
SWC 7		ND							
SWC 8		40	ND						
SWC 9		ND							
SWC 10		ND							
SWC 11		ND							
SWC 12		ND							
SWC 13		20	ND						

The impacted area was excavated from 6' to 10'bgs. Once ESS had received the confirmed lab analysis that the full extent of the contamination had been removed, backfilling of the site began. The site was backfilled with caliche from bottom of excavation up to 4'bgs, then topsoil was used to backfill the remainder of the excavation. Site was then contoured to its natural state. The site will be seeded in late July of 2022. Please see site photos attached.

Closure Request

On behalf of Redwood Operating, ESS requests that the Incident No. (NAPP2124247509) be closed for the release that occurred in the pasture area from the Logan 35 SWD. ESS and Redwood verifies that all of the information provided and that is detailed in this report, is true and correct and we have complied with all applicable closure requirements for this release that occurred on the Logan 35 SWD.

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

Sincerely,

Jatalie Giladden

Director of Environmental and Regulatory Services Energy Staffing Services, LLC. 2724 NW County Road Hobbs, NM 88240 Office: 575-393-9048 Cell: 575-390-6397





Attachments: **Redwood Email Notification** Initial C141 **Spill Calculator Sheet** Impact Map Site Map **Rangeland and Vegetation Classification** Soil Map **FEMA Map** Karst Map Surface Water/Watercourse Map Groundwater data and GW Map OSE Map **Initial Site Photos Delineation Site Photos Delineation Sample Data and Sample GPS Delineation Sample Map Composite Email Request** Composite Sample Data and Sample GPs **Composite Sample Map** Lab Analysis **Remediation and Final Photos** Final C141

Natalie Gladden

From:	Matt Buckles <mattbuckles@mec.com></mattbuckles@mec.com>
Sent:	Friday, August 20, 2021 7:17 PM
То:	mike.bratcher@state.nm.us; jim.griswold@state.nm.us; Robert Hamlet; Victoria Venegas; Melissa Horn
Cc:	Jerry Sherrell
Subject:	24 hr notice Release Redwood Operating
Attachments:	Logan35WaterLine.png

All,

Page 12 of 292

Redwood Operating had a major release on the Logan 35 SWD System at approximately 6am on 8/20/2021. The poly line transition failed, releasing 50 bbls of produced water covering approximately 35,000 sq ft of surface disturbance on BLM Land. Source of Release was located at 32.7857, -104.2499. Will begin sampling and fully delineate along with submitting an initial C-141 shortly. [cid:E2DFF63E-CEB7-47D5-B1B2-619A8FF6E3D0]

Thanks,

Matt Buckles Redwood Operating 575-703-1958

Natalie Gladden

From:	natalie@energystaffingllc.com
Sent:	Saturday, August 21, 2021 12:07 PM
То:	OCDOnline@state.nm.us; CFO_Spill, BLM_NM
Cc:	Matt Buckles
Subject:	FW: 24 hr notice Release Redwood Operating - Logan 35 SWD
Attachments:	Logan35WaterLine.png
Importance:	High

Please see email below concerning the release at the Logan 35 SWD for Redwood/Mack Energy.

Natalie Gladden

Director of Environmental and Regulatory Services Energy Staffing Services, LLC. #7 Compress Rd Artesia, NM 88210 Cell: 575-390-6397 Email: natalie@energystaffingllc.com

-----Original Message-----From: Matt Buckles <mattbuckles@mec.com> Sent: Friday, August 20, 2021 7:17 PM To: mike.bratcher@state.nm.us; jim.griswold@state.nm.us; Robert Hamlet <Robert.Hamlet@state.nm.us>; Victoria Venegas <Victoria.Venegas@state.nm.us>; Melissa Horn <mhorn@blm.gov> Cc: Jerry Sherrell <jerrys@mec.com> Subject: 24 hr notice Release Redwood Operating

All,

Redwood Operating had a major release on the Logan 35 SWD System at approximately 6am on 8/20/2021. The poly line transition failed, releasing 50 bbls of produced water covering approximately 35,000 sq ft of surface disturbance on BLM Land. Source of Release was located at 32.7857, -104.2499. Will begin sampling and fully delineate along with submitting an initial C-141 shortly. [cid:E2DFF63E-CEB7-47D5-B1B2-619A8FF6E3D0]

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Thanks,

Matt Buckles Redwood Operating 575-703-1958 •

Soil Type	Porosity	Length	Width	Depth (.083 per inch)	Cubic Feet	Estimated Barrels	Soil Type
Clay	0.15	10	10	0.083	8.3	0.22	Clay
Peat	0.40	10	10	0.083	8.3	0.59	Peat
Glacial Sediments	0.13	10	10	0.083	8.3	0.19	Glacial Sediments
Sandy Clay	0.12	10	10	0.083	8.3	0.18	Sandy Clay
Silt	0.16	10	10	0.083	8.3	0.24	Silt
Loess	0.25	10	10	0.083	8.3	0.37	Loess
Fine Sand	0.16	10	10	0.083	8.3	0.24	Fine Sand
Medium Sand	0.25	10	10	0.083	8.3	0.37	Medium Sand
Coarse Sand	0.26	10	10	0.083	8.3	0.38	Coarse Sand
Gravely Sand	0.26	10	10	0.083	8.3	0.38	Gravely Sand
Fine Gravel	0.26	10	10	0.083	8.3	0.38	Fine Gravel
Medium Gravel	0.20	10	10	0.0553	5.53	0.20	Medium Gravel
Coarse Gravel	0.18	10	10	0.0553	5.53	0.18	Coarse Gravel
Sandstone	0.25	317.66	63.87	0.0553	1121.9786	50.00	Sandstone
Siltstone	0.18	10	10	0.083	8.3	0.27	Siltstone
Shale	0.05	10	10	0.083	8.3	0.07	Shale
Limestone	0.13	10	10	0.083	8.3	0.19	Limestone
Basalt	0.19	10	10	0.083	8.3	0.28	Basalt
Volcanic Tuff	0.20	10	10	0.083	8.3	0.30	Volcanic Tuff
Standing Liquids	Х	10	10	0.083	8.3	1.48	Standing Liquids

1	2	3	4	5	6
0.083	0.166	0.250	0.332	0.415	0.500
7	8	9	10	11	12
0.581	0.664	0.750	0.830	0.913	1.000

NOTE: This is an **estimate** tool designed for quick field estimates of whether a C-141 should be requred (*I.e. a release is estimated to be greater than or less than 5 barrel volumes*)

Choose the one prevailing ground type for estimating spill volumes at a single location.

Note that the depth should be measured in feet and tenths of feet (1 inch = .083)

Cubic Feet = L x W x D Estimated Barrels = ((Cubic Feet x Porosity) / 5.61)





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.

LOGAN 35 SWD

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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.



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

	Rangeland and Forest Veg	etation Classi	fication, Produ	ctivity, and Pla	ant Composition–Eddy Area,	New Mexico		
Map unit symbol and soil	Ecological Site, Plant	Total d	Iry-weight pro	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	
GC—Gypsum land- Cottonwood complex, 0 to 3 percent slopes								
Gypsum land	-	_	_	_	—			
Cottonwood	Gyp Upland	900	650	300	sideoats grama	20		
	(R042XC006NM)				little bluestem	10		
					other perennial grasses	10		
					Adonis blazingstar	5		
					Arizona cottontop	5		
					black grama	5		
					blue grama	5		
					buffalograss	5		
					hairy grama	5		
					obtuse panicgrass	5		
					other shrubs	5		
					other perennial forbs	5		
					rabo de ardilla	5		
					sand bluestem	5		
					yellow Indiangrass	5		

<u>USDA</u>

Rangeland and Forest Vegetation Classification, Productivity, and Plant 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 Normal year year		Unfavorable year	or forest understory vegetation	n	Rangeland	Forest understory
		Lb/ac	Lb/ac	Lb/ac		Pct dry wt	Pct dry wt	
RG—Reeves-Gypsum land complex, 0 to 3 percent slopes								
Reeves	Loamy (R042XC007NM)	1,200		650	Adonis blazingstar	30		
					black grama	15		
					other perennial forbs	15		
					blue grama	10		
					bush muhly	5		
					javelina brush	5		
					other shrubs	5		
					rabo de ardilla	5		
					threeawn	5		1
					seepweed	2		1
Gypsum land	_	_	_	_	 _			

Data Source Information

Soil Survey Area: Eddy Area, New Mexico Survey Area Data: Version 17, Sep 12, 2021



Natural Resources Conservation Service

LOGAN 35 SWD

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USDA Natural Resources Conservation Service Released to Imaging: 11/17/2022 9:16:10 AM Web Soil Survey National Cooperative Soil Survey 7/14/2022 Page 1 of 3



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GC	Gypsum land-Cottonwood complex, 0 to 3 percent slopes	0.4	18.7%
RG	Reeves-Gypsum land complex, 0 to 3 percent slopes	1.9	81.3%
Totals for Area of Interest	·	2.3	100.0%



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Legend

Page 25 of 292



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regulatory purposes.

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

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LOGAN 35 SWD KARST MAP



HIII00 Rd

LOGAN 35 SWD RELEASE

227



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Google Earth

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WATERCOURSE MAP

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LOGAN 35 SWD

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

		No wells found.	
UTMNAD83 Radius Search (in meter	<u>rs):</u>		
Easting (X): 570257.61	Northing (Y): 3627779.13	Radius: 1000	

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

8/21/21 10:04 AM

WELLS WITH WELL LOG INFORMATION

?

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

(A CLW##### in the POD suffix indicates the POD has been replaced	(R=POI been rep O=orph	laced,														
& no longer serves a	C=the fi	,	(quart	ers are 1=N	JW 2-N	F 3-S	W_{4-SE}									
water right	closed)	10 15	(quu	(quarters a			,	(NAD8	(NAD83 UTM in meters)			(in feet)				
		POD		qqq						Log File	Denth	Depth	Licens			
POD Number	Code	Subbasin	County	Source		Sec	Tws Rng	Х	Y	Distance Start Date	Finish Date			Water Driller	Numb	
RA 03917		RA	LE	Artesian	4 1 2	10	18S 27E	569019	3625660*	2454 07/31/1958	07/31/1958	08/06/1958	130	50	111	
RA 12612 POD1		RA	ED		2 4 3	23	17S 27E	570161	3631140	3363 05/05/2018	05/07/2018	06/01/2018	300	TAYLOR, CLINTON E.	1348	
RA 12456 POD1		RA	ED	Shallow	144	24	17S 27E	572348	3630969	3813 09/07/2016	09/09/2016	09/15/2016	220	92 DON KUEHN III	1058	
<u>RA 04554</u>		RA	ED	Artesian	1	23	17S 27E	569859	3631947*	4186 01/26/1962	02/20/1962	12/12/1962	220	40	318	
<u>RA 03714</u>		RA	СН	Shallow	4 4 2	08	18S 27E	566212	3625253*	4769 03/28/1957	04/01/1957	04/10/1957	381	ABBOTT, FLOYD	46	
<u>RA 04048</u>		RA	LE	Artesian	144	14	18S 27E	570841	3623030*	4784 11/05/1947	01/03/1948	06/02/1959	2096	STANLEY JONES		
Record Count: 6																
UTMNAD83 Rad	ius Searc	<u>h (in mete</u>	<u>rs):</u>													
Easting (X): 5	570257.6	l		Northing	(Y): 3	86277	79.13		Radius: 50	00						
*UTM location was deriv	ed from	PLSS - see H	Ielp													
The data is furnished by th	e NMOSI	E/ISC and is	accepted b	by the recip	ient with	the e	xpressed und	lerstanding th	at the OSE/ISC n	nake no warranties, expres	ssed or implied	, concerning th	e accuracy	, completeness, reliability, usability, o	r suitability	

8/21/21 10:05 AM

WELLS WITH WELL LOG INFORMATION

Casing Size	e:	Depth Well:	130 feet	Depth Water:	50 feet	
Pump Type):	Pipe Discharge Size	:	Estimated Yield:		
Log File Da	ate: 08/06/1958	PCW Rcv Date:		Source:	Artesian	
Drill Start D	Date: 07/31/1958	Drill Finish Date:	07/31/1958	Plug Date:		
Driller Lice Driller Nam		Driller Company: B	URKE, EDWAI	RD B.		
	RA 03917	4 1 2 10	18S 27E	569019 3625660*	9	
Well Tag	POD Number	Q64 Q16 Q4 See	c Tws Rng	X Y		
		(quarters are smalle) (NAD83 UTM in meters)			

*UTM location was derived from PLSS - see Help

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8/21/21 10:06 AM



			(1	ers are 1				,		
			(qua	rters are	smalles	t to larg	(NAD83 U	(NAD83 UTM in meters)		
Well Tag	POD Num	ber	Q64	Q16 Q4	Sec	Tws	Rng	Х	Y	
NA	RA 12612	POD1	2	4 3	23	17S	27E	570161	3631140	9
Driller Licen	se: 1348		Driller Co	ompan	/: TA	YLOF	R WATI	ER WELL	SERVICE	
Driller Name	: TAYLC	R, CLINTO	ON E.							
Drill Start Da	ate: 05/05/2	2018	Drill Fini	sh Date	:	05/0)7/2018	B Plug	g Date:	05/17/2018
Log File Dat	e: 06/01/2	2018	PCW Rcv	v Date:				Sou	rce:	
Pump Type:		Pipe Dise	charge	Size:			Esti	mated Yiel	d:	
Casing Size	:		Depth W	ell:		300	feet	Dep	th Water:	

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Well Tag	DD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64 Q16 Q4 Sec Tws Rng							(NAD83 UTM in meters) X Y				
	RA	12456 POD1		1	4	4	24	17S	27E	572348	3630969	9	
Driller Licens	se:	1058	Drill	er Co	ompa	any	: KE	Y'S I	DRILLING	& PUMF	P SERVICE		
Driller Name: DON KUEHN III													
Drill Start Date: 09/07/2016			Drill	Finis	sh D	ate	:	09/	09/2016	Plug	Date:		
Log File Date: 09/15/2016			PCV	V Rcv	/ Dat	e:				Sour	ce:	Shallow	
Pump Type:				Pipe Discharge Size:							Estimated Yield: 10 GPM		
Casing Size:		4.50	Dep	th W	ell:			220) feet	Dept	h Water:	92 feet	
N	/ate	r Bearing Stratific	ation	s:	Т	ор	Bott	om	Descripti	on			
						90		110	Sandston	e/Gravel/	/Conglome	ate	
					1	60		180	Shale/Mu	dstone/S	iltstone		
					1	80	:	200	Sandston	e/Gravel/	/Conglomei	ate	
					2	00	:	210	Sandston	ne/Gravel/Conglomerate			
					2	10		220	Sandston	e/Gravel/	/Conglome	ate	
		Casing Perfo	ration	ns:	Т	op	Bott	om					
					2	00	2	220					

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

		(quarters are 1=NW (quarters are smalle	,) (NAD83 UTM in meters)		
Well Tag	POD Number	Q64 Q16 Q4 Se	c Tws Rng	X Y		
	RA 04554	1 23	3 17S 27E	569859 3631947*	9	
Driller Lice	n se: 318	Driller Company: V	VESTERN PUM	IP & SUPPLY		
Driller Nam	e:					
Drill Start D	oate: 01/26/1962	Drill Finish Date:	02/20/1962	Plug Date:		
Log File Da	te: 12/12/1962	PCW Rcv Date:		Source:	Artesian	
Pump Type:		Pipe Discharge Size):	Estimated Yield:		
Casing Size	e :	Depth Well:	220 feet	Depth Water:	40 feet	

*UTM location was derived from PLSS - see Help

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



Well Tag POD Number		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64 Q16 Q4 Sec Tws Rng					(NAD83 UTM in meters) X Y		
	A 02996	2	3	1	02		27E	569808	3627025*
Driller License Driller Name:	:	Driller	. Con	npar	ıy:				
Drill Start Date	e:	Drill F	ìnish	Dat	te:			Plu	ug Date:
Log File Date:		PCW	Rcv I	Date	:			So	urce:
Pump Type:		Pipe D	ischa	arge	Size:			Es	timated Yield
Casing Size:		Depth	Well	:				De	pth Water:

*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.

7/15/22 7:55 AM

POINT OF DIVERSION SUMMARY

ALL SALES		Ν	lew l	Mex	ico Offic	ce of	the Sta	te Ei	nginee	r
			Ν	/at	er Rig	ght	Sum	ma	ary	
WR	WR File Number:		02996		Subbasin:	RA	Cross Reference:		_	
Prim	ary Purj	pose: DC	M 72-1	2-1 DO	MESTIC ONE H	IOUSEHC	DLD			
Prim	ary Stat	us: PM	T PER	MIT						
Total Acres:					Subfile:	-			Header: -	
Tota	Total Diversion:				Cause/Cas	e: -				
	Owi	ner: PA	TON BRO	OTHERS	5					
ocuments on Fil	e									
Trn #	Doc	File/Act	5	Status 2	Transaction De		From/ To	Aamoa	Diversion	Concurrentia
		1953-01-0	6 PM	_	RA 02996	sc.	Т0 Т	Acres	Diversion 3	
urrent Points of	Diversio	on		0		(NAD83 UT	M in meters)			
POD Number	•	Well Tag	Source	-	Q4Sec Tws Rng	X	Y	Other	Location Desc	
<u>RA 02996</u>				2 3	1 02 18S 27E	569808	3627025* 🌔			
			oluo indioc	tes UTM	l location was deriv	ved from PI	SS - see Heln			

7/15/22 7:56 AM

WATER RIGHT SUMMARY

Received by OCD: 7/25/2022 10:52:55 AM

LOGAN 35 SWD GW MAP

82

Legend

- LOGAN 35 SWD RELEASE
- RA 03917 2454' FROM SITE 50'DGW
- RA 04554 4186' FROM SITE 40'DGW
- RA 12456 POD1 3813' FROM SITE 92'DGW

Page 36 of 292

RA 12612 POD1-3363' FROM SITE NO GW

RA 04554 - 4186' FROM SITE - 40'DGW

RA 12612 POD1-3363' FROM SITE NO GW/ RA 12456 POD1 - 3813' FROM SITE - 92'DGW

LOGAN 35 SWD RELEASE

RA 03917 - 2454" FROM SITE - 50'DGW

Google Earth Released to Imaging: 11/17/2022 9:16:10 AM

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OSE POD Locations Map



7/17/2022, 10:33:17 AM GIS WATERS PODs Wate

Pending

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Water Right Regulations

Both Estates

OSE District Boundary New Mexico State Trust Lands

Subsurface Estate

1:18,056 0 0,17 0.35 0.7 mi 0 0.3 0.6 1.2 km

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

Unofficial Online Map These maps are distributed "as is" wilhout warranty of any kind,



LOGAN 35 SWD

INTIAL SITE PHOTOS











LOGAN 35 SWD

DELINEATION PHOTOS













Company Name:		МАСК			Location Name:		LOGAN 35 SWD			Release Date:	8/20/2021
SP ID	Depth	Titr	PID	L-BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL	Soil	Notes
SP1	SURF	560	LOW	ND	ND	40.4	ND	40.4	284		
	2'	320									
	4'	4000									
	6'	480									
	8'	480	ND	ND	ND	ND	ND	ND	527		
SP2	SURF	>4000	ND	ND	ND	ND	ND	ND	17800		
	2'	2960									
	4'	400									
	6'	40	ND	ND	ND	ND	ND	ND	ND		
SP3	SURF	>4000	LOW	ND	ND	55.4	ND	55.4	23700		
	2'	>4000									
	4'	2640									
	6'	2040									
	8'	320									
	10'	40	ND	ND	ND	ND	ND	ND	ND		
SP4	SURF	>4000	LOW	0.604	ND	59	51	110	31800		
	2'	2960									
	4'	2640									
	6'	1520									
	8'	400									
	9'	120	ND	ND	ND	ND	ND	ND	ND		
	•	-	-				-				
SP5	SURF	>4000	ND	ND	ND	ND	ND	ND	23700		
	2'	2000									
	4'	160									
	6'	60	ND	ND	ND	ND	ND	ND	ND		
		-	-								
SP6	SURF	>4000	HIGH	0.0315	ND	209	335	544	23600		

	2'	2560								
	4'	>4000								
	6'	>4000								
	8'	>4000								
	10'	>4000	LOW	ND	ND	34.4	ND	34.4	20200	HIT REFUSAL
	10	24000				<u> </u>		<u> </u>	20200	
SP7	SURF	>4000	LOW	ND	ND	30.3	59.9	90.2	23600	
	2'	>4000								
	4'	>4000								
	6'	1240								
	8'	580								
	10'	400	ND	ND	ND	ND	ND	ND	382	
	<u></u>				<u>.</u>	-	<u>.</u>	<u>.</u>	<u></u>	 <u> </u>
SP8	SURF	>4000	ND	ND	ND	ND	ND	ND	9450	
	2'	>4000								
	4'	>4000								
	6'	2200								
	8'	400								
	9'	200	ND	ND	ND	ND	ND	ND	221	
	•				•	•	•	•	•	
SP9	SURF	>4000								
	2'	>4000								
	4'	1920								
	6'	540								
	8'	500	ND	ND	ND	ND	ND	ND	445	
SP10	SURF	>4000								
	2'	>4000								
	4'	>4000								
	6'	580								
	8'	500	ND	ND	ND	ND	ND	ND	503	
SW1	SURF	1200								
	1'	840								

	2'	480								
	3'	80	ND	ND	ND	ND	ND	ND	74.3	
		• •							-	
SW2	SURF	800								
	1'	720								
	2'	580								
	3'	60	ND	ND	ND	ND	ND	ND	ND	
	-	_			-			-	-	
SW3	SURF	1000								
	1'	840								
	2'	300								
	3'	100	ND	ND	ND	ND	ND	ND	57	
	T	T	1					T	-	
SW4	SURF	820								
	1'	740								
	2'	420								
	3'	40	ND	ND	ND	ND	ND	ND	ND	
	T	I	1 1		l			I	I	
SW5	SURF	640								
	1'	600								
	2'	200								
	3'	20	ND	ND	ND	ND	ND	ND	ND	
SW6	SURF	240								
	2'	160	ND	ND	ND	ND	ND	ND	143	
C) 1/7	CLIPE	240								
SW7	SURF	310		ND					407	
	2'	120	ND	ND	ND	ND	ND	ND	137	
C) A / O	CLIDE	200								1
SW8	SURF 2'	200			ND	ND		ND	101	
	2	200	ND	ND	ND	ND	ND	ND	181	
C) A / O	CLIDE	420								
SW9	SURF	420				58.2		E9 3	270	
	2'	300	LOW	ND	ND	58.2	ND	58.2	279	

1	Page	51	of	29
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-			-		-		-				
SW10	SURF	580									
	2'	340	LOW	ND	ND	74.8	ND	74.8	295		
SW11	SURF	840									
	1'	660									
	2'	300									
	3'	60	HIGH	ND	ND	92.1	157	249.1	45.7		
SW12	SURF	680									
	1'	200									
	2'	40	ND	ND	ND	ND	ND	ND	32.5		
		-	-		-			_		-	
SW13	SURF	280									
	2'	200	LOW	ND	ND	52.3	ND	52.3	242		
SW14	SURF	300									
	2'	240	ND	ND	ND	48.1	ND	48.1	227		

REDWOOD OPERATING LOGAN 35 SWD DELINEATION SAMPLE MAP GPS

SAM ID	LAT	LONG
SP1	32.785693	-104.250034
SP2	32.785602	-104.249996
SP3	32.785623	-104.250123
SP4	32.785504	-104.250057
SP5	32.785386	-104.250052
SP6	32.785261	-104.250074
SP7	32.785145	-104.250078
SP8	32.785019	-104.250083
SP9	32.784929	-104.250059
SP10	32.784831	-104.250001
SW1	32.785706	-104.250088
SW2	32.785713	-104.249966
SW3	32.785557	-104.249937
SW4	32.785427	-104.249982
SW5	32.785256	-104.249999
SW6	32.785115	-104.250027
SW7	32.784968	-104.250029
SW8	32.784801	-104.249985
SW9	32.78498	-104.250121
SW10	32.785123	-104.250124
SW11	32.785241	-104.250128
SW12	32.785378	-104.25012
SW13	32.785504	-104.250141
SW14	32.785586	-104.250163



Natalie Gladden

From: Sent: To:	Natalie Gladden Monday, April 11, 2022 8:36 PM ocdonline, emnrd, EMNRD; Bratcher, Mike, EMNRD; Hensley, Chad, EMNRD; Hamlet, Robert, EMNRD; Amos, James A; CFO_Spill, BLM_NM
Cc: Subject:	mattbuckles@mec.com; Dakoatah Montanez; Jon Kimble Redwood - Logan SWD - Composite Sampling Notification
Importance:	High

All,

Received by OCD: 7/25/2022 10:52:55 AM

Please find this email as the composite notification for the Logan SWD, the release information is as follows:

Logan SWD DOR: 8/20/21 API No. 30-015-30409 Incident ID: NAPP2124247509

Composite sampling will begin Thursday morning. If you have any questions, please let me know.

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



Company	Name:	MACK			Location	Name:	LOGAN 35 SWD			Release Date:	8/20/2021
SP ID	Depth	Titr	PID	L-BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL	Soil	Notes
COMP 1	10'	60	ND	ND	ND	ND	ND	ND	46.7		
COMP 2	10'	40	ND	ND	ND	ND	ND	ND	30.2		
COMP 3	8'	60	ND	ND	ND	ND	ND	ND	56.9		
COMP 4	8'	80	ND	ND	ND	ND	ND	ND	76		
COMP 5	8'	60	ND	ND	ND	ND	ND	ND	50.3		
COMP 6	10'	100	ND	ND	ND	ND	ND	ND	80.2		
COMP 7	10'	240	ND	ND	ND	ND	ND	ND	223		
COMP 8	8'	160	ND	ND	ND	ND	ND	ND	146		
COMP 9	8'	240	ND	ND	ND	ND	ND	ND	116		
COMP 10	10'	20	ND	ND	ND	ND	ND	ND	23.7		
COMP 11	10	80	ND	ND	ND	ND	ND	ND	69.6		
COMP 12	6'	140	ND	ND	ND	ND	ND	ND	113		
COMP 13	6'	40	ND	ND	ND	ND	ND	ND	32.7		
COMP 14	10'	80	ND	ND	ND	ND	ND	ND	76.2		
COMP 15	10'	100	ND	ND	ND	ND	ND	ND	93.9		
COMP 16	6'	140	ND	ND	ND	ND	ND	ND	110		
COMP 17	6'	80	ND	ND	ND	ND	ND	ND	66.8		
COMP 18	9'	220	ND	ND	ND	ND	ND	ND	204		
COMP 19	9'	100	ND	ND	ND	ND	ND	ND	106		
COMP 20	9'	100	ND	ND	ND	ND	ND	ND	72		
COMP 21	9'	60	ND	ND	ND	ND	ND	ND	52.1		
COMP 22	9'	100	ND	ND	ND	ND	ND	ND	109		
COMP 23	9'	140	ND	ND	ND	ND	ND	ND	120		
COMP 24	9'	20	ND	ND	ND	ND	ND	ND	ND		
COMP 25	9'	20	ND	ND	ND	ND	ND	ND	ND		
COMP 26	9'	20	ND	ND	ND	ND	ND	ND	ND		
COMP 27	6'	ND	ND	ND	ND	ND	ND	ND	ND		
COMP 28	6'	ND	ND	ND	ND	ND	ND	ND	ND		
COMP 29	6'	20	ND	ND	ND	ND	ND	ND	ND		
COMP 30	6'	40	ND	ND	ND	ND	ND	ND	ND		
COMP 31	6'	20	ND	ND	ND	ND	ND	ND	ND		

COMP 32	6'	ND	ND	ND	ND	ND	ND	ND	ND	
COMP 33	6'	ND	ND	ND	ND	ND	ND	ND	ND	
COMP 34	6'	ND	ND	ND	ND	ND	ND	ND	ND	
COMP 34	10'	20	ND							
COMP 36	10	40	ND							
COMP 30	10	ND	ND	ND	ND	ND	ND	ND	ND	
COMP 37	10	20	ND							
COMP 39	10	ND 20	ND							
COMP 39	10	ND	ND	ND	ND	ND	ND	ND	ND	
		20	ND			ND				
COMP 41 COMP 42	10' 10'	20 ND		ND	ND	ND	ND	ND	ND	
			ND	ND	ND		ND	ND	ND	
COMP 43	10'	40	ND							
COMP 45	9'	60	ND							
COMP 46	9'	40	ND							
COMP 47	9'	ND	ND	ND	ND	ND	ND	ND	ND	
COMP 48	9'	ND	ND	ND	ND	ND	ND	ND	ND	
COMP 49	9'	ND	ND	ND	ND	ND	ND	ND	ND	
COMP 50	9'	ND	ND	ND	ND	ND	ND	ND	ND	
COMP 51	9'	20	ND							
COMP 52	8'	ND	ND	ND	ND	ND	ND	ND	ND	
COMP 53	8'	ND	ND	ND	ND	ND	ND	ND	ND	
COMP 54	8'	40	ND							
COMP 55	8'	ND	ND	ND	ND	ND	ND	ND	ND	
COMP 56	8'	ND	ND	ND	ND	ND	ND	ND	ND	
SWC 1		ND	ND	ND	ND	ND	ND	ND	ND	
SWC 2		20	ND							
SWC 3		ND	ND	ND	ND	ND	ND	ND	ND	
SWC 4		ND	ND	ND	ND	ND	ND	ND	ND	
SWC 5		ND	ND	ND	ND	ND	ND	ND	ND	
SWC 6		20	ND							
SWC 7		ND	ND	ND	ND	ND	ND	ND	ND	
SWC 8		40	ND							
SWC 9		ND	ND	ND	ND	ND	ND	ND	ND	
SWC 10		ND	ND	ND	ND	ND	ND	ND	ND	

SWC 11	ND		
SWC 12	ND		
SWC 13	20	ND	

COMPOSITE MAP

SIDEWALL COMPOSITE GPS: SWC1:32.785716-104.250026 SWC2:32.785626-104.249937 SWC3:32.785438-104.249988 SWC4:32.785220-104.250014 SWC5:32.785016-104.250031 SWC6:32.784808-104.249986 SWC7:32.784917-104.250078 SWC8:32.785001-104.250133 SWC9:32.785120-104.250119 SWC10:32.785244-104.250136 SWC11:32.785371-104.250131 SWC12:32.785515-104.250140 SWC13:32.785666-104.250176

Legend

Page 58 of 292

- 0 BOTTOM COMPOSITES
- SIDEWALL COMPOSITES

- **BOTTOM COMPOSITE GPS:** C1: 32.785651 -104.250144

°C2

07

C18

C24

C27

C33

C35

C37

C45

C48

°C50

C51

C47 °

C11

C15

C19

C22

C28

C30

C36

C26 C26

C8

C12

C16

C20

9022

°C1

C6

C10

C14

021 0

C2: 32.785664 -104.250103 C3: 32.785678-104.250067 C4: 32.785688 -104.250029 C5: 32.785687 -104.249988 C6: 32.785610 -104.25013 C7: 32.785623-104.250088 C8: 32.785639 -104.250042 C9: 32.785647 -104.249999 C10: 32.785576 -104.25012 C11: 32.785592 -104.25006 C12: 32.785605 -104.25001 C13: 32.785615 -104.249967 C14: 32.785543 -104.250113 C15: 32.785558 -104.250063 C16: 32.785574 -104.25001 C17: 32.785570 -104.249958 C18: 32.785515 -104.250103 C19: 32.785528 - 104.250050 C20: 32.785545 -104.249996 C21: 32.785482 -104.250097 C22: 32.785501 -104.250038 C23: 32.785509 -104.249988 C24: 32.785448 -104.250096 C25: 32.785460 -104.250048 C26: 32.785464 -104.250005 C27: 32.785412 -104.250089 C28: 32.785428 -104.250039 C29: 32.785379 -104.250083 C30: 32.785399 -104.250029

C31: 32.785346 -104.250079 C32: 32.785361 -104.250034 C33: 32.785315 -104.250080 C34: 32.785323 -104.250029 C35: 32.785282 -104.250089

C36:32.785284-104.250037 C37:32.785251-104.250088 C38:32.785247-104.250036 C39:32.785220-104.250103 C40:32.785212-104.250057 C41:32.785179-104.250099 C42:32.785168-104.250058 C43:32.785153-104.250097 C44:32.785120-104.250058 45:32.785090-104.250099 C46:32.785071-104.250059 47:32.785050-104.250099 48:32.785019-104.250058 249:32.285012-104.250103 C50:32.784981-104.250075 C51:32.784955-104.250068 C52;32.784921-104.250050 C53:32.784888-104.250032 C54:32.784859-104.25001 C55:32.784827-104.249996 C56: 32.785327-104.250122



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: Lo

Logan 35 Fed Battery

Work Order: E108092

Job Number: 20046-0001

Received: 8/24/2021

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 8/26/21

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. Date Reported: 8/26/21

Matt Buckles 7 W. Compress Road Artesia, NM 88210

Project Name: Logan 35 Fed Battery Workorder: E108092 Date Received: 8/24/2021 6:00:00PM

Matt Buckles,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 8/24/2021 6:00:00PM, under the Project Name: Logan 35 Fed Battery.

The analytical test results summarized in this report with the Project Name: Logan 35 Fed Battery 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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Sample Summary

	Sample Sum	liiai y		
	Project Name:	Logan 35 Fed Batter	ry	Reported:
	Project Number:	20046-0001		Reporteu.
	Project Manager:	Matt Buckles		08/26/21 14:53
Lab Sample ID	Matrix	Sampled	Received	Container
E108092-01A	Soil	08/21/21	08/24/21	Glass Jar, 4 oz.
E108092-02A	Soil	08/21/21	08/24/21	Glass Jar, 4 oz.
E108092-03A	Soil	08/21/21	08/24/21	Glass Jar, 4 oz.
E108092-04A	Soil	08/21/21	08/24/21	Glass Jar, 4 oz.
E108092-05A	Soil	08/21/21	08/24/21	Glass Jar, 4 oz.
E108092-06A	Soil	08/21/21	08/24/21	Glass Jar, 4 oz.
E108092-07A	Soil	08/21/21	08/24/21	Glass Jar, 4 oz.
E108092-08A	Soil	08/21/21	08/24/21	Glass Jar, 4 oz.
	E108092-01A E108092-02A E108092-03A E108092-03A E108092-05A E108092-05A E108092-06A E108092-07A	Lab Sample IDMatrixE108092-01ASoilE108092-02ASoilE108092-03ASoilE108092-04ASoilE108092-05ASoilE108092-05ASoilE108092-06ASoilE108092-07ASoil	Project Number: 20046-0001 Matt Buckles Lab Sample ID Matrix Sampled E108092-01A Soil 08/21/21 E108092-02A Soil 08/21/21 E108092-03A Soil 08/21/21 E108092-03A Soil 08/21/21 E108092-03A Soil 08/21/21 E108092-04A Soil 08/21/21 E108092-05A Soil 08/21/21 E108092-05A Soil 08/21/21 E108092-06A Soil 08/21/21 E108092-07A Soil 08/21/21	Lab Sample ID Matrix Sampled Received E108092-01A Soil 08/21/21 08/24/21 E108092-02A Soil 08/21/21 08/24/21 E108092-03A Soil 08/21/21 08/24/21 E108092-04A Soil 08/21/21 08/24/21 E108092-03A Soil 08/21/21 08/24/21 E108092-04A Soil 08/21/21 08/24/21 E108092-05A Soil 08/21/21 08/24/21 E108092-07A Soil 08/21/21 08/24/21



Mack Energy	Project Name: Logan 35 Fed Battery						
7 W. Compress Road	Project Num	ber: 2004	20046-0001				Reported:
Artesia NM, 88210	Project Mana	ager: Mat	t Buckles				8/26/2021 2:53:10PM
		SP1 Surf					
		E108092-01					
		Reporting					
Analyte	Result	Limit	Dilu	tion Pr	repared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kgMalyst: RKSND0.0250108/25/21ND0.0250108/25/21ND0.0250108/25/21ND0.0250108/25/21ND0.0250108/25/21ND0.0500108/25/21ND0.0250108/25/21ND0.0250108/25/21ND0.0250108/25/21ND0.0250108/25/21						Batch: 2135022
Benzene	ND	0.0250	1	08	8/25/21	08/25/21	
Ethylbenzene	ND	0.0250	1	08	8/25/21	08/25/21	
Toluene	ND	0.0250	1	08	8/25/21	08/25/21	
o-Xylene	ND	0.0250	1	08	8/25/21	08/25/21	
p,m-Xylene	ND	0.0500	1	08	8/25/21	08/25/21	
Total Xylenes	ND	0.0250	1	08	8/25/21	08/25/21	
Surrogate: Bromofluorobenzene		96.1 %	70-130	08	8/25/21	08/25/21	
Surrogate: 1,2-Dichloroethane-d4		101 %	70-130	08	8/25/21	08/25/21	
Surrogate: Toluene-d8		93.9 %	70-130	08	8/25/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: RKS			Batch: 2135022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08	8/25/21	08/25/21	
Surrogate: Bromofluorobenzene		96.1 %	70-130	08	8/25/21	08/25/21	
Surrogate: 1,2-Dichloroethane-d4		101 %	70-130	08	8/25/21	08/25/21	
Surrogate: Toluene-d8		93.9 %	70-130	08	8/25/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: JL			Batch: 2135024
Diesel Range Organics (C10-C28)	40.4	25.0	1	08	8/25/21	08/25/21	
Oil Range Organics (C28-C36)	ND	50.0	1	08	8/25/21	08/25/21	
Surrogate: n-Nonane		114 %	50-200	08	8/25/21	08/25/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: IY			Batch: 2135023
Chloride	284	20.0	1	08	8/25/21	08/25/21	

Sample Data



Sample Data

		ample D	uta			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbe Project Manag	er: 2004	an 35 Fed Ba 46-0001 t Buckles	ttery		Reported: 8/26/2021 2:53:10PM
		SP2 Surf				
		E108092-02				
		Reporting				
Analyte	Result	Limit	Diluti	on Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	А	nalyst: RKS		Batch: 2135022
Benzene	ND	0.0250	1	08/25/21	08/25/21	
Ethylbenzene	ND	0.0250	1	08/25/21	08/25/21	
Foluene	ND	0.0250	1	08/25/21	08/25/21	
p-Xylene	ND	0.0250	1	08/25/21	08/25/21	
p,m-Xylene	ND	0.0500	1	08/25/21	08/25/21	
Fotal Xylenes	ND	0.0250	1	08/25/21	08/25/21	
Surrogate: Bromofluorobenzene		97.4 %	70-130	08/25/21	08/25/21	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130	08/25/21	08/25/21	
Surrogate: Toluene-d8		92.9 %	70-130	08/25/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	А	nalyst: RKS		Batch: 2135022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/25/21	08/25/21	
Surrogate: Bromofluorobenzene		97.4 %	70-130	08/25/21	08/25/21	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130	08/25/21	08/25/21	
Surrogate: Toluene-d8		92.9 %	70-130	08/25/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	А	nalyst: JL		Batch: 2135024
Diesel Range Organics (C10-C28)	ND	25.0	1	08/25/21	08/25/21	
Dil Range Organics (C28-C36)	ND	50.0	1	08/25/21	08/25/21	
Surrogate: n-Nonane		80.2 %	50-200	08/25/21	08/25/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	А	nalyst: IY		Batch: 2135023
Chloride	17800	1000	50	08/25/21	08/25/21	



Sample Data

		mpic D					
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbe Project Manag	r: 2004	an 35 Fed B 46-0001 t Buckles	attery			Reported: 8/26/2021 2:53:10PM
		SP3 Surf					
]	E108092-03					
Analyte	Result	Reporting Limit	Dilut	tion Prep	ared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: RKS			Batch: 2135022
Benzene	ND	0.0250	1	08/2	5/21	08/25/21	
Ethylbenzene	ND	0.0250	1	08/2	5/21	08/25/21	
Toluene	ND	0.0250	1	08/2	5/21	08/25/21	
p-Xylene	ND	0.0250	1	08/2	5/21	08/25/21	
p,m-Xylene	ND	0.0500	1	08/2	5/21	08/25/21	
Total Xylenes	ND	0.0250	1	08/2	5/21	08/25/21	
Surrogate: Bromofluorobenzene		98.3 %	70-130	08/2	5/21	08/25/21	
Surrogate: 1,2-Dichloroethane-d4		101 %	70-130	08/2	5/21	08/25/21	
Surrogate: Toluene-d8		96.1 %	70-130	08/2	5/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: RKS			Batch: 2135022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/2	5/21	08/25/21	
Surrogate: Bromofluorobenzene		98.3 %	70-130	08/2	5/21	08/25/21	
Surrogate: 1,2-Dichloroethane-d4		101 %	70-130	08/2	5/21	08/25/21	
Surrogate: Toluene-d8		96.1 %	70-130	08/2	5/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: JL			Batch: 2135024
Diesel Range Organics (C10-C28)	55.4	25.0	1	08/2	5/21	08/25/21	
Oil Range Organics (C28-C36)	ND	50.0	1	08/2	5/21	08/25/21	
Surrogate: n-Nonane		99.0 %	50-200	08/2	5/21	08/25/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: IY			Batch: 2135023
Chloride	23700	1000	50	0 08/2	5/21	08/25/21	



Sample Data

		ample D					
Mack Energy	Project Name:	U	an 35 Fed B	Battery			
7 W. Compress Road	Project Number: 20046-0001						Reported:
Artesia NM, 88210	Project Manag	ger: Mat	Buckles				8/26/2021 2:53:10PM
		SP4 Surf					
		E108092-04					
		Reporting					
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: RK	S		Batch: 2135022
Benzene	0.0895	0.0250	1		08/25/21	08/25/21	
Ethylbenzene	0.357	0.0250	1		08/25/21	08/25/21	
Toluene	0.633	0.0250	1		08/25/21	08/25/21	
p-Xylene	0.176	0.0250	1		08/25/21	08/25/21	
o,m-Xylene	0.428	0.0500	1		08/25/21	08/25/21	
Total Xylenes	0.604	0.0250	1		08/25/21	08/25/21	
Surrogate: Bromofluorobenzene		98.0 %	70-130		08/25/21	08/25/21	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		08/25/21	08/25/21	
Surrogate: Toluene-d8		97.0 %	70-130		08/25/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: RK	s		Batch: 2135022
Gasoline Range Organics (C6-C10)	ND	20.0	1		08/25/21	08/25/21	
Surrogate: Bromofluorobenzene		98.0 %	70-130		08/25/21	08/25/21	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		08/25/21	08/25/21	
Surrogate: Toluene-d8		97.0 %	70-130		08/25/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: JL			Batch: 2135024
Diesel Range Organics (C10-C28)	59.0	25.0	1		08/25/21	08/25/21	
Oil Range Organics (C28-C36)	51.0	50.0	1		08/25/21	08/25/21	
Surrogate: n-Nonane		102 %	50-200		08/25/21	08/25/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: IY			Batch: 2135023
Chloride	31800	1000	50	0	08/25/21	08/25/21	



Sample Data

	~	ampic D				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numb Project Manag	er: 2004	an 35 Fed Ba 46-0001 t Buckles	attery		Reported: 8/26/2021 2:53:10PM
		SP5 Surf				
		E108092-05				
Analyte	Result	Reporting Limit	Dilut	ion Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	A	analyst: RKS		Batch: 2135022
Benzene	ND	0.0250	1	08/25/21	08/25/21	
Ethylbenzene	ND	0.0250	1	08/25/21	08/25/21	
Toluene	ND	0.0250	1	08/25/21	08/25/21	
o-Xylene	ND	0.0250	1	08/25/21	08/25/21	
p,m-Xylene	ND	0.0500	1	08/25/21	08/25/21	
Total Xylenes	ND	0.0250	1	08/25/21	08/25/21	
Surrogate: Bromofluorobenzene		98.1 %	70-130	08/25/21	08/25/21	
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130	08/25/21	08/25/21	
Surrogate: Toluene-d8		94.4 %	70-130	08/25/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	A	analyst: RKS		Batch: 2135022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/25/21	08/25/21	
Surrogate: Bromofluorobenzene		98.1 %	70-130	08/25/21	08/25/21	
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130	08/25/21	08/25/21	
Surrogate: Toluene-d8		94.4 %	70-130	08/25/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	A	analyst: JL		Batch: 2135024
Diesel Range Organics (C10-C28)	ND	25.0	1	08/25/21	08/25/21	
Oil Range Organics (C28-C36)	ND	50.0	1	08/25/21	08/25/21	
Surrogate: n-Nonane		112 %	50-200	08/25/21	08/25/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	A	analyst: IY		Batch: 2135023
Chloride	23700	1000	50	08/25/21	08/25/21	



Sample Data

		ampic D					
Mack Energy	•	Project Name: Logan 35 Fed Battery					
7 W. Compress Road	Project Number: 20046-0001						Reported:
Artesia NM, 88210	Project Manag	ger: Mat	t Buckles				8/26/2021 2:53:10PM
		SP6 Surf					
		E108092-06					
		Reporting					
Analyte	Result	Limit	Dilu	tion I	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: RKS	5		Batch: 2135022
Benzene	ND	0.0250	1		08/25/21	08/25/21	
Ethylbenzene	ND	0.0250	1	. (08/25/21	08/25/21	
Toluene	0.0315	0.0250	1	. (08/25/21	08/25/21	
p-Xylene	ND	0.0250	1		08/25/21	08/25/21	
o,m-Xylene	ND	0.0500	1		08/25/21	08/25/21	
Total Xylenes	ND	0.0250	1	(08/25/21	08/25/21	
Surrogate: Bromofluorobenzene		96.9 %	70-130	C	08/25/21	08/25/21	
Surrogate: 1,2-Dichloroethane-d4		101 %	70-130	C	08/25/21	08/25/21	
Surrogate: Toluene-d8		95.5 %	70-130	C	08/25/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: RKS	5		Batch: 2135022
Gasoline Range Organics (C6-C10)	ND	20.0	1	. (08/25/21	08/25/21	
Surrogate: Bromofluorobenzene		96.9 %	70-130	C	08/25/21	08/25/21	
Surrogate: 1,2-Dichloroethane-d4		101 %	70-130	6	08/25/21	08/25/21	
Surrogate: Toluene-d8		95.5 %	70-130	C	08/25/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: JL			Batch: 2135024
Diesel Range Organics (C10-C28)	209	25.0	1		08/25/21	08/25/21	
Dil Range Organics (C28-C36)	335	50.0	1	. (08/25/21	08/25/21	
Surrogate: n-Nonane		112 %	50-200	(08/25/21	08/25/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: IY			Batch: 2135023
Chloride	23600	1000	50	0 (08/25/21	08/25/21	



Sample Data

		ample D				
Mack Energy	Project Name:	0	an 35 Fed Ba			
7 W. Compress Road	Project Number: 20046-0001					Reported:
Artesia NM, 88210	Project Manag	ger: Mat	t Buckles			8/26/2021 2:53:10PM
		SP7 Surf				
		E108092-07				
		Reporting				
Analyte	Result	Limit	Dilut	ion Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	A	analyst: RKS		Batch: 2135022
Benzene	ND	0.0250	1	08/25/21	08/25/21	
Ethylbenzene	ND	0.0250	1	08/25/21	08/25/21	
Toluene	ND	0.0250	1	08/25/21	08/25/21	
-Xylene	ND	0.0250	1	08/25/21	08/25/21	
,m-Xylene	ND	0.0500	1	08/25/21	08/25/21	
Total Xylenes	ND	0.0250	1	08/25/21	08/25/21	
urrogate: Bromofluorobenzene		98.0 %	70-130	08/25/21	08/25/21	
urrogate: 1,2-Dichloroethane-d4		101 %	70-130	08/25/21	08/25/21	
urrogate: Toluene-d8		94.9 %	70-130	08/25/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	A	analyst: RKS		Batch: 2135022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/25/21	08/25/21	
urrogate: Bromofluorobenzene		98.0 %	70-130	08/25/21	08/25/21	
urrogate: 1,2-Dichloroethane-d4		101 %	70-130	08/25/21	08/25/21	
urrogate: Toluene-d8		94.9 %	70-130	08/25/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	A	analyst: JL		Batch: 2135024
Diesel Range Organics (C10-C28)	30.3	25.0	1	08/25/21	08/25/21	
Dil Range Organics (C28-C36)	59.9	50.0	1	08/25/21	08/25/21	
urrogate: n-Nonane		99.2 %	50-200	08/25/21	08/25/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	A	analyst: IY		Batch: 2135023
Chloride	23600	1000	50	08/25/21	08/25/21	



Sample Data

		ampic D				
Mack Energy	Project Name: Logan 35 Fed Battery					
7 W. Compress Road	Project Numb		46-0001			Reported:
Artesia NM, 88210	Project Manag	ger: Mat	t Buckles			8/26/2021 2:53:10PM
		SP8 Surf				
		E108092-08				
		Reporting				
Analyte	Result	Limit	Dilut	on Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	А	nalyst: RKS		Batch: 2135022
Benzene	ND	0.0250	1	08/25/21	08/25/21	
Ethylbenzene	ND	0.0250	1	08/25/21	08/25/21	
Toluene	ND	0.0250	1	08/25/21	08/25/21	
o-Xylene	ND	0.0250	1	08/25/21	08/25/21	
p,m-Xylene	ND	0.0500	1	08/25/21	08/25/21	
Total Xylenes	ND	0.0250	1	08/25/21	08/25/21	
Surrogate: Bromofluorobenzene		97.3 %	70-130	08/25/21	08/25/21	
Surrogate: 1,2-Dichloroethane-d4		102 %	70-130	08/25/21	08/25/21	
Surrogate: Toluene-d8		95.6 %	70-130	08/25/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	А	nalyst: RKS		Batch: 2135022
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/25/21	08/25/21	
Surrogate: Bromofluorobenzene		97.3 %	70-130	08/25/21	08/25/21	
Surrogate: 1,2-Dichloroethane-d4		102 %	70-130	08/25/21	08/25/21	
Surrogate: Toluene-d8		95.6 %	70-130	08/25/21	08/25/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	А	.nalyst: JL		Batch: 2135024
Diesel Range Organics (C10-C28)	ND	25.0	1	08/25/21	08/25/21	
Oil Range Organics (C28-C36)	ND	50.0	1	08/25/21	08/25/21	
Surrogate: n-Nonane		125 %	50-200	08/25/21	08/25/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	А	nalyst: IY		Batch: 2135023
Chloride	9450	400	20	08/25/21	08/25/21	



QC Summary Data

	Reported:										
	8/26/2021 2:53:10P										
Volatile Organic Compounds by EPA 8260B											
RJ	RPD										
	Limit										
%	% Notes										
pared: 08/24/21	8/24/21 Analyzed: 08/24/21										
pared: 08/24/21	8/24/21 Analyzed: 08/24/21										
pared: 08/24/21	8/24/21 Analyzed: 08/24/21										
bared: 08/24/21	8/24/21 Analyzed: 08/24/21										
4.58 2	23										
1.60 2	27										
2.34 2	24										
	27										
	27										
	27										



QC Summary Data

		$\mathbf{z} \in \mathcal{Z}$		ary Data					
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	2	.ogan 35 Fed B 0046-0001 ⁄Iatt Buckles	Battery				Reported: 8/26/2021 2:53:10PM
	No	onhalogenated O	rganics	by EPA 80	15D - G	RO			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 (2135022-BLK1)						Pre	pared: 08/2	24/21 An	alyzed: 08/24/21
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.490		0.500		97.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.489		0.500		97.7	70-130			
Surrogate: Toluene-d8	0.476		0.500		95.2	70-130			
LCS (2135022-BS2)						Pre	pared: 08/2	24/21 An	alyzed: 08/24/21
Gasoline Range Organics (C6-C10)	56.1	20.0	50.0		112	70-130			
Surrogate: Bromofluorobenzene	0.493		0.500		98.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.491		0.500		98.2	70-130			
Surrogate: Toluene-d8	0.489		0.500		97.7	70-130			
Matrix Spike (2135022-MS2)				Sou	rce: E108	091-02 Pre	pared: 08/2	24/21 An	alyzed: 08/24/21
Gasoline Range Organics (C6-C10)	57.1	20.0	50.0	ND	114	70-130			
Surrogate: Bromofluorobenzene	0.489		0.500		97.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.517		0.500		103	70-130			
Surrogate: Toluene-d8	0.476		0.500		95.1	70-130			
Matrix Spike Dup (2135022-MSD2)				Sou	rce: E108	091-02 Pre	pared: 08/2	24/21 An	alyzed: 08/24/21
Gasoline Range Organics (C6-C10)	59.6	20.0	50.0	ND	119	70-130	4.17	20	
Surrogate: Bromofluorobenzene	0.488		0.500		97.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.519		0.500		104	70-130			
Surrogate: Toluene-d8	0.483		0.500		96.5	70-130			


QC Summary Data

		VC D	uIIIIII	aly Data	1				
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	2	Logan 35 Fed B 20046-0001 Matt Buckles	attery				Reported: 8/26/2021 2:53:10PM
	Nonha	alogenated Org	anics by	y EPA 8015D	- DRO	/ORO			Analyst: JL
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2135024-BLK1)						Pre	pared: 08/2	25/21 Ana	lyzed: 08/25/21
Diesel Range Organics (C10-C28) Oil Range Organics (C28-C36)	ND ND	25.0 50.0							
Surrogate: n-Nonane	52.6		50.0		105	50-200			
LCS (2135024-BS1)						Pre	pared: 08/2	25/21 Ana	alyzed: 08/25/21
Diesel Range Organics (C10-C28)	529	25.0	500		106	38-132			
Surrogate: n-Nonane	52.3		50.0		105	50-200			
Matrix Spike (2135024-MS1)				Sour	ce: E108	091-06 Pre	pared: 08/2	25/21 Ana	lyzed: 08/25/21
Diesel Range Organics (C10-C28)	546	25.0	500	ND	109	38-132			
Surrogate: n-Nonane	53.4		50.0		107	50-200			
Matrix Spike Dup (2135024-MSD1)				Sour	ce: E108	091-06 Pre	pared: 08/2	25/21 Ana	lyzed: 08/25/21
Diesel Range Organics (C10-C28)	547	25.0	500	ND	109	38-132	0.212	20	
Surrogate: n-Nonane	53.6		50.0		107	50-200			



QC Summary Data

					-				
Mack Energy		Project Name:		Logan 35 Fed B	attery				Reported:
7 W. Compress Road		Project Number:		20046-0001					0/06/0001 0 50 10004
Artesia NM, 88210		Project Manager:		Matt Buckles					8/26/2021 2:53:10PM
		Anions	by EPA	300.0/9056A	A				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 (2135023-BLK1)						Pre	pared: 08/2	25/21 Ana	lyzed: 08/25/21
Chloride	ND	20.0							
LCS (2135023-BS1)						Pre	pared: 08/2	25/21 Ana	lyzed: 08/25/21
Chloride	251	20.0	250		100	90-110			
Matrix Spike (2135023-MS1)				Sou	rce: E108	091-01 Pre	pared: 08/2	25/21 Ana	lyzed: 08/25/21
Chloride	279	20.0	250	22.6	102	80-120			
Matrix Spike Dup (2135023-MSD1)				Sou	rce: E108	091-01 Pre	pared: 08/2	25/21 Ana	lyzed: 08/25/21
Chloride	279	20.0	250	22.6	103	80-120	0.0968	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.



Γ	Mack Energy	Project Name:	Logan 35 Fed Battery	
	7 W. Compress Road	Project Number:	20046-0001	Reported:
	Artesia NM, 88210	Project Manager:	Matt Buckles	08/26/21 14:53

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.



	Deck	Franc			0.117					1 1 1	0		(20	uy-	5		
Project: Project N	lanager:	35 matt	fod l	Raftery	Attention: ESS Address: 7 west co City, State, Zip Artesi		Lab WO# Jo PE 108092 2			Job Number			TAT 1D 3D		RCRA	PA Progra CWA	SDW/	
Address: City, Stat Phone:					City, State, Zip Artesia Phone: Email: Natale Genergy		RAS	812			Analy	sis and	Metho	d			Sta NM CO	ate UT A
mail: eport d							DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	6010	Chloride 300.0		BGDOC - NM	×t -		ŤХ ОК	
Time Sampled	Date Sampled	Matrix	No Containers	Sample ID		Lab Number	DRO/C	GRO/D	BTEX b	VOC b	Metals 6010	Chloric		BGDO	BGDOC		Ren	narks
	8/21	5	1	SPI	SULF	1								1				
	(5	1	SPZ	SURF	2								1				
		5	1	SP3	surf	3								1				
		5	1	SP4	surf	4		_						1				
		5	1	SP5	surf	2							_	1				
		5	1	SP6	SUFF	6								1				
		5	1.	SP7	surf	7							-	1				
)	5	1	SP8	surf	8								1				-
ddition	al Instruc	tions:																
				his sample. I am aware for legal action. Sample	that tampering with or intentionally mislabel	lling the sample location, date or											e day they are sa 1 subsequent day	
Juan	ed by: (Signa To ov ed by: (Sign;	era	Date	Time	Received by: (Agnature)	1 8.74.	21	Time 9 Time	20		Rece	ived o	n ice:		ab Us)/ N	e Only		
linduish	ed by Bigna	ature)	- 8. Date	7.4.21 /1 Time	Received by: (Signature)	Date	2512	Time				Temp				-	<u>T3</u>	
ote: Sampl	les are discard	led 30 days	after results a		her arrangements are made. Hazardous										_		ove samples i	is applical
nly to thos				ech	bility of the laboratory is limited to the a	amount paid for on the report.		-	-						1	-	rotech-inc.co	-

Released to Imaging: 11/17/2022 9:16:10 AM

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Received by OCD: 7/25/2022 10:52:55 AM



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: Lo

Logan 35 Fed #9

Work Order: E108112

Job Number: 20046-0001

Received: 8/28/2021

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 8/31/21

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. Date Reported: 8/31/21

Matt Buckles 7 W. Compress Road Artesia, NM 88210

Project Name: Logan 35 Fed #9 Workorder: E108112 Date Received: 8/28/2021 2:56:00PM

Matt Buckles,



Page 78 of 292

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 8/28/2021 2:56:00PM, under the Project Name: Logan 35 Fed #9.

The analytical test results summarized in this report with the Project Name: Logan 35 Fed #9 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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Sample Summary

		Sample Sum	mary		
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	Logan 35 Fed #9 20046-0001 Matt Buckles		Reported: 08/31/21 11:25
Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP1 8'	E108112-01A	Soil	08/26/21	08/28/21	Glass Jar, 4 oz.
SP2 6'	E108112-02A	Soil	08/26/21	08/28/21	Glass Jar, 4 oz.
SP3 10'	E108112-03A	Soil	08/26/21	08/28/21	Glass Jar, 4 oz.
SP5 6'	E108112-04A	Soil	08/26/21	08/28/21	Glass Jar, 4 oz.



		ampic D					
Mack Energy	Project Name	•	an 35 Fed #	9			
7 W. Compress Road	Project Num	ber: 2004	46-0001				Reported:
Artesia NM, 88210	Project Mana	nger: Mat	Buckles				8/31/2021 11:25:35AM
		SP1 8'					
		E108112-01					
		Reporting					
Analyte	Result	Limit	Dilu	ition	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: R	KS		Batch: 2136001
Benzene	ND	0.0250	1	l	08/29/21	08/29/21	
Ethylbenzene	ND	0.0250	1	l	08/29/21	08/29/21	
Toluene	ND	0.0250	1	l	08/29/21	08/29/21	
o-Xylene	ND	0.0250	1	l	08/29/21	08/29/21	
p,m-Xylene	ND	0.0500	1	l	08/29/21	08/29/21	
Total Xylenes	ND	0.0250	1	1	08/29/21	08/29/21	
Surrogate: Bromofluorobenzene		94.1 %	70-130		08/29/21	08/29/21	
Surrogate: 1,2-Dichloroethane-d4		101 %	70-130		08/29/21	08/29/21	
Surrogate: Toluene-d8		94.6 %	70-130		08/29/21	08/29/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	-	Analyst: R	KS		Batch: 2136001
Gasoline Range Organics (C6-C10)	ND	20.0	1	1	08/29/21	08/29/21	
Surrogate: Bromofluorobenzene		94.1 %	70-130		08/29/21	08/29/21	
Surrogate: 1,2-Dichloroethane-d4		101 %	70-130		08/29/21	08/29/21	
Surrogate: Toluene-d8		94.6 %	70-130		08/29/21	08/29/21	
Nonhalogenated Organics by EPA 8015D - DRO/OR() mg/kg	mg/kg		Analyst: J	L		Batch: 2136002
Diesel Range Organics (C10-C28)	ND	25.0	1	1	08/30/21	08/30/21	
Oil Range Organics (C28-C36)	ND	50.0	1	1	08/30/21	08/30/21	
Surrogate: n-Nonane		89.1 %	50-200		08/30/21	08/30/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: Г	Y		Batch: 2135047
Chloride	527	200	1	0	08/30/21	08/30/21	

Sample Data



Sample Data

	50	ample D	ala				
Mack Energy	Project Name:	-	an 35 Fed #	9			
7 W. Compress Road	Project Numbe		46-0001				Reported:
Artesia NM, 88210	Project Manag	ger: Mat	Buckles				8/31/2021 11:25:35AM
		SP2 6'					
		E108112-02					
		Reporting					
Analyte	Result	Limit	Dilu	ition	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	mg/kg Analyst: RKS		RKS		Batch: 2136001
Benzene	ND	0.0250	1	1	08/29/21	08/29/21	
Ethylbenzene	ND	0.0250	1	1	08/29/21	08/29/21	
Toluene	ND	0.0250	1	1	08/29/21	08/29/21	
p-Xylene	ND	0.0250	1	1	08/29/21	08/29/21	
o,m-Xylene	ND	0.0500	1	1	08/29/21	08/29/21	
Fotal Xylenes	ND	0.0250	1	1	08/29/21	08/29/21	
Surrogate: Bromofluorobenzene		94.7 %	70-130		08/29/21	08/29/21	
Surrogate: 1,2-Dichloroethane-d4		98.9 %	70-130		08/29/21	08/29/21	
Surrogate: Toluene-d8		98.9 %	70-130		08/29/21	08/29/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	RKS		Batch: 2136001
Gasoline Range Organics (C6-C10)	ND	20.0	1	1	08/29/21	08/29/21	
Surrogate: Bromofluorobenzene		94.7 %	70-130		08/29/21	08/29/21	
Surrogate: 1,2-Dichloroethane-d4		98.9 %	70-130		08/29/21	08/29/21	
Surrogate: Toluene-d8		98.9 %	70-130		08/29/21	08/29/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: .	JL		Batch: 2136002
Diesel Range Organics (C10-C28)	ND	25.0	1	I	08/30/21	08/30/21	
Dil Range Organics (C28-C36)	ND	50.0	1	1	08/30/21	08/30/21	
Surrogate: n-Nonane		94.3 %	50-200		08/30/21	08/30/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	IY		Batch: 2135047
Chloride	ND	200	1	0	08/30/21	08/30/21	



Sample Data

	D.	ample D	ala				
Mack Energy	Project Name:	: Loga	an 35 Fed ‡	<i>‡</i> 9			
7 W. Compress Road	Project Numb		46-0001				Reported:
Artesia NM, 88210	Project Manag	ger: Mat	Buckles				8/31/2021 11:25:35AM
		SP3 10'					
		E108112-03					
		Reporting					
Analyte	Result	Limit	Dilu	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	RKS		Batch: 2136001
Benzene	ND	0.0250		1	08/29/21	08/29/21	
thylbenzene	ND	0.0250		1	08/29/21	08/29/21	
oluene	ND	0.0250		1	08/29/21	08/29/21	
-Xylene	ND	0.0250		1	08/29/21	08/29/21	
,m-Xylene	ND	0.0500		1	08/29/21	08/29/21	
otal Xylenes	ND	0.0250		1	08/29/21	08/29/21	
urrogate: Bromofluorobenzene		96.8 %	70-130		08/29/21	08/29/21	
urrogate: 1,2-Dichloroethane-d4		104 %	70-130		08/29/21	08/29/21	
urrogate: Toluene-d8		97.4 %	70-130		08/29/21	08/29/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	RKS		Batch: 2136001
Gasoline Range Organics (C6-C10)	ND	20.0		1	08/29/21	08/29/21	
urrogate: Bromofluorobenzene		96.8 %	70-130		08/29/21	08/29/21	
urrogate: 1,2-Dichloroethane-d4		104 %	70-130		08/29/21	08/29/21	
urrogate: Toluene-d8		97.4 %	70-130		08/29/21	08/29/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	Л		Batch: 2136002
Diesel Range Organics (C10-C28)	ND	25.0		1	08/30/21	08/30/21	
vil Range Organics (C28-C36)	ND	50.0		1	08/30/21	08/30/21	
urrogate: n-Nonane		90.4 %	50-200		08/30/21	08/30/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	IY		Batch: 2135047
Chloride	ND	200	1	0	08/30/21	08/30/21	



Sample Data

	50	ample D	ala				
Mack Energy	Project Name:	0	an 35 Fed	#9			
7 W. Compress Road	Project Numbe		6-0001				Reported:
Artesia NM, 88210	Project Manag	er: Mat	Buckles				8/31/2021 11:25:35AN
		SP5 6'					
		E108112-04					
		Reporting					
Analyte	Result	Limit	Di	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	RKS		Batch: 2136001
Benzene	ND	0.0250		1	08/29/21	08/29/21	
Ethylbenzene	ND	0.0250		1	08/29/21	08/29/21	
Toluene	ND	0.0250		1	08/29/21	08/29/21	
p-Xylene	ND	0.0250		1	08/29/21	08/29/21	
o,m-Xylene	ND	0.0500		1	08/29/21	08/29/21	
Fotal Xylenes	ND	0.0250		1	08/29/21	08/29/21	
Surrogate: Bromofluorobenzene		95.0 %	70-130		08/29/21	08/29/21	
Surrogate: 1,2-Dichloroethane-d4		102 %	70-130		08/29/21	08/29/21	
Surrogate: Toluene-d8		93.5 %	70-130		08/29/21	08/29/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	RKS		Batch: 2136001
Gasoline Range Organics (C6-C10)	ND	20.0		1	08/29/21	08/29/21	
Surrogate: Bromofluorobenzene		95.0 %	70-130		08/29/21	08/29/21	
Surrogate: 1,2-Dichloroethane-d4		102 %	70-130		08/29/21	08/29/21	
Surrogate: Toluene-d8		93.5 %	70-130		08/29/21	08/29/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	JL		Batch: 2136002
Diesel Range Organics (C10-C28)	ND	25.0		1	08/30/21	08/30/21	
Dil Range Organics (C28-C36)	ND	50.0		1	08/30/21	08/30/21	
Surrogate: n-Nonane		83.6 %	50-200		08/30/21	08/30/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: IY		Batch: 2135047
Chloride	ND	200		10	08/30/21	08/30/21	



QC Summary Data

		Q U U		li y Data					
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	20	ogan 35 Fed #9 046-0001 att Buckles				8/3	Reported: 31/2021 11:25:35AM
		Volatile Organic	Compo	unds by EPA	82601	B			Analyst: RKS
			-	Source				RPD	
Analyte	Result	Reporting Limit	Spike Level	Result	Rec	Rec Limits	RPD	Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2136001-BLK1)						Pre	pared: 08/2	29/21 Analyz	zed: 08/29/21
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: Bromofluorobenzene	0.483		0.500		96.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.510		0.500		102	70-130			
Surrogate: Toluene-d8	0.310		0.500		98.4	70-130			
-	0.472							0/21 A	1: 08/20/21
LCS (2136001-BS1)							pared: 08/2	29/21 Analyz	zed: 08/29/21
Benzene	2.34	0.0250	2.50		93.5	70-130			
Ethylbenzene	2.45	0.0250	2.50		98.1	70-130			
Toluene	2.44	0.0250	2.50		97.6	70-130			
o-Xylene	2.36	0.0250	2.50		94.3	70-130			
p,m-Xylene	4.86	0.0500	5.00		97.2	70-130			
Total Xylenes	7.22	0.0250	7.50		96.3	70-130			
Surrogate: Bromofluorobenzene	0.480		0.500		96.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.487		0.500		97.3	70-130			
Surrogate: Toluene-d8	0.490		0.500		97.9	70-130			
Matrix Spike (2136001-MS1)				Sourc	e: E1081	112-01 Pre	pared: 08/2	29/21 Analyz	zed: 08/29/21
Benzene	2.30	0.0250	2.50	ND	92.0	48-131			
Ethylbenzene	2.37	0.0250	2.50	ND	94.6	45-135			
Toluene	2.36	0.0250	2.50	ND	94.4	48-130			
o-Xylene	2.28	0.0250	2.50	ND	91.0	43-135			
p,m-Xylene	4.70	0.0500	5.00	ND	93.9	43-135			
Total Xylenes	6.97	0.0250	7.50	ND	93.0	43-135			
Surrogate: Bromofluorobenzene	0.490		0.500		97.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.481		0.500		96.2	70-130			
Surrogate: Toluene-d8	0.484		0.500		96.7	70-130			
Matrix Spike Dup (2136001-MSD1)				Sourc	e: E1081	112-01 Pre	pared: 08/2	29/21 Analyz	zed: 08/29/21
Benzene	2.55	0.0250	2.50	ND	102	48-131	10.3	23	
Ethylbenzene	2.64	0.0250	2.50	ND	105	45-135	10.8	27	
Toluene	2.62	0.0250	2.50	ND	105	48-130	10.4	24	
o-Xylene	2.53	0.0250	2.50	ND	101	43-135	10.6	27	
p,m-Xylene	5.23	0.0500	5.00	ND	105	43-135	10.7	27	
Total Xylenes	7.76	0.0250	7.50	ND	103	43-135	10.6	27	
Surrogate: Bromofluorobenzene	0.484		0.500		96.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.503		0.500		101	70-130			
	0.303		0.500		97.9	70-130			
Surrogate: Toluene-d8	(1490		11 11/1						



QC Summary Data

		QC DI		ary Data					
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	2	Logan 35 Fed #9 20046-0001 Matt Buckles					Reported: 8/31/2021 11:25:35AM
	No	onhalogenated O	rganics	s by EPA 801	5D - G	RO			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 (2136001-BLK1)						Pre	pared: 08/2	29/21 An	alyzed: 08/29/21
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.483		0.500		96.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.510		0.500		102	70-130			
Surrogate: Toluene-d8	0.492		0.500		98.4	70-130			
LCS (2136001-BS2)						Pre	pared: 08/2	29/21 Ana	alyzed: 08/29/21
Gasoline Range Organics (C6-C10)	48.4	20.0	50.0		96.8	70-130			
Surrogate: Bromofluorobenzene	0.472		0.500		94.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.487		0.500		97.3	70-130			
Surrogate: Toluene-d8	0.498		0.500		99.6	70-130			
Matrix Spike (2136001-MS2)				Sourc	e: E108	112-01 Pre	pared: 08/2	29/21 Ana	alyzed: 08/29/21
Gasoline Range Organics (C6-C10)	44.8	20.0	50.0	ND	89.5	70-130			
Surrogate: Bromofluorobenzene	0.474		0.500		94.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.482		0.500		96.3	70-130			
Surrogate: Toluene-d8	0.493		0.500		98.6	70-130			
Matrix Spike Dup (2136001-MSD2)				Sourc	e: E108	112-01 Pre	pared: 08/2	29/21 Ana	alyzed: 08/29/21
Gasoline Range Organics (C6-C10)	46.6	20.0	50.0	ND	93.2	70-130	4.05	20	
Surrogate: Bromofluorobenzene	0.467		0.500		93.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.491		0.500		98.1	70-130			
Surrogate: Toluene-d8	0.489		0.500		97.8	70-130			

QC Summary Data

		QC DI	u I I I I I I	aly Data					
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:		Logan 35 Fed #9 20046-0001 Matt Buckles				8.	Reported: /31/2021 11:25:35AM
	Nonh	alogenated Orga	anics b	y EPA 8015D	- DRO	/ORO			Analyst: JL
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2136002-BLK1)						Pre	pared: 08/3	30/21 Analy	zed: 08/30/21
Diesel Range Organics (C10-C28) Oil Range Organics (C28-C36)	ND ND	25.0 50.0							
Surrogate: n-Nonane	43.9		50.0		87.9	50-200			
LCS (2136002-BS1)						Pre	pared: 08/3	30/21 Analy	/zed: 08/30/21
Diesel Range Organics (C10-C28)	485	25.0	500		96.9	38-132			
Surrogate: n-Nonane	43.3		50.0		86.6	50-200			
Matrix Spike (2136002-MS1)				Sourc	e: E108	112-02 Pre	pared: 08/3	30/21 Analy	/zed: 08/30/21
Diesel Range Organics (C10-C28)	500	25.0	500	ND	100	38-132			
Surrogate: n-Nonane	44.5		50.0		89.1	50-200			
Matrix Spike Dup (2136002-MSD1)				Sourc	e: E108	112-02 Pre	pared: 08/3	30/21 Analy	/zed: 08/30/21
Diesel Range Organics (C10-C28)	491	25.0	500	ND	98.2	38-132	1.88	20	
Surrogate: n-Nonane	45.5		50.0		91.0	50-200			



QC Summary Data

Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:		Logan 35 Fed #9 20046-0001 Matt Buckles				٤	Reported: //31/2021 11:25:35AM
		Anions	by EPA	300.0/9056A					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
Blank (2135047-BLK1)						Pre	pared: 08/2	27/21 Anal	yzed: 08/30/21
Chloride LCS (2135047-BS1)	ND	20.0				Pre	pared: 08/2	27/21 Anal	yzed: 08/30/21
Chloride Matrix Spike (2135047-MS1)	242	20.0	250	Sourc	96.9 e: E108	90-110)97-01 Pre	pared: 08/2	27/21 Anal	yzed: 08/30/21
Chloride	4790	40.0	250	4480	124	80-120			M5
Matrix Spike Dup (2135047-MSD1)				Sourc	e: E108	97-01 Pre	pared: 08/2	27/21 Anal	yzed: 08/30/21
Chloride	4960	40.0	250	4480	189	80-120	3.33	20	M5

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.



Mack Energy	Project Name:	Logan 35 Fed #9	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Matt Buckles	08/31/21 11:25

M5 The analysis of the MS sample required a dilution such that the spike recovery calculation does not provide useful information. The accociated LCS spike recovery was acceptable.

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

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

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



Project Information	Chain of Custody		(2 days) Page _						Page	
Client: Mack Energy Project: Logan 35 Fed #9 Project Manager: Matt	Attention: ESS Address: 7 w compress ro City, State, Zip Artes d. NM 8820)#)81/2	2			1D	AT	RCRA	PA Program CWA SDWA State
City, State, Zip Phone: Email: Report due by:	Phone: Email: Natal Conergy statting/10.com	DRO/ORO by 8015 GRO/DRO by 8015			0			TX		NM CO UT A X
Time Date Sampled Matrix No Containers Sample ID	Lab Number	DRO/DF GRO/DF	BTEX by 8021	VOC by 8260	Metals 6010 Chloride 300.0		BGDOC - NM	BGDOC - TX		Remarks
9120 8/26 5 1 SPI	8'						1			SP1 (e'
10:24 8/26 5 1 SP2	26 2						1			
11.53 9/26 5 1 SP.2	10' 3						1			
3:18 8/26 5 1 SPS	56 4						1			
Additional Instructions:						<u> </u>				
, (field sampler), attest to the validity and authenticity of this sample. I am aw time of collection is considered fraud and may be grounds for legal action. Sar	are that tampering with or intentionally mislabelling the sample location, date or	\geq								he day they are sampled or n subsequent days.
Relinquished by: (Signature) Date	e Received by: (Signature) Date Date 8.27.	·21	1210	0	Receive	d on ice:	\sim	ab Use	2 Only	
Andab 8.27.21 1	400 10000 828	21	4:5	0	<u>T1</u>		<u>T2</u>			<u>T3</u>
Refine used by: (Signature) Date Tim	e Received by: (Signature) Date Date	Tim	e		AVG Ter	np °C_	4	-		
	other arrangements are made. Hazardous samples will be returned to cli									ove samples is applicable
1.	liability of the laboratory is limited to the amount paid for on the report.									irotech-inc.com
Analytical Laboratory	5795 US Highway 64, Famington, NM 87401 24 Hour Emergency Response Phone (800) 362-1879		Ph	(505)	532-1881 Fx	(505) 632-186	55	lat		nvirolech-inc.com

Envirotech Analytical Laboratory

Sample Receipt Checklist (SRC)

Client:	Mack Energy	Date Received:	08/28/21 14	4:56	Work Order ID: E108112
Phone:	(575) 746-9547	Date Logged In:	08/28/21 1:	5:03	Logged In By: Alexa Michaels
Email:		Due Date:	08/31/21 1	7:00 (1 day TAT)	
Chain o	f Custody (COC)				
1. Does t	he sample ID match the COC?		No		
2. Does t	he number of samples per sampling site location mate	h the COC	Yes		
3. Were	samples dropped off by client or carrier?		Yes	Carrier: C	Courrier
4. Was th	ne COC complete, i.e., signatures, dates/times, request	ed analyses?	Yes		
5. Were	all 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		Comments/Resolution
Sample '	<u> Turn Around Time (TAT)</u>				
6. Did th	e COC indicate standard TAT, or Expedited TAT?		Yes		Sample ID on physical sample #1 is SP1 6.
Sample	<u>Cooler</u>				Sample ID on COC for sample #1 is SP1 8.
7. Was a	sample cooler received?		Yes		
8. If yes,	was cooler received in good condition?		Yes		
9. Was th	he sample(s) received intact, i.e., not broken?		Yes		
10. Were	custody/security seals present?		No		
11. If yes	s, were custody/security seals intact?		NA		
12. Was t	he sample received on ice? If yes, the recorded temp is 4°C, i Note: Thermal preservation is not required, if samples are minutes of sampling		Yes		
10.10					
13. If no	visible ice, record the temperature. Actual sample t	emperature: <u>4°</u>	<u>C</u>		
		emperature: <u>4</u> °	<u>C</u>		
Sample	Container queous VOC samples present?	emperature: <u>4°</u>	<u>C</u> No		
<u>Sample</u> 14. Are a	<u>Container</u>	emperature: <u>4°</u>			
<u>Sample</u> 14. Are a 15. Are ^v	Container equeous VOC samples present?	emperature: <u>4°</u>	No		
<u>Sample</u> 14. Are a 15. Are ^v 16. Is the	Container aqueous VOC samples present? VOC samples collected in VOA Vials?	emperature: <u>4°</u>	No NA		
Sample 14. Are a 15. Are ^v 16. Is the 17. Was	Container aqueous VOC samples present? VOC samples collected in VOA Vials? e head space less than 6-8 mm (pea sized or less)?	emperature: <u>4º</u>	No NA NA		
Sample 14. Are a 15. Are 7 16. Is the 17. Was 18. Are 1	Container queous VOC samples present? VOC samples collected in VOA Vials? e head space less than 6-8 mm (pea sized or less)? a trip blank (TB) included for VOC analyses?	. –	No NA NA NA		
Sample 14. Are a 15. Are v 16. Is the 17. Was 18. Are a 19. Is the Field La	Container aqueous VOC samples present? VOC samples collected in VOA Vials? e head space less than 6-8 mm (pea sized or less)? a trip blank (TB) included for VOC analyses? non-VOC samples collected in the correct containers? appropriate volume/weight or number of sample contained bel	ers collected?	No NA NA NA Yes		
Sample 14. Are a 15. Are v 16. Is the 17. Was 18. Are n 19. Is the Field La 20. Were	Container aqueous VOC samples present? VOC samples collected in VOA Vials? e head space less than 6-8 mm (pea sized or less)? a trip blank (TB) included for VOC analyses? non-VOC samples collected in the correct containers? appropriate volume/weight or number of sample contained bel e field sample labels filled out with the minimum infor	ers collected?	No NA NA Yes Yes		
Sample 14. Are a 15. Are v 16. Is the 17. Was 18. Are n 19. Is the Field La 20. Were	Container aqueous VOC samples present? VOC samples collected in VOA Vials? e head space less than 6-8 mm (pea sized or less)? a trip blank (TB) included for VOC analyses? non-VOC samples collected in the correct containers? appropriate volume/weight or number of sample contained bel e field sample labels filled out with the minimum infor Sample ID?	ers collected?	No NA NA Yes Yes		
Sample 14. Are a 15. Are 3 16. Is the 17. Was 18. Are 1 19. Is the Field La 20. Were S	Container aqueous VOC samples present? VOC samples collected in VOA Vials? e head space less than 6-8 mm (pea sized or less)? a trip blank (TB) included for VOC analyses? non-VOC samples collected in the correct containers? appropriate volume/weight or number of sample contained bel field sample labels filled out with the minimum infor Sample ID? Date/Time Collected?	ers collected?	No NA NA Yes Yes Yes Yes		
Sample 14. Are a 15. Are 7 16. Is the 17. Was 18. Are 1 19. Is the Field La 20. Were S I 0 0	Container aqueous VOC samples present? VOC samples collected in VOA Vials? e head space less than 6-8 mm (pea sized or less)? a trip blank (TB) included for VOC analyses? non-VOC samples collected in the correct containers? appropriate volume/weight or number of sample contained bel field sample labels filled out with the minimum infor Sample ID? Date/Time Collected? Collectors name?	ers collected?	No NA NA Yes Yes		
Sample 14. Are a 15. Are 3 16. Is the 17. Was 18. Are 1 19. Is the Field La 20. Were S I C Sample	Container aqueous VOC samples present? VOC samples collected in VOA Vials? e head space less than 6-8 mm (pea sized or less)? a trip blank (TB) included for VOC analyses? non-VOC samples collected in the correct containers? appropriate volume/weight or number of sample contained bel field sample labels filled out with the minimum infor Sample ID? Date/Time Collected?	ers collected?	No NA NA Yes Yes Yes Yes		
Sample 14. Are a 15. Are ³ 16. Is the 17. Was 18. Are 1 19. Is the Field La 20. Were S I C Sample 21. Does	Container aqueous VOC samples present? VOC samples collected in VOA Vials? e head space less than 6-8 mm (pea sized or less)? a trip blank (TB) included for VOC analyses? non-VOC samples collected in the correct containers? appropriate volume/weight or number of sample contained bel field sample labels filled out with the minimum infor Sample ID? Date/Time Collected? Collectors name? Preservation	ers collected?	No NA NA Yes Yes Yes Yes		
Sample 14. Are a 15. Are ³ 16. Is the 17. Was 18. Are 1 19. Is the Field La 20. Were S 1 C Sample 21. Does 22. Are s	Container aqueous VOC samples present? VOC samples collected in VOA Vials? e head space less than 6-8 mm (pea sized or less)? a trip blank (TB) included for VOC analyses? non-VOC samples collected in the correct containers? appropriate volume/weight or number of sample contained bel field sample labels filled out with the minimum infor Sample ID? Date/Time Collected? Collectors name? Preservation the COC or field labels indicate the samples were pre-	ers collected? mation: eserved?	No NA NA Yes Yes Yes Yes Yes		
Sample 14. Are a 15. Are 3 16. Is the 17. Was 18. Are 1 19. Is the Field La 20. Were S C Sample 21. Does 22. Are s 24. Is lat	Container aqueous VOC samples present? VOC samples collected in VOA Vials? e head space less than 6-8 mm (pea sized or less)? a trip blank (TB) included for VOC analyses? non-VOC samples collected in the correct containers? appropriate volume/weight or number of sample contained bel field sample labels filled out with the minimum infor Sample ID? Date/Time Collected? Collectors name? Preservation the COC or field labels indicate the samples were pre- sample(s) correctly preserved?	ers collected? mation: eserved?	No NA NA Yes Yes Yes Yes No NA		
Sample 14. Are a 15. Are v 16. Is the 17. Was 18. Are n 19. Is the Field La 20. Were 20. Were 21. Does 22. Are s 24. Is lat Multiph	Container aqueous VOC samples present? VOC samples collected in VOA Vials? e head space less than 6-8 mm (pea sized or less)? a trip blank (TB) included for VOC analyses? non-VOC samples collected in the correct containers? appropriate volume/weight or number of sample contained bel field sample labels filled out with the minimum infor Sample ID? Date/Time Collected? Collectors name? Preservation the COC or field labels indicate the samples were pre- sample(s) correctly preserved? o filteration required and/or requested for dissolved me	ers collected? mation: eserved? etals?	No NA NA Yes Yes Yes Yes No NA		
Sample 14. Are a 15. Are a 15. Are a 16. Is the 17. Was 18. Are a 19. Is the Field La 20. Were 20. Were 21. Does 22. Are a 24. Is lat Multiph 26. Does	Container aqueous VOC samples present? VOC samples collected in VOA Vials? e head space less than 6-8 mm (pea sized or less)? a trip blank (TB) included for VOC analyses? non-VOC samples collected in the correct containers? appropriate volume/weight or number of sample containe bel field sample labels filled out with the minimum infor Sample ID? Date/Time Collected? Collectors name? Preservation the COC or field labels indicate the samples were pre- sample(s) correctly preserved? o filteration required and/or requested for dissolved me ase Sample Matrix	ers collected? mation: eserved? etals? e?	No NA NA Yes Yes Yes Yes No NA No		
Sample 14. Are a 15. Are 3 16. Is the 17. Was 18. Are 1 19. Is the Field La 20. Were Sample 21. Does 22. Are s 24. Is lat Multiph 26. Does 27. If ye:	Container aqueous VOC samples present? VOC samples collected in VOA Vials? e head space less than 6-8 mm (pea sized or less)? a trip blank (TB) included for VOC analyses? non-VOC samples collected in the correct containers? appropriate volume/weight or number of sample contained bel field sample labels filled out with the minimum infor Sample ID? Date/Time Collected? Collectors name? Preservation the COC or field labels indicate the samples were pre- sample(s) correctly preserved? o filteration required and/or requested for dissolved me ase Sample Matrix the sample have more than one phase, i.e., multiphase	ers collected? mation: eserved? etals? e?	No NA NA Yes Yes Yes Yes No NA No		
Sample 14. Are a 15. Are 3 15. Are 3 16. Is the 17. Was 18. Are 1 19. Is the Field La 20. Were 5 20. Were 21. Does 22. Are 5 24. Is lat Multiph 26. Does 27. If ye: Subcont 28. Are 5	Container aqueous VOC samples present? VOC samples collected in VOA Vials? e head space less than 6-8 mm (pea sized or less)? a trip blank (TB) included for VOC analyses? non-VOC samples collected in the correct containers? appropriate volume/weight or number of sample contained bel field sample labels filled out with the minimum infor Sample ID? Date/Time Collected? Collectors name? Preservation the COC or field labels indicate the samples were pre- sample(s) correctly preserved? o filteration required and/or requested for dissolved me ase Sample Matrix the sample have more than one phase, i.e., multiphase, s, does the COC specify which phase(s) is to be analyzed	ers collected? mation: eserved? etals? e? zed? y?	No NA NA Yes Yes Yes Yes No NA No		



Date

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





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Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: L

Logan 35 Fed #9

Work Order: E108120

Job Number: 20046-0001

Received: 8/31/2021

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 9/1/21

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. Date Reported: 9/1/21

Matt Buckles 7 W. Compress Road Artesia, NM 88210

Project Name: Logan 35 Fed #9 Workorder: E108120 Date Received: 8/31/2021 1:29:00PM

Matt Buckles,



Page 93 of 292

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 8/31/2021 1:29:00PM, under the Project Name: Logan 35 Fed #9.

The analytical test results summarized in this report with the Project Name: Logan 35 Fed #9 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,

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Sample Summarv

		Sample Sum	mar y		
Mack Energy 7 W. Compress Road		Project Name: Project Number:	Logan 35 Fed #9 20046-0001		Reported:
Artesia NM, 88210		Project Manager:	Matt Buckles		09/01/21 12:51
Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW1 3'	E108120-01A	Soil	08/27/21	08/31/21	Glass Jar, 4 oz.
SW2 3'	E108120-02A	Soil	08/27/21	08/31/21	Glass Jar, 4 oz.
SW3 3'	E108120-03A	Soil	08/27/21	08/31/21	Glass Jar, 4 oz.
SW4 3'	E108120-04A	Soil	08/27/21	08/31/21	Glass Jar, 4 oz.
SW5 3'	E108120-05A	Soil	08/27/21	08/31/21	Glass Jar, 4 oz.
SW11 3'	E108120-06A	Soil	08/27/21	08/31/21	Glass Jar, 4 oz.
SW12 2'	E108120-07A	Soil	08/27/21	08/31/21	Glass Jar, 4 oz.



		ample D	ucu			
Mack Energy	Project Name:		an 35 Fed #9			
7 W. Compress Road	Project Numbe		46-0001			Reported:
Artesia NM, 88210	Project Manag	ger: Mat	Buckles			9/1/2021 12:51:49PM
		SW1 3'				
		E108120-01				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	t: RKS		Batch: 2136018
Benzene	ND	0.0250	1	08/31/21	08/31/21	
Ethylbenzene	ND	0.0250	1	08/31/21	08/31/21	
Toluene	ND	0.0250	1	08/31/21	08/31/21	
p-Xylene	ND	0.0250	1	08/31/21	08/31/21	
o,m-Xylene	ND	0.0500	1	08/31/21	08/31/21	
Total Xylenes	ND	0.0250	1	08/31/21	08/31/21	
Surrogate: 4-Bromochlorobenzene-PID		95.6 %	70-130	08/31/21	08/31/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	t: RKS		Batch: 2136018
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/31/21	08/31/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		99.2 %	70-130	08/31/21	08/31/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	t: JL		Batch: 2136020
Diesel Range Organics (C10-C28)	ND	25.0	1	08/31/21	08/31/21	
Oil Range Organics (C28-C36)	ND	50.0	1	08/31/21	08/31/21	
Surrogate: n-Nonane		91.4 %	50-200	08/31/21	08/31/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: AC		Batch: 2136019
Chloride	74.3	20.0	1	08/31/21	09/01/21	

Sample Data

Sample Data

	3	ample D	ลเล				
Mack Energy	Project Name:	: Log	an 35 Fed #9				
7 W. Compress Road	Project Numb	er: 2004	46-0001			Reported:	
Artesia NM, 88210	Project Manag	ger: Mat	t Buckles			9/1/2021 12:51:49PM	
		SW2 3'					
		E108120-02					
		Reporting					
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes	
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	rst: RKS		Batch: 2136018	
Benzene	ND	0.0250	1	08/31/21	08/31/21		
Ethylbenzene	ND	0.0250	1	08/31/21	08/31/21		
Toluene	ND	0.0250	1	08/31/21	08/31/21		
p-Xylene	ND	0.0250	1	08/31/21	08/31/21		
o,m-Xylene	ND	0.0500	1	08/31/21	08/31/21		
Total Xylenes	ND	0.0250	1	08/31/21	08/31/21		
Surrogate: 4-Bromochlorobenzene-PID		99.0 %	70-130	08/31/21	08/31/21		
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	vst: RKS		Batch: 2136018	
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/31/21	08/31/21		
Surrogate: 1-Chloro-4-fluorobenzene-FID		93.2 %	70-130	08/31/21	08/31/21		
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	rst: JL		Batch: 2136020	
Diesel Range Organics (C10-C28)	ND	25.0	1	08/31/21	09/01/21		
Oil Range Organics (C28-C36)	ND	50.0	1	08/31/21	09/01/21		
Surrogate: n-Nonane		72.1 %	50-200	08/31/21	09/01/21		
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	vst: AC		Batch: 2136019	
Chloride	ND	20.0	1	08/31/21	09/01/21		



Sample Data

	5	ample D	ala			
Mack Energy	Project Name		an 35 Fed #9			
7 W. Compress Road	Project Numb		46-0001			Reported:
Artesia NM, 88210	Project Manag	ger: Mat	t Buckles			9/1/2021 12:51:49PM
		SW3 3'				
		E108120-03				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	st: RKS		Batch: 2136018
Benzene	ND	0.0250	1	08/31/21	08/31/21	
Ethylbenzene	ND	0.0250	1	08/31/21	08/31/21	
Toluene	ND	0.0250	1	08/31/21	08/31/21	
p-Xylene	ND	0.0250	1	08/31/21	08/31/21	
o,m-Xylene	ND	0.0500	1	08/31/21	08/31/21	
Fotal Xylenes	ND	0.0250	1	08/31/21	08/31/21	
Surrogate: 4-Bromochlorobenzene-PID		95.2 %	70-130	08/31/21	08/31/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	st: RKS		Batch: 2136018
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/31/21	08/31/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		97.5 %	70-130	08/31/21	08/31/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	st: JL		Batch: 2136020
Diesel Range Organics (C10-C28)	ND	25.0	1	08/31/21	08/31/21	
Dil Range Organics (C28-C36)	ND	50.0	1	08/31/21	08/31/21	
Surrogate: n-Nonane		89.3 %	50-200	08/31/21	08/31/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	st: AC		Batch: 2136019
Chloride	57.0	40.0	2	08/31/21	09/01/21	



Sample Data

	5	ample D	ata			
Mack Energy	Project Name:	Log	an 35 Fed #9			
7 W. Compress Road	Project Numb	er: 2004	46-0001			Reported:
Artesia NM, 88210	Project Manag	ger: Mat	t Buckles			9/1/2021 12:51:49PM
		SW4 3'				
		E108120-04				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2136018
Benzene	ND	0.0250	1	08/31/21	08/31/21	
Ethylbenzene	ND	0.0250	1	08/31/21	08/31/21	
Toluene	ND	0.0250	1	08/31/21	08/31/21	
p-Xylene	ND	0.0250	1	08/31/21	08/31/21	
o,m-Xylene	ND	0.0500	1	08/31/21	08/31/21	
Total Xylenes	ND	0.0250	1	08/31/21	08/31/21	
Surrogate: 4-Bromochlorobenzene-PID		95.8 %	70-130	08/31/21	08/31/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	st: RKS		Batch: 2136018
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/31/21	08/31/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		100 %	70-130	08/31/21	08/31/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2136020
Diesel Range Organics (C10-C28)	ND	25.0	1	08/31/21	08/31/21	
Oil Range Organics (C28-C36)	ND	50.0	1	08/31/21	08/31/21	
Surrogate: n-Nonane		82.3 %	50-200	08/31/21	08/31/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	st: AC		Batch: 2136019
Chloride	ND	100	5	08/31/21	09/01/21	

Sample Data

	Di	ample D	ala				
Mack Energy 7 W. Compress Road	Project Name: Project Numbe		an 35 Fed #9 46-0001			Reported:	
Artesia NM, 88210	Project Manag		t Buckles			9/1/2021 12:51:49PM	
		SW5 3'					
		E108120-05					
		Reporting					
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes	
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	vst: RKS		Batch: 2136018	
Benzene	ND	0.0250	1	08/31/21	09/01/21		
Ethylbenzene	ND	0.0250	1	08/31/21	09/01/21		
Toluene	ND	0.0250	1	08/31/21	09/01/21		
o-Xylene	ND	0.0250	1	08/31/21	09/01/21		
o,m-Xylene	ND	0.0500	1	08/31/21	09/01/21		
Total Xylenes	ND	0.0250	1	08/31/21	09/01/21		
urrogate: 4-Bromochlorobenzene-PID		100 %	70-130	08/31/21	09/01/21		
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	vst: RKS		Batch: 2136018	
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/31/21	09/01/21		
Surrogate: 1-Chloro-4-fluorobenzene-FID		96.2 %	70-130	08/31/21	09/01/21		
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	g Analyst: JL			Batch: 2136020	
Diesel Range Organics (C10-C28)	ND	25.0	1	08/31/21	08/31/21		
Dil Range Organics (C28-C36)	ND	50.0	1	08/31/21	08/31/21		
urrogate: n-Nonane		92.8 %	50-200	08/31/21	08/31/21		
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	vst: AC		Batch: 2136019	
Chloride	ND	20.0	1	08/31/21	09/01/21		



Sample Data

	3	ample D	ala			
Mack Energy 7 W. Compress Road	Project Name Project Numb	e	an 35 Fed #9 46-0001			Reported:
Artesia NM, 88210	Project Mana	ger: Mat	t Buckles	9/1/2021 12:51:49PM		
		SW11 3'				
		E108120-06				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	vst: RKS		Batch: 2136018
Benzene	ND	0.0250	1	08/31/21	09/01/21	
Ethylbenzene	ND	0.0250	1	08/31/21	09/01/21	
Toluene	ND	0.0250	1	08/31/21	09/01/21	
p-Xylene	ND	0.0250	1	08/31/21	09/01/21	
o,m-Xylene	ND	0.0500	1	08/31/21	09/01/21	
Fotal Xylenes	ND	0.0250	1	08/31/21	09/01/21	
Surrogate: 4-Bromochlorobenzene-PID		94.8 %	70-130	08/31/21	09/01/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	vst: RKS	Batch: 2136018	
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/31/21	09/01/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		95.9 %	70-130	08/31/21	09/01/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	vst: JL		Batch: 2136020
Diesel Range Organics (C10-C28)	92.1	50.0	2	08/31/21	08/31/21	
Dil Range Organics (C28-C36)	157	100	2	08/31/21	08/31/21	
Surrogate: n-Nonane		102 %	50-200	08/31/21	08/31/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	yst: AC		Batch: 2136019
Chloride	45.7	20.0	1	08/31/21	09/01/21	



Sample Data

	5	ampic D	ala				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbe Project Manag	er: 2004	an 35 Fed #9 46-0001 t Buckles	Reported: 9/1/2021 12:51:49PM			
		SW12 2'					
		E108120-07					
		Reporting					
Analyte	Result	Limit	Dilutio	on Prepared	Analyzed	Notes	
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Aı	nalyst: RKS		Batch: 2136018	
Benzene	ND	0.0250	1	08/31/21	09/01/21		
Ethylbenzene	ND	0.0250	1	08/31/21	09/01/21		
Toluene	ND	0.0250	1	08/31/21	09/01/21		
p-Xylene	ND	0.0250	1	08/31/21	09/01/21		
p,m-Xylene	ND	0.0500	1	08/31/21	09/01/21		
Fotal Xylenes	ND	0.0250	1	08/31/21	09/01/21		
Surrogate: 4-Bromochlorobenzene-PID		95.1 %	70-130	08/31/21	09/01/21		
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Aı	nalyst: RKS	ılyst: RKS		
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/31/21	09/01/21		
Surrogate: 1-Chloro-4-fluorobenzene-FID		97.5 %	70-130	08/31/21	09/01/21		
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Aı	nalyst: JL		Batch: 2136020	
Diesel Range Organics (C10-C28)	ND	25.0	1	08/31/21	08/31/21		
Oil Range Organics (C28-C36)	ND	50.0	1	08/31/21	08/31/21		
Surrogate: n-Nonane		96.5 %	50-200	08/31/21	08/31/21		
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Aı	nalyst: AC		Batch: 2136019	
Chloride	32.5	20.0	1	08/31/21	09/01/21		



QC Summary Data

			-	ary Data	-						
Mack Energy 7 W. Compress Road		Project Name: Project Number:	2	Logan 35 Fed #9 20046-0001	1				Reported:		
Artesia NM, 88210		Project Manager:	1	Matt Buckles					9/1/2021 12:51:49PM		
		Volatile O	rganics				Analyst: RKS				
te	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit			
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes		
x (2136018-BLK1)						Pre	pared: 08/3	31/21 Ana	alyzed: 08/31/21		
e	ND	0.0250									
enzene	ND	0.0250									
2	ND	0.0250									
ne	ND	0.0250									
lene	ND	0.0500									
ylenes	ND	0.0250									
tte: 4-Bromochlorobenzene-PID	8.41		8.00		105	70-130					
(2136018-BS1)	Prepared: 08/31/21 Analyzed										
e	4.80	0.0250	5.00		95.9	70-130					
mzene	4.73	0.0250	5.00		94.6	70-130					
	4.92	0.0250	5.00		98.4	70-130					
ne	4.83	0.0250	5.00		96.5	70-130					
lene	9.66	0.0500	10.0		96.6	70-130					
ylenes	14.5	0.0250	15.0		96.5	70-130					
ate: 4-Bromochlorobenzene-PID	8.33		8.00		104	70-130					
ix Spike (2136018-MS1)				Sour	ce: E108	120-01 Pre	pared: 08/3	31/21 Ana	alyzed: 08/31/21		
e	4.96	0.0250	5.00	ND	99.2	54-133					
enzene	4.80	0.0250	5.00	ND	96.0	61-133					
2	4.99	0.0250	5.00	ND	99.8	61-130					
ne	4.92	0.0250	5.00	ND	98.3	63-131					
lene	9.76	0.0500	10.0	ND	97.6	63-131					
ylenes	14.7	0.0250	15.0	ND	97.8	63-131					
tte: 4-Bromochlorobenzene-PID	7.79		8.00		97.4	70-130					
ix Spike Dup (2136018-MSD1)				Sour	ce: E108	120-01 Pre	pared: 08/3	31/21 Ana	alyzed: 08/31/21		
e	5.01	0.0250	5.00	ND	100	54-133	0.925	20			
enzene	4.84	0.0250	5.00	ND	96.8	61-133	0.824	20			
2	5.02	0.0250	5.00	ND	100	61-130	0.652	20			
ne	4.96	0.0250	5.00	ND	99.2	63-131	0.942	20			
lene	9.84	0.0500	10.0	ND	98.4	63-131	0.787	20			
ylenes	14.8	0.0250	15.0	ND	98.7	63-131	0.839	20			
lene											



QC Summary Data

		QC D	umm	ary Data					
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	2	Logan 35 Fed #9 20046-0001 Matt Buckles					Reported: 9/1/2021 12:51:49PM
	Nor	nhalogenated C	Organics	s by EPA 801	5D - G	RO			Analyst: RKS
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
			ing ng		70	70	70	70	Totes
Blank (2136018-BLK1)						Pre	pared: 08/3	31/21 Ana	alyzed: 08/31/21
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.77		8.00		97.1	70-130			
LCS (2136018-BS2)						Pre	pared: 08/3	31/21 Ana	alyzed: 08/31/21
Gasoline Range Organics (C6-C10)	52.9	20.0	50.0		106	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.85		8.00		98.2	70-130			
Matrix Spike (2136018-MS2)				Sourc	e: E108	120-01 Pre	pared: 08/3	31/21 Ana	alyzed: 08/31/21
Gasoline Range Organics (C6-C10)	56.0	20.0	50.0	ND	112	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.02		8.00		100	70-130			
Matrix Spike Dup (2136018-MSD2)				Sourc	e: E108	120-01 Pre	pared: 08/3	31/21 Ana	alyzed: 08/31/21
Gasoline Range Organics (C6-C10)	56.7	20.0	50.0	ND	113	70-130	1.35	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.95		8.00		99.4	70-130			



QC Summary Data

		$\chi \cup \gamma$	~~~~	ary Data					
Mack Energy 7 W. Compress Road		Project Name: Project Number:		Logan 35 Fed #9 20046-0001					Reported:
Artesia NM, 88210		Project Manager:	I	Matt Buckles					9/1/2021 12:51:49PM
	Nonha	alogenated Org	anics by	y 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 (2136020-BLK1)						Pre	pared: 08/3	31/21 Ana	lyzed: 08/31/21
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	44.8		50.0		89.5	50-200			
LCS (2136020-BS1)						Pre	pared: 08/3	31/21 Ana	lyzed: 08/31/21
Diesel Range Organics (C10-C28)	459	25.0	500		91.8	38-132			
Surrogate: n-Nonane	45.5		50.0		91.0	50-200			
Matrix Spike (2136020-MS1)				Sourc	e: E108	120-04 Pre	pared: 08/3	31/21 Ana	lyzed: 08/31/21
Diesel Range Organics (C10-C28)	476	25.0	500	ND	95.2	38-132			
Surrogate: n-Nonane	28.3		50.0		56.7	50-200			
Matrix Spike Dup (2136020-MSD1)				Sourc	e: E108	120-04 Pre	pared: 08/3	31/21 Ana	lyzed: 08/31/21
Diesel Range Organics (C10-C28)	477	25.0	500	ND	95.4	38-132	0.166	20	
Surrogate: n-Nonane	41.2		50.0		82.3	50-200			



QC Summary Data

		$\mathbf{x} \in \mathbf{z}$							
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	2	Logan 35 Fed #9 20046-0001 Matt Buckles					Reported: 9/1/2021 12:51:49PM
		Anions	by EPA	300.0/9056A					Analyst: AC
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2136019-BLK1)	ND	20.0				Pre	pared: 08/3	31/21 Ana	yzed: 09/01/21
LCS (2136019-BS1)	ND	20.0				Pre	pared: 08/3	31/21 Ana	lyzed: 09/01/21
Chloride Matrix Spike (2136019-MS1)	241	20.0	250	Sourc	96.5 e: E108	90-110 1 20-01 Pre	pared: 08/3	31/21 Ana	yzed: 09/01/21
Chloride	319	20.0	250	74.3	97.9	80-120			
Matrix Spike Dup (2136019-MSD1)				Sourc	e: E108	20-01 Pre	pared: 08/3	31/21 Ana	lyzed: 09/01/21
Chloride	319	20.0	250	74.3	97.7	80-120	0.107	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.



Mack Energy	Project Name:	Logan 35 Fed #9	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Matt Buckles	09/01/21 12:51

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	
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lionti	200	et c	a Carl		_	1	Dill T					Lak	1100	Only			120	(app)		EDA Data	
Project: Project N	Manager:	Nott	Fed	#9		Attention: E35					WO#			Job Number			1D		RCR4		A SE
Address: City, Stat Phone: Email: Report d	e, Zip					Phor	ie:	te, Zip A + Sin Nm BBZIO Analysis and Method Analysis and Method Analysis Analysis and Method Analysis Analysis and Method Analysis Analysis and Method Analysis Analysis and Method Analysis Analysis Analysis Analysis Analysis Analysis Analysis Analysis Analysis Analysis Analysis A			State COUT										
Time Sampled	Date Sampled	Matrix	No Containers	Sample ID						DRO/OR(GRO/DRC	BTEX by 8	VOC by 8	Metals 6(Chloride		BGDOC -	BGDOC - T		R	emark
^{8,;} -3	8/27	5	١	SW	13	1											1				
9.23	8/27	5	8	SW	25	3'			-								1				
10:00	8/27	5	1	SW	<u>33</u>	1		-	-								1				
11:18	8/27	5	1	SW	43	3'			1							_	1				
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	er), attest to the		uthenticity of t	his sample. I ar	aware that	tamperin	g with or intentionally mislabelli	ig the sample loc	ation, date or									COLUMN TO A			
elinquishe	tion is considere	ture)	Date	177/21	Time	300		Jack	Date 8.30	2	Time	100	-				La	ab Us	e Only		
Å	ed by: (Signa ed by: (Signa	ab	Date	31.21	Гіте 940 Гіте		Received by: (Signature) Received by: (Signature)		1	1		29			emp	°c L	<u>T2</u>			<u></u> <u>T3</u>	
ote: Sampl		ed 30 days a	fter results a	re reported u	less other	-			returned to cli				- pol	ly/pla	stic, a	g - ambe				above sample	es is app
C	3ei	nvi	rot	ec	h s	795 US H	ghvay 64, Farmington, NM 874	01				Ph (505} 6	32-1881	Fx (50	5) 632-186	5		e	nvirotech-inc	.com
Envirotech Analytical Laboratory

Sample Receipt Checklist (SRC)

Client: Mack Energy Date Recei	ived: 08/31/21 13:	29	Work Order ID:	E108120
Phone: (575) 746-9547 Date Logg	ed In: 08/31/21 13:	31	Logged In By:	Jessica Liesse
Email: natalie@energystaffingllc.com Due Date:		00 (1 day TAT)		
<u>Chain of Custody (COC)</u>				
1. Does the sample ID match the COC?	Yes			
2. Does the number of samples per sampling site location match the CO	C Yes			
3. Were samples dropped off by client or carrier?	Yes	Carrier: Lab Carrier		
4. Was the COC complete, i.e., signatures, dates/times, requested analys	es? Yes			
5. Were all samples received within holding time? Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this disucssion.	Yes		Comment	ts/Resolution
<u>Sample Turn Around Time (TAT)</u>				
6. Did the COC indicate standard TAT, or Expedited TAT?	Yes			
Sample Cooler				
7. Was a sample cooler received?	Yes			
8. If yes, was cooler received in good condition?	Yes			
9. Was the sample(s) received intact, i.e., not broken?	Yes			
10. Were custody/security seals present?	No			
11. If yes, were custody/security seals intact?	NA			
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Note: Thermal preservation is not required, if samples are received w minutes of sampling	Yes			
13. If no visible ice, record the temperature. Actual sample temperatu	re: <u>4°C</u>			
Sample Container				
14. Are aqueous VOC samples present?	No			
15. Are VOC samples collected in VOA Vials?	NA			
16. Is the head space less than 6-8 mm (pea sized or less)?	NA			
17. Was a trip blank (TB) included for VOC analyses?	NA			
18. Are non-VOC samples collected in the correct containers?	Yes			
19. Is the appropriate volume/weight or number of sample containers collected	ed? Yes			
<u>Field Label</u>				
20. Were field sample labels filled out with the minimum information:				
•	Yes			
Sample ID?				
Sample ID? Date/Time Collected?	Yes			
Sample ID? Date/Time Collected? Collectors name?				
Sample ID? Date/Time Collected? Collectors name? <u>Sample Preservation</u>	Yes No			
Sample ID? Date/Time Collected? Collectors name? Sample Preservation 21. Does the COC or field labels indicate the samples were preserved?	Yes No No			
Sample ID? Date/Time Collected? Collectors name? Sample Preservation 21. Does the COC or field labels indicate the samples were preserved? 22. Are sample(s) correctly preserved?	Yes No No NA			
Sample ID? Date/Time Collected? Collectors name? Sample Preservation 21. Does the COC or field labels indicate the samples were preserved? 22. Are sample(s) correctly preserved? 24. Is lab filteration required and/or requested for dissolved metals?	Yes No No			
Sample ID? Date/Time Collected? Collectors name? Sample Preservation 21. Does the COC or field labels indicate the samples were preserved? 22. Are sample(s) correctly preserved? 24. Is lab filteration required and/or requested for dissolved metals? Multiphase Sample Matrix	Yes No NA No			
Sample ID? Date/Time Collected? Collectors name? Sample Preservation 21. Does the COC or field labels indicate the samples were preserved? 22. Are sample(s) correctly preserved? 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?	Yes No NA No No			
Sample ID? Date/Time Collected? Collectors name? Sample Preservation 21. Does the COC or field labels indicate the samples were preserved? 22. Are sample(s) correctly preserved? 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? 27. If yes, does the COC specify which phase(s) is to be analyzed?	Yes No NA No			
Sample ID? Date/Time Collected? Collectors name? Sample Preservation 21. Does the COC or field labels indicate the samples were preserved? 22. Are sample(s) correctly preserved? 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? 27. If yes, does the COC specify which phase(s) is to be analyzed? Subcontract Laboratory	Yes No NA No No			
Sample ID? Date/Time Collected? Collectors name? Sample Preservation 21. Does the COC or field labels indicate the samples were preserved? 22. Are sample(s) correctly preserved? 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? 27. If yes, does the COC specify which phase(s) is to be analyzed?	Yes No NA No NA No	ubcontract Lab: NA		

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



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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: Lo

Logan 35 Fed #9

Work Order: E109112

Job Number: 20046-0001

Received: 9/30/2021

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 10/1/21

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: 10/1/21

Natalie Gladden 7 W. Compress Road Artesia, NM 88210

Project Name: Logan 35 Fed #9 Workorder: E109112 Date Received: 9/30/2021 9:30:00AM

Natalie Gladden,



Page 111 of 292

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 9/30/2021 9:30:00AM, under the Project Name: Logan 35 Fed #9.

The analytical test results summarized in this report with the Project Name: Logan 35 Fed #9 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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Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

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		Sample Sum	mai y			
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:			Reported: 10/01/21 16:41	
Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container	
SP 4-9'	E109112-01A	Soil	09/28/21	09/30/21	Glass Jar, 4 oz.	
SP 7-10'	E109112-02A	Soil	09/28/21	09/30/21	Glass Jar, 4 oz.	
SP 8-9'	E109112-03A	Soil	09/28/21	09/30/21	Glass Jar, 4 oz.	
SP 9-8'	E109112-04A	Soil	09/28/21	09/30/21	Glass Jar, 4 oz.	
SP 10-8'	E109112-05A	Soil	09/28/21	09/30/21	Glass Jar, 4 oz.	



	5	ampic D	ata			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbe Project Manag	er: 2004	an 35 Fed #9 46-0001 alie Gladden			Reported: 10/1/2021 4:41:03PM
	1 Tojeet Manag					
		SP 4-9'				
		E109112-01				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	t: RKS		Batch: 2140016
Benzene	ND	0.0250	1	09/30/21	10/01/21	
Ethylbenzene	ND	0.0250	1	09/30/21	10/01/21	
Toluene	ND	0.0250	1	09/30/21	10/01/21	
o-Xylene	ND	0.0250	1	09/30/21	10/01/21	
o,m-Xylene	ND	0.0500	1	09/30/21	10/01/21	
Total Xylenes	ND	0.0250	1	09/30/21	10/01/21	
Surrogate: 4-Bromochlorobenzene-PID		95.4 %	70-130	09/30/21	10/01/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	t: RKS		Batch: 2140016
Gasoline Range Organics (C6-C10)	ND	20.0	1	09/30/21	10/01/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.0 %	70-130	09/30/21	10/01/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	t: JL		Batch: 2140025
Diesel Range Organics (C10-C28)	ND	25.0	1	09/30/21	10/01/21	
Dil Range Organics (C28-C36)	ND	50.0	1	09/30/21	10/01/21	
Surrogate: n-Nonane		114 %	50-200	09/30/21	10/01/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: RAS		Batch: 2140019
Chloride	ND	200	10	09/29/21	09/30/21	

Sample Data



Sample Data

	3	ample D	ala									
Mack Energy	Project Name Project Numb		an 35 Fed #9 46-0001			Donoutod						
7 W. Compress Road Artesia NM, 88210	Project Numb		ilie Gladden		Reported: 10/1/2021 4:41:03PM							
	Troject Munu	0										
SP 7-10'												
		E109112-02										
		Reporting										
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes						
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	t: RKS		Batch: 2140016						
Benzene	ND	0.0250	1	09/30/21	10/01/21							
Ethylbenzene	ND	0.0250	1	09/30/21	10/01/21							
Toluene	ND	0.0250	1	09/30/21	10/01/21							
o-Xylene	ND	0.0250	1	09/30/21	10/01/21							
o,m-Xylene	ND	0.0500	1	09/30/21	10/01/21							
Fotal Xylenes	ND	0.0250	1	09/30/21	10/01/21							
Surrogate: 4-Bromochlorobenzene-PID		97.7 %	70-130	09/30/21	10/01/21							
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	t: RKS		Batch: 2140016						
Gasoline Range Organics (C6-C10)	ND	20.0	1	09/30/21	10/01/21							
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.0 %	70-130	09/30/21	10/01/21							
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	ıt: JL		Batch: 2140025						
Diesel Range Organics (C10-C28)	ND	25.0	1	09/30/21	10/01/21							
Dil Range Organics (C28-C36)	ND	50.0	1	09/30/21	10/01/21							
Surrogate: n-Nonane		116 %	50-200	09/30/21	10/01/21							
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: RAS		Batch: 2140019						
Chloride	382	200	10	09/29/21	09/30/21							



Sample Data

	D.	ample D	ala									
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numb Project Manag	er: 2004	an 35 Fed #9 46-0001 Ilie Gladden			Reported: 10/1/2021 4:41:03PM						
SP 8-9'												
		E109112-03										
		Reporting										
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes						
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2140016						
Benzene	ND	0.0250	1	09/30/21	10/01/21							
Ethylbenzene	ND	0.0250	1	09/30/21	10/01/21							
Toluene	ND	0.0250	1	09/30/21	10/01/21							
p-Xylene	ND	0.0250	1	09/30/21	10/01/21							
p,m-Xylene	ND	0.0500	1	09/30/21	10/01/21							
Fotal Xylenes	ND	0.0250	1	09/30/21	10/01/21							
Surrogate: 4-Bromochlorobenzene-PID		97.8 %	70-130	09/30/21	10/01/21							
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	t: RKS		Batch: 2140016						
Gasoline Range Organics (C6-C10)	ND	20.0	1	09/30/21	10/01/21							
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.9 %	70-130	09/30/21	10/01/21							
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	t: JL		Batch: 2140025						
Diesel Range Organics (C10-C28)	ND	25.0	1	09/30/21	10/01/21							
Oil Range Organics (C28-C36)	ND	50.0	1	09/30/21	10/01/21							
Surrogate: n-Nonane		111 %	50-200	09/30/21	10/01/21							
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: RAS		Batch: 2140019						
Chloride	221	200	10	09/29/21	09/30/21							



Sample Data

	5	ample D	ala									
Mack Energy	Project Name:	: Log	an 35 Fed #9									
7 W. Compress Road	Project Numb	er: 2004	46-0001			Reported:						
Artesia NM, 88210	Project Manag	ger: Nata	ilie Gladden		10/1/2021 4:41:03PM							
SP 9-8'												
		E109112-04										
		Reporting										
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes						
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	t: RKS		Batch: 2140016						
Benzene	ND	0.0250	1	09/30/21	10/01/21							
Ethylbenzene	ND	0.0250	1	09/30/21	10/01/21							
Foluene	ND	0.0250	1	09/30/21	10/01/21							
o-Xylene	ND	0.0250	1	09/30/21	10/01/21							
o,m-Xylene	ND	0.0500	1	09/30/21	10/01/21							
Fotal Xylenes	ND	0.0250	1	09/30/21	10/01/21							
Surrogate: 4-Bromochlorobenzene-PID		97.7 %	70-130	09/30/21	10/01/21							
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	:: RKS		Batch: 2140016						
Gasoline Range Organics (C6-C10)	ND	20.0	1	09/30/21	10/01/21							
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.3 %	70-130	09/30/21	10/01/21							
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	t: JL		Batch: 2140025						
Diesel Range Organics (C10-C28)	ND	25.0	1	09/30/21	10/01/21							
Dil Range Organics (C28-C36)	ND	50.0	1	09/30/21	10/01/21							
Surrogate: n-Nonane		111 %	50-200	09/30/21	10/01/21							
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	:: RAS		Batch: 2140019						
Chloride	445	200	10	09/29/21	09/30/21							



Sample Data

	Di	ample D	ala										
Mack Energy	Project Name:	Log	an 35 Fed #9										
7 W. Compress Road	Project Number	er: 2004	46-0001	Reported:									
Artesia NM, 88210	Project Manag	ger: Nata	lie Gladden	10/1/2021 4:41:03PM									
SP 10-8'													
		E109112-05											
Reporting													
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes							
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	: RKS		Batch: 2140016							
Benzene	ND	0.0250	1	09/30/21	10/01/21								
Ethylbenzene	ND	0.0250	1	09/30/21	10/01/21								
Toluene	ND	0.0250	1	09/30/21	10/01/21								
o-Xylene	ND	0.0250	1	09/30/21	10/01/21								
o,m-Xylene	ND	0.0500	1	09/30/21	10/01/21								
Total Xylenes	ND	0.0250	1	09/30/21	10/01/21								
urrogate: 4-Bromochlorobenzene-PID		96.4 %	70-130	09/30/21	10/01/21								
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	:: RKS		Batch: 2140016							
Gasoline Range Organics (C6-C10)	ND	20.0	1	09/30/21	10/01/21								
urrogate: 1-Chloro-4-fluorobenzene-FID		90.2 %	70-130	09/30/21	10/01/21								
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	:: JL		Batch: 2140025							
Diesel Range Organics (C10-C28)	ND	25.0	1	09/30/21	10/01/21								
Dil Range Organics (C28-C36)	ND	50.0	1	09/30/21	10/01/21								
Surrogate: n-Nonane		98.6 %	50-200	09/30/21	10/01/21								
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	: RAS		Batch: 2140019							
Chloride	503	200	10	09/29/21	09/30/21								



QC Summary Data

Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number:		ogan 35 Fed #9)				Reported:	
		Project Manager:		046-0001 atalie Gladden					10/1/2021 4:41:03PM	
	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 (2140016-BLK1)							Prepared: 0	9/29/21 A	Analyzed: 09/30/21	
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	7.71		8.00		96.4	70-130				
LCS (2140016-BS1)							Prepared: 0	9/29/21 A	Analyzed: 09/30/21	
Benzene	4.95	0.0250	5.00		98.9	70-130				
Ethylbenzene	4.80	0.0250	5.00		96.0	70-130				
Toluene	4.96	0.0250	5.00		99.3	70-130				
o-Xylene	4.89	0.0250	5.00		97.7	70-130				
p,m-Xylene	9.77	0.0500	10.0		97.7	70-130				
Total Xylenes	14.7	0.0250	15.0		97.7	70-130				
Surrogate: 4-Bromochlorobenzene-PID	8.33		8.00		104	70-130				
Matrix Spike (2140016-MS1)				Source:	E109101-(01	Prepared: 0	9/29/21 A	Analyzed: 09/30/21	
Benzene	5.12	0.0250	5.00	ND	102	54-133				
Ethylbenzene	4.90	0.0250	5.00	ND	98.0	61-133				
Toluene	5.10	0.0250	5.00	ND	102	61-130				
o-Xylene	5.01	0.0250	5.00	ND	100	63-131				
p,m-Xylene	9.96	0.0500	10.0	ND	99.5	63-131				
Total Xylenes	15.0	0.0250	15.0	ND	99.8	63-131				
Surrogate: 4-Bromochlorobenzene-PID	8.10		8.00		101	70-130				
Matrix Spike Dup (2140016-MSD1)				Source:	E109101-(01	Prepared: 0	9/29/21 A	Analyzed: 09/30/21	
Benzene	5.02	0.0250	5.00	ND	100	54-133	2.01	20		
Ethylbenzene	4.80	0.0250	5.00	ND	96.1	61-133	1.97	20		
Toluene	5.00	0.0250	5.00	ND	99.9	61-130	2.05	20		
o-Xylene	4.92	0.0250	5.00	ND	98.4	63-131	1.81	20		
p,m-Xylene	9.76	0.0500	10.0	ND	97.6	63-131	1.93	20		
Total Xylenes	14.7	0.0250	15.0	ND	97.9	63-131	1.89	20		
Surrogate: 4-Bromochlorobenzene-PID	7.99		8.00		99.8	70-130				



QC Summary Data

		QU N		ary Data					
Mack Energy 7 W. Compress Road		Project Name: Project Number:		Logan 35 Fed #9 20046-0001					Reported:
Artesia NM, 88210		Project Manager:		Natalie Gladden					10/1/2021 4:41:03PM
	No	nhalogenated O	rganic	s by EPA 8015	5D - G	RO			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 (2140016-BLK1)							Prepared: 0	9/29/21	Analyzed: 09/30/21
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.17		8.00		89.6	70-130			
LCS (2140016-BS2)							Prepared: 0	9/29/21	Analyzed: 09/30/21
Gasoline Range Organics (C6-C10)	47.3	20.0	50.0		94.6	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.20		8.00		90.1	70-130			
Matrix Spike (2140016-MS2)				Source: E	109101-	01	Prepared: 0	9/29/21	Analyzed: 09/30/21
Gasoline Range Organics (C6-C10)	50.7	20.0	50.0	ND	101	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.19		8.00		89.9	70-130			
Matrix Spike Dup (2140016-MSD2)				Source: E	109101-	01	Prepared: 0	9/29/21	Analyzed: 10/01/21
Gasoline Range Organics (C6-C10)	50.3	20.0	50.0	ND	101	70-130	0.782	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.17		8.00		89.6	70-130			



QC Summary Data

		QC DI		lary Data					
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:		Logan 35 Fed #9 20046-0001 Natalie Gladden					Reported: 10/1/2021 4:41:03PM
	Nonh	alogenated Orga	anics b	y EPA 8015D	- DRO	/ORO			Analyst: JL
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2140025-BLK1)							Prepared: 0	9/30/21	Analyzed: 10/01/21
Diesel Range Organics (C10-C28) Oil Range Organics (C28-C36)	ND ND	25.0 50.0							
Surrogate: n-Nonane	55.0		50.0		110	50-200			
LCS (2140025-BS1)							Prepared: 0	9/30/21	Analyzed: 10/01/21
Diesel Range Organics (C10-C28)	450	25.0	500		90.1	38-132			
Surrogate: n-Nonane	53.7		50.0		107	50-200			
Matrix Spike (2140025-MS1)				Source: E	109112-0	01	Prepared: 0	9/30/21	Analyzed: 10/01/21
Diesel Range Organics (C10-C28)	459	25.0	500	ND	91.8	38-132			
Surrogate: n-Nonane	54.8		50.0		110	50-200			
Matrix Spike Dup (2140025-MSD1)				Source: E	109112-0	01	Prepared: 0	9/30/21	Analyzed: 10/01/21
Diesel Range Organics (C10-C28)	472	25.0	500	ND	94.5	38-132	2.84	20	
Surrogate: n-Nonane	56.6		50.0		113	50-200			



QC Summary Data

		$\mathbf{x} \in \mathbf{z}$	••••••						
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	2	Logan 35 Fed #9 20046-0001 Natalie Gladden					Reported: 10/1/2021 4:41:03PM
		Anions	by EPA	300.0/9056A					Analyst: RAS
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2140019-BLK1)							Prepared: 0	9/29/21 A	Analyzed: 09/29/21
Chloride LCS (2140019-BS1)	ND	20.0					Prepared: 0	9/29/21 A	Analyzed: 09/29/21
Chloride Matrix Spike (2140019-MS1)	248	20.0	250	Source: E	99.3 2 109101- 0	90-110)1	Prepared: 0	9/29/21 A	Analyzed: 09/29/21
Chloride	298	20.0	250	47.7	100	80-120	-		-
Matrix Spike Dup (2140019-MSD1)				Source: E	109101-0	01	Prepared: 0	9/29/21 A	Analyzed: 09/29/21
Chloride	296	20.0	250	47.7	99.3	80-120	0.794	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.



Mack Energy	Project Name:	Logan 35 Fed #9	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	10/01/21 16:41

- 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.



Released

Client:

8

Project:

Chain of Custody

Client:	1.K	Mack	Energy		Bill To	1			La	ab U	se On	ly	1.1			TA	Г	EPA P	rogram
Project: Log	an 3	5 Fee	19-1		ention: ESS			WO#			Job I			1D		3D	Standard	CWA	SDWA
Project Manager: J Address:	NAG	slie			Iress: v, State, Zip		E	091	112		×		10001	194 E	X				
City, State, Zip					one:			1	1	-	Analy	sis ar	d Metho	d	-		-		RCRA
Phone:				Em			S	S									and the second second	State	
Email: Natali	c			<u></u>			/ 801	801				0.		-			NMI CO	UT AZ	TX
Report due by:				2-3			(q O)	(q O	802	8260	5010	: 300		MN	¥		×		
Time Date Sampled Sampled	Matrix	No. of Containers	Sample ID			Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0		BGDOC	BGDOC			Remarks	
9/28	2	L	SP4	-9	1	1								X					
		1	SP7.	-10'		8								1					
			SP8-	9'		3													
			SP9-	8'		4													
	1	+	SPID	- 8'		5								+					
																	1		
															-				
		0																	
Additional Instructi	ions:															Ļ			
I, (field sampler), attest to t date or time of collection is					hat tampering with or intentionally mislabe Sampled by:	lling the sample	locatio	on,		-							ved on ice the day t C on subsequent da		ed or received
Relinquished by: (Signat		Date	Time	140	Received by: (Signature)	Date 9.29	21	Time	140	2	Rece	ived	on ice:		ab Us	e Only			
Relinquished by: (Signat	ure)	- 9.	Time	130	Received by: (Signature)	Date 20	21	Time	:3	0	T1	iveu		T2			T3		
Relinquished by: (Signat	ure)	Date	Time		Received by: (Signature)	Date		Time			AVG	Tom		1			- 15		
Sample Matrix: S - Soil, Sd -	Solid, Sg - S	Sludge, A - Ad	queous, O - Other			Container	Type	· g - p	lass					er glas	sv-	VOA			
				unless oth	er arrangements are made. Hazardo	us samples will	be re	turned	to cli	ient o	r dispo	sed of	at the clie	ent exi	pense	The re	port for the an	alysis of the	ahove

Page _____ of _____

Instructions: Please take note of any NO checkmarks.

Envirotech Analytical Laboratory

Sample Receipt Checklist (SRC)

Client:	Mack Energy	Date Received:	09/30/21 09	:30	Work Order ID:	E109112
Phone:	(575) 390-6397	Date Logged In:	09/30/21 09	:34	Logged In By:	Alexa Michaels
Email:	Natalie@energystaffingllc.com	Due Date:	10/01/21 17	:00 (1 day TAT)		
Chain o	f Custody (COC)					
1. Does	the sample ID match the COC?		Yes			
	the number of samples per sampling site location	n match the COC	Yes			
	samples dropped off by client or carrier?		Yes	Carrier: FedEx		
4. Was tl	he COC complete, i.e., signatures, dates/times, r	equested analyses?	Yes			
5. Were	all samples received within holding time? Note: Analysis, such as pH which should be conduc i.e, 15 minute hold time, are not included in this dis		Yes		Commen	ts/Resolution
Sample	Turn Around Time (TAT)	uession.				
	e COC indicate standard TAT, or Expedited TAT	Г?	Yes			
Sample	· •					
	sample cooler received?		Yes			
	, was cooler received in good condition?		Yes			
-	he sample(s) received intact, i.e., not broken?		Yes			
	e custody/security seals present?		No			
	s, were custody/security seals intact?		NA			
	he sample received on ice? If yes, the recorded temp is Note: Thermal preservation is not required, if samp minutes of sampling	les are received w/i 15	Yes			
	visible ice, record the temperature. Actual sa	mple temperature: 4^{-1}	<u> </u>			
_	<u>Container</u>		NT			
	aqueous VOC samples present? VOC samples collected in VOA Vials?		No NA			
	e head space less than 6-8 mm (pea sized or less	19	NA			
	a trip blank (TB) included for VOC analyses?).	NA			
	non-VOC samples collected in the correct contai	iners?	Yes			
	appropriate volume/weight or number of sample c		Yes			
Field La			105			
	e field sample labels filled out with the minimun	information:				
	Sample ID?		Yes			
	Date/Time Collected?		Yes	L		
	Collectors name?		No			
-	<u>Preservation</u>		N			
	s the COC or field labels indicate the samples we	ere preserved?	No			
	sample(s) correctly preserved? b filteration required and/or requested for dissolv	red metals?	NA			
		(ou motais:	No			
	ase Sample Matrix	· 1 · · · · · · · · · · · · · · · · · ·				
	s the sample have more than one phase, i.e., mul	-	No			
	s, does the COC specify which phase(s) is to be	analyzed?	NA			
	tract Laboratory					
	samples required to get sent to a subcontract lab	oratory?	No			
	a subcontract laboratory specified by the client a			Subcontract Lab: NA		

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



envirotech Inc.

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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: Loga

Logan 35 Fed 9

Work Order: E110004

Job Number: 20046-0001

Received: 10/2/2021

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 10/5/21

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: 10/5/21

Natalie Gladden 7 W. Compress Road Artesia, NM 88210

Project Name: Logan 35 Fed 9 Workorder: E110004 Date Received: 10/2/2021 11:00:00AM

Natalie Gladden,



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Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 10/2/2021 11:00:00AM, under the Project Name: Logan 35 Fed 9.

The analytical test results summarized in this report with the Project Name: Logan 35 Fed 9 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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Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

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		Sample Sum	mai y		
Mack Energy		Project Name:	Logan 35 Fed 9		Reported:
7 W. Compress Road		Project Number:	20046-0001		Keporteu.
Artesia NM, 88210		Project Manager:	Natalie Gladden		10/05/21 17:02
Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP6-10'	E110004-01A	Soil	09/28/21	10/02/21	Glass Jar, 4 oz.
SW6-2'	E110004-02A	Soil	09/28/21	10/02/21	Glass Jar, 4 oz.
SW7-2'	E110004-03A	Soil	09/28/21	10/02/21	Glass Jar, 4 oz.
SW8-2'	E110004-04A	Soil	09/28/21	10/02/21	Glass Jar, 4 oz.
SW9-2'	E110004-05A	Soil	09/28/21	10/02/21	Glass Jar, 4 oz.
SW10-2'	E110004-06A	Soil	09/28/21	10/02/21	Glass Jar, 4 oz.
SW13-2'	E110004-07A	Soil	09/28/21	10/02/21	Glass Jar, 4 oz.
SW14-2'	E110004-08A	Soil	09/28/21	10/02/21	Glass Jar, 4 oz.



	0	ampic D	ala			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Numb Project Mana	ber: 2004	an 35 Fed 9 46-0001 alie Gladden			Reported: 10/5/2021 5:02:32PM
		SP6-10'				
		E110004-01				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	Analyst: RKS		Batch: 2141007
Benzene	ND	0.0250	1	10/04/21	10/04/21	
Ethylbenzene	ND	0.0250	1	10/04/21	10/04/21	
Toluene	ND	0.0250	1	10/04/21	10/04/21	
p-Xylene	ND	0.0250	1	10/04/21	10/04/21	
p,m-Xylene	ND	0.0500	1	10/04/21	10/04/21	
Fotal Xylenes	ND	0.0250	1	10/04/21	10/04/21	
Surrogate: 4-Bromochlorobenzene-PID		98.4 %	70-130	10/04/21	10/04/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	st: RKS		Batch: 2141007
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/21	10/04/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.0 %	70-130	10/04/21	10/04/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	st: JL		Batch: 2141009
Diesel Range Organics (C10-C28)	34.4	25.0	1	10/04/21	10/04/21	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/21	10/04/21	
Surrogate: n-Nonane		93.6 %	50-200	10/04/21	10/04/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	st: RAS		Batch: 2141003
Chloride	20200	1000	50	10/04/21	10/04/21	

Sample Data

Sample Data

	5	ample D	ala			
Mack Energy	Project Name	: Log	an 35 Fed 9			
7 W. Compress Road	Project Numb	per: 2004	46-0001			Reported:
Artesia NM, 88210	Project Mana	ger: Nata	lie Gladden			10/5/2021 5:02:32PM
		SW6-2'				
		E110004-02				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2141007
Benzene	ND	0.0250	1	10/04/21	10/04/21	
Ethylbenzene	ND	0.0250	1	10/04/21	10/04/21	
Toluene	ND	0.0250	1	10/04/21	10/04/21	
p-Xylene	ND	0.0250	1	10/04/21	10/04/21	
o,m-Xylene	ND	0.0500	1	10/04/21	10/04/21	
Fotal Xylenes	ND	0.0250	1	10/04/21	10/04/21	
Surrogate: 4-Bromochlorobenzene-PID		94.8 %	70-130	10/04/21	10/04/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2141007
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/21	10/04/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.1 %	70-130	10/04/21	10/04/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	mg/kg Analyst: JL			Batch: 2141009
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/21	10/04/21	
Dil Range Organics (C28-C36)	ND	50.0	1	10/04/21	10/04/21	
Surrogate: n-Nonane		110 %	50-200	10/04/21	10/04/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	st: RAS		Batch: 2141003
Chloride	143	20.0	1	10/04/21	10/04/21	



Sample Data

	3	ample D	ลเล			
Mack Energy	Project Name	: Log	an 35 Fed 9			
7 W. Compress Road	Project Numb	per: 2004	46-0001			Reported:
Artesia NM, 88210	Project Manag	ger: Nata	alie Gladden			10/5/2021 5:02:32PM
		SW7-2'				
		E110004-03				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2141007
Benzene	ND	0.0250	1	10/04/21	10/04/21	
Ethylbenzene	ND	0.0250	1	10/04/21	10/04/21	
Foluene	ND	0.0250	1	10/04/21	10/04/21	
p-Xylene	ND	0.0250	1	10/04/21	10/04/21	
o,m-Xylene	ND	0.0500	1	10/04/21	10/04/21	
Total Xylenes	ND	0.0250	1	10/04/21	10/04/21	
Surrogate: 4-Bromochlorobenzene-PID		97.7 %	70-130	10/04/21	10/04/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2141007
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/21	10/04/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.3 %	70-130	10/04/21	10/04/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	g/kg Analyst: JL			Batch: 2141009
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/21	10/04/21	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/21	10/04/21	
Surrogate: n-Nonane		110 %	50-200	10/04/21	10/04/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: RAS		Batch: 2141003
Chloride	137	20.0	1	10/04/21	10/04/21	



Sample Data

	5	ample D	ala			
Mack Energy	Project Name:	: Log	an 35 Fed 9			
7 W. Compress Road	Project Numb	er: 2004	46-0001			Reported:
Artesia NM, 88210	Project Manag	ger: Nata	ilie Gladden			10/5/2021 5:02:32PM
		SW8-2'				
		E110004-04				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2141007
Benzene	ND	0.0250	1	10/04/21	10/04/21	
Ethylbenzene	ND	0.0250	1	10/04/21	10/04/21	
Toluene	ND	0.0250	1	10/04/21	10/04/21	
p-Xylene	ND	0.0250	1	10/04/21	10/04/21	
o,m-Xylene	ND	0.0500	1	10/04/21	10/04/21	
Fotal Xylenes	ND	0.0250	1	10/04/21	10/04/21	
Surrogate: 4-Bromochlorobenzene-PID		100 %	70-130	10/04/21	10/04/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	st: RKS		Batch: 2141007
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/21	10/04/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		85.5 %	70-130	10/04/21	10/04/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	mg/kg Analyst: JL			Batch: 2141009
Diesel Range Organics (C10-C28)	ND	25.0	1	10/04/21	10/04/21	
Oil Range Organics (C28-C36)	ND	50.0	1	10/04/21	10/04/21	
Surrogate: n-Nonane		109 %	50-200	10/04/21	10/04/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	st: RAS		Batch: 2141003
Chloride	181	20.0	1	10/04/21	10/04/21	



Sample Data

	5	ample D	ala			
Mack Energy	Project Name:	Log	an 35 Fed 9			
7 W. Compress Road	Project Numb	er: 2004	46-0001			Reported:
Artesia NM, 88210	Project Manag	ger: Nata	lie Gladden			10/5/2021 5:02:32PM
		SW9-2'				
		E110004-05				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	Analyst: RKS		Batch: 2141007
Benzene	ND	0.0250	1	10/04/21	10/05/21	
Ethylbenzene	ND	0.0250	1	10/04/21	10/05/21	
Toluene	ND	0.0250	1	10/04/21	10/05/21	
p-Xylene	ND	0.0250	1	10/04/21	10/05/21	
o,m-Xylene	ND	0.0500	1	10/04/21	10/05/21	
Fotal Xylenes	ND	0.0250	1	10/04/21	10/05/21	
Surrogate: 4-Bromochlorobenzene-PID		101 %	70-130	10/04/21	10/05/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: RKS		Batch: 2141007
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/21	10/05/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		86.0 %	70-130	10/04/21	10/05/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: JL		Batch: 2141009
Diesel Range Organics (C10-C28)	58.2	25.0	1	10/04/21	10/04/21	
Dil Range Organics (C28-C36)	ND	50.0	1	10/04/21	10/04/21	
Surrogate: n-Nonane		106 %	50-200	10/04/21	10/04/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: RAS		Batch: 2141003
Chloride	279	20.0	1	10/04/21	10/04/21	



Sample Data

	5	ample D	ala			
Mack Energy	Project Name:	Log	an 35 Fed 9			
7 W. Compress Road	Project Numb	er: 2004	46-0001			Reported:
Artesia NM, 88210	Project Manag	ger: Nata	ilie Gladden			10/5/2021 5:02:32PM
		SW10-2'				
		E110004-06				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	Analyst: RKS		Batch: 2141007
Benzene	ND	0.0250	1	10/04/21	10/05/21	
thylbenzene	ND	0.0250	1	10/04/21	10/05/21	
oluene	ND	0.0250	1	10/04/21	10/05/21	
-Xylene	ND	0.0250	1	10/04/21	10/05/21	
,m-Xylene	ND	0.0500	1	10/04/21	10/05/21	
otal Xylenes	ND	0.0250	1	10/04/21	10/05/21	
urrogate: 4-Bromochlorobenzene-PID		98.9 %	70-130	10/04/21	10/05/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	t: RKS		Batch: 2141007
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/21	10/05/21	
urrogate: 1-Chloro-4-fluorobenzene-FID		87.9 %	70-130	10/04/21	10/05/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	t: JL		Batch: 2141009
Diesel Range Organics (C10-C28)	74.8	25.0	1	10/04/21	10/04/21	
Dil Range Organics (C28-C36)	ND	50.0	1	10/04/21	10/04/21	
urrogate: n-Nonane		107 %	50-200	10/04/21	10/04/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: RAS		Batch: 2141003
Chloride	295	20.0		10/04/21	10/04/21	



Sample Data

	0	ample D	ala			
Mack Energy 7 W. Compress Road	Project Name Project Numb		an 35 Fed 9 46-0001			Reported:
Artesia NM, 88210	Project Manag	ger: Nata	ilie Gladden			10/5/2021 5:02:32PM
		SW13-2'				
		E110004-07				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS		Batch: 2141007	
Benzene	ND	0.0250	1	10/04/21	10/05/21	
Ethylbenzene	ND	0.0250	1	10/04/21	10/05/21	
Toluene	ND	0.0250	1	10/04/21	10/05/21	
o-Xylene	ND	0.0250	1	10/04/21	10/05/21	
o,m-Xylene	ND	0.0500	1	10/04/21	10/05/21	
Fotal Xylenes	ND	0.0250	1	10/04/21	10/05/21	
Surrogate: 4-Bromochlorobenzene-PID		105 %	70-130	10/04/21	10/05/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2141007
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/21	10/05/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.0 %	70-130	10/04/21	10/05/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	it: JL		Batch: 2141009
Diesel Range Organics (C10-C28)	52.3	25.0	1	10/04/21	10/04/21	
Dil Range Organics (C28-C36)	ND	50.0	1	10/04/21	10/04/21	
Surrogate: n-Nonane		114 %	50-200	10/04/21	10/04/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: RAS			Batch: 2141003



Sample Data

	5	ample D	ala			
Mack Energy	Project Name	: Log	an 35 Fed 9			
7 W. Compress Road	Project Numb	er: 2004	46-0001			Reported:
Artesia NM, 88210	Project Manag	ger: Nata	ilie Gladden			10/5/2021 5:02:32PM
		SW14-2'				
		E110004-08				
		Reporting				
Analyte	Result	Limit	Dilution	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	lyst: RKS		Batch: 2141007
Benzene	ND	0.0250	1	10/04/21	10/05/21	
Ethylbenzene	ND	0.0250	1	10/04/21	10/05/21	
Toluene	ND	0.0250	1	10/04/21	10/05/21	
p-Xylene	ND	0.0250	1	10/04/21	10/05/21	
o,m-Xylene	ND	0.0500	1	10/04/21	10/05/21	
Fotal Xylenes	ND	0.0250	1	10/04/21	10/05/21	
Surrogate: 4-Bromochlorobenzene-PID		104 %	70-130	10/04/21	10/05/21	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	ılyst: RKS		Batch: 2141007
Gasoline Range Organics (C6-C10)	ND	20.0	1	10/04/21	10/05/21	
Surrogate: 1-Chloro-4-fluorobenzene-FID		85.9 %	70-130	10/04/21	10/05/21	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	ılyst: JL		Batch: 2141009
Diesel Range Organics (C10-C28)	48.1	25.0	1	10/04/21	10/04/21	
Dil Range Organics (C28-C36)	ND	50.0	1	10/04/21	10/04/21	
Surrogate: n-Nonane		105 %	50-200	10/04/21	10/04/21	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	ılyst: RAS		Batch: 2141003
Chloride	227	40.0	2	10/04/21	10/04/21	



QC Summary Data

		QC D		v					
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	20	ogan 35 Fed 9 0046-0001 atalie Gladden					Reported: 10/5/2021 5:02:32PM
1 Heola 100, 00210		, ,		by EPA 8021	B				Analyst: RKS
			-	-					-
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limi	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2141007-BLK1)							Prepared: 1	0/04/21	Analyzed: 10/04/21
Benzene	ND	0.0250					1		5
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	7.71	0.0250	8.00		96.3	70-130			
LCS (2141007-BS1)							Prepared: 1	0/04/21	Analyzed: 10/04/21
Benzene	5.20	0.0250	5.00		104	70-130			
Ethylbenzene	5.05	0.0250	5.00		101	70-130			
Toluene	5.22	0.0250	5.00		104	70-130			
p-Xylene	5.11	0.0250	5.00		102	70-130			
p,m-Xylene	10.3	0.0500	10.0		103	70-130			
Total Xylenes	15.4	0.0250	15.0		102	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.03		8.00		100	70-130			
Matrix Spike (2141007-MS1)				Source: I	E 110004-0 1	1	Prepared: 1	0/04/21	Analyzed: 10/04/21
Benzene	5.12	0.0250	5.00	ND	102	54-133			
Ethylbenzene	4.90	0.0250	5.00	ND	98.0	61-133			
Toluene	5.10	0.0250	5.00	ND	102	61-130			
o-Xylene	4.97	0.0250	5.00	ND	99.4	63-131			
p,m-Xylene	9.95	0.0500	10.0	ND	99.5	63-131			
Total Xylenes	14.9	0.0250	15.0	ND	99.5	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.83		8.00		97.9	70-130			
Matrix Spike Dup (2141007-MSD1)				Source: H	E 110004-0 1	1	Prepared: 1	0/04/21	Analyzed: 10/04/21
Benzene	5.09	0.0250	5.00	ND	102	54-133	0.614	20	
Ethylbenzene	4.91	0.0250	5.00	ND	98.3	61-133	0.299	20	
Toluene	5.09	0.0250	5.00	ND	102	61-130	0.224	20	
Totache			= 00		00.0	63-131	0.393	20	
	4.99	0.0250	5.00	ND	99.8	03-131	0.595	20	
o-Xylene	4.99 9.99	0.0250 0.0500	5.00 10.0	ND ND	99.8 99.9	63-131	0.393	20	
Tottene o-Xylene p,m-Xylene Total Xylenes									



QC Summary Data

		QC D	umm	ary Data					
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	2	Logan 35 Fed 9 20046-0001 Natalie Gladden					Reported: 10/5/2021 5:02:32PM
	Noi	nhalogenated (Organics	by EPA 801	5D - Gl	RO			Analyst: RKS
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	
	6 6	6 6	00	6 6	,,,		,,,	,,,	
Blank (2141007-BLK1)							Prepared: 1	0/04/21	Analyzed: 10/04/21
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.07		8.00		88.3	70-130			
LCS (2141007-BS2)							Prepared: 1	10/04/21	Analyzed: 10/04/21
Gasoline Range Organics (C6-C10)	52.2	20.0	50.0		104	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.04		8.00		88.1	70-130			
Matrix Spike (2141007-MS2)				Source: E	110004-0	01	Prepared: 1	0/04/21	Analyzed: 10/04/21
Gasoline Range Organics (C6-C10)	51.2	20.0	50.0	ND	102	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.06		8.00		88.3	70-130			
Matrix Spike Dup (2141007-MSD2)				Source: E	2110004-0	01	Prepared: 1	0/04/21	Analyzed: 10/04/21
Gasoline Range Organics (C6-C10)	49.9	20.0	50.0	ND	99.8	70-130	2.59	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.98		8.00		87.2	70-130			



QC Summary Data

		$\mathbf{v} \in \mathcal{S}$		ary Data					
Mack Energy 7 W. Compress Road		Project Name: Project Number:	2	Logan 35 Fed 9 20046-0001					Reported:
Artesia NM, 88210		Project Manager:	1	Natalie Gladden					10/5/2021 5:02:32PM
	Nonh	alogenated Org	anics by	y EPA 8015D	- DRO	/ORO			Analyst: JL
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limi	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2141009-BLK1)							Prepared: 1	10/04/21	Analyzed: 10/04/21
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	51.3		50.0		103	50-200			
LCS (2141009-BS1)							Prepared: 1	10/04/21	Analyzed: 10/04/21
Diesel Range Organics (C10-C28)	542	25.0	500		108	38-132			
Surrogate: n-Nonane	52.5		50.0		105	50-200			
Matrix Spike (2141009-MS1)				Source: E	110004-	06	Prepared: 1	10/04/21	Analyzed: 10/04/21
Diesel Range Organics (C10-C28)	614	25.0	500	74.8	108	38-132			
Surrogate: n-Nonane	51.9		50.0		104	50-200			
Matrix Spike Dup (2141009-MSD1)				Source: E	110004-	06	Prepared: 1	10/04/21	Analyzed: 10/04/21
Diesel Range Organics (C10-C28)	634	25.0	500	74.8	112	38-132	3.25	20	
Surrogate: n-Nonane	51.9		50.0		104	50-200			



QC Summary Data

		$\mathbf{x} \in \mathbf{z}$	~~~~		•					
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	2	Logan 35 Fed 9 20046-0001 Natalie Gladden	L					orted: 5:02:32PM
		Anions	by EPA	300.0/9056A	1				Analyst:	RAS
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	t	Notes
Blank (2141003-BLK1)							Prepared:	10/04/21	Analyzed: 1	0/04/21
Chloride LCS (2141003-BS1)	ND	20.0					Prepared:	10/04/21	Analyzed: 1	0/04/21
Chloride	246	20.0	250		98.5	90-110				
Matrix Spike (2141003-MS1)				Source:	E110002-0	1	Prepared:	10/04/21	Analyzed: 1	0/04/21
Chloride	309	20.0	250	60.0	99.5	80-120				
Matrix Spike Dup (2141003-MSD1)				Source:	E110002-0)1	Prepared:	10/04/21	Analyzed: 1	0/04/21
Chloride	300	20.0	250	60.0	96.2	80-120	2.74	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.



Mack Energy	Project Name:	Logan 35 Fed 9	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	10/05/21 17:02

- 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.



Chain of Custody

lient: 🦯	ruch E	nerry				Bill To				La	ab Us	se Or	ly				TAT		EPA P	rogram
roject:	Legen J	5 Feel	9		Attention:	35 w composis		Lab	WO#	ŧ	-	Job	Numb	er	1D	2D 3		ndard	CWA	SDWA
roject N	Aanager:		S		Address: 7	w companies		EI	100	104			1410.1			X				
ddress:					City, State, Z	ip sough UM						Analy	sis an	d Metho	d					RCRA
ty, Stat	e, Zip				Phone:															
none: mail:					Email: 1/2	salig		by 8015	8015										State	TTVI
eport d	ue bv:							yd C	yd (3021	260	010	300.		WN	X			UT AZ	
Time ampled	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		BGDOC	BGDOC .		×	Remarks	
	9/28/21	5	1	505-10'			Number		0		>	2	0	-		8				
	3	~					2	-	-		-	-			K					
	{	5	5	SW6-2'			4								2					
	5	2	2	SW7-2'			3								(
	3	2	2	SW8-2'			4													
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	2	5	\rangle	SW13-2'			7	-	-											
	3	5	5	Sw14- 2'			8					-	-	-	1					_
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			and authorit	aite of this complete too		en dels en internetione (francisco de la contra		1			_	Comula								
	of collection i	s considered	fraud and n	hav be grounds for lega	action	g with or intentionally mislabelli Sampled by:												ice the day th bsequent day:		d or receive
linquishe	ed by: (Signa	ture)	2 Date	130121 Time	Received	by: (Signature)	Date 10.	1.21	Time	005	1	Poor	iuad	an leas		b Use	Only			
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anla Mate	ity C. Coil Col	Colid Ca	Shudao A A	queous, O - Other		· ·	Container	Turne		dese			Temp		4					
					less other arrangen	nents are made. Hazardous	Container	horo	turnor	d to cli	p - po	oly/pla	astic, a	g - amb	er glas	s, v - vc	haranat	farthran	had a fabra	26.211
nples is	applicable or	nly to those	e samples r	eceived by the labor	atory with this COC.	The liability of the laborator	v is limited to	o the	amou	nt pair	for	on the	report	at the Cli	entex	lense. I	ne report	for the ana	iysis of the	above

Envirotech Analytical Laboratory

Sample Receipt Checklist (SRC)

lient:	Mack Energy Da	te Received:	10/02/21 11:	43	W	ork Order ID:	E110004
hone:	(575) 390-6397 Da	te Logged In:	10/02/21 11:	43	L	ogged In By:	Raina Schwan
mail:		e Date:		:00 (1 day TAT)			
hain of	Custody (COC)						
. Does t	he sample ID match the COC?		Yes				
. Does t	he number of samples per sampling site location match	the COC	Yes				
. Were s	amples dropped off by client or carrier?		Yes	Carrier: Lab C	ourier		
. Was th	e COC complete, i.e., signatures, dates/times, requested	analyses?	Yes				
. Were a	Ill samples received within holding time? Note: Analysis, such as pH which should be conducted in the i.e, 15 minute hold time, are not included in this disucssion.	field,	Yes			<u>Commen</u>	ts/Resolution
ample [<u>Furn Around Time (TAT)</u>						
. Did th	e COC indicate standard TAT, or Expedited TAT?		Yes				
Sample (<u>Cooler</u>						
. Was a	sample cooler received?		Yes				
. If yes,	was cooler received in good condition?		Yes				
. Was th	e sample(s) received intact, i.e., not broken?		Yes				
0. Were	custody/security seals present?		No				
. If yes	, were custody/security seals intact?		NA				
2. Was th	he sample received on ice? If yes, the recorded temp is 4°C, i.e., Note: Thermal preservation is not required, if samples are rec minutes of sampling		Yes				
3. If no	visible ice, record the temperature. Actual sample ten	perature: <u>4°</u>	<u>C</u>				
ample (<u>Container</u>						
4. Are a	queous VOC samples present?		No				
5. Are V	/OC samples collected in VOA Vials?		NA				
5. Is the	head space less than 6-8 mm (pea sized or less)?		NA				
7. Was a	a trip blank (TB) included for VOC analyses?		NA				
8. Are n	on-VOC samples collected in the correct containers?		Yes				
). Is the	appropriate volume/weight or number of sample containers	collected?	Yes				
ield La	<u>bel</u>						
	field sample labels filled out with the minimum information	ation:	¥7				
	ample ID? Date/Time Collected?		Yes				
	Collectors name?		Yes No				
-	Preservation_		110				
	the COC or field labels indicate the samples were prese	rved?	No				
	ample(s) correctly preserved?		NA				
4. Is lab	filteration required and/or requested for dissolved meta	ls?	No				
<u>íultiph</u> :	ase Sample Matrix						
	the sample have more than one phase, i.e., multiphase?		No				
	, does the COC specify which phase(s) is to be analyzed	1?	NA				
ubcont	ract Laboratory						
	amples required to get sent to a subcontract laboratory?		No				
		1.0					
. Was a	a subcontract laboratory specified by the client and if so	who?	NA S	ubcontract Lab: NA	۲.		

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



envirotech Inc.

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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: Logar

Logan SWD

Work Order: E204099

Job Number: 20046-0001

Received: 4/20/2022

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 4/22/22

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: 4/22/22

Natalie Gladden 7 W. Compress Road Artesia, NM 88210

Project Name: Logan SWD Workorder: E204099 Date Received: 4/20/2022 6:30:00AM

Natalie Gladden,



Page 146 of 292

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/20/2022 6:30:00AM, under the Project Name: Logan SWD.

The analytical test results summarized in this report with the Project Name: Logan SWD 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

Field Offices:

Southern New Mexico Area Lynn Jarboe

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Released to Imaging: 11/17/2022 9:16:10 AM

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Sample Summary

		Sample Sum			
Mack Energy		Project Name:	Logan SWD		Reported:
7 W. Compress Road		Project Number:	20046-0001		-
Artesia NM, 88210		Project Manager:	Natalie Gladden		04/22/22 13:43
Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Comp 1	E204099-01A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 2	E204099-02A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 3	E204099-03A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 4	E204099-04A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 5	E204099-05A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 6	E204099-06A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 7	E204099-07A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 8	E204099-08A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 9	E204099-09A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 10	E204099-10A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 11	E204099-11A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 12	E204099-12A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 13	E204099-13A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 14	E204099-14A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 15	E204099-15A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 16	E204099-16A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 17	E204099-17A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 18	E204099-18A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 19	E204099-19A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 20	E204099-20A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 21	E204099-21A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 22	E204099-22A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.
Comp 23	E204099-23A	Soil	04/14/22	04/20/22	Glass Jar, 4 oz.



		ampic D				
Mack Energy	Project Name	D ()				
7 W. Compress Road Artesia NM, 88210	Project Numb Project Manag			Reported: 4/22/2022 1:43:40PM		
1110510 1 (11, 002 10	110jeet Manag	-		L		
		Comp 1				
		E204099-01				
		Reporting				
Analyte	Result	Limit	Dilu	tion Prepare	ed Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: IY		Batch: 2217026
Benzene	ND	0.0250	1	04/20/2	22 04/22/22	
Ethylbenzene	ND	0.0250	1	04/20/2	22 04/22/22	
Toluene	ND	0.0250	1	04/20/2	22 04/22/22	
p-Xylene	ND	0.0250	1	04/20/2	22 04/22/22	
o,m-Xylene	ND	0.0500	1	04/20/2	22 04/22/22	
Total Xylenes	ND	0.0250	1	04/20/2	22 04/22/22	
Surrogate: Bromofluorobenzene		89.9 %	70-130	04/20/2	.2 04/22/22	
Surrogate: 1,2-Dichloroethane-d4		107 %	70-130	04/20/2	22 04/22/22	
Surrogate: Toluene-d8		101 %	70-130	04/20/2	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: IY		Batch: 2217026
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/20/2	.2 04/22/22	
Surrogate: Bromofluorobenzene		89.9 %	70-130	04/20/2	22 04/22/22	
Surrogate: 1,2-Dichloroethane-d4		107 %	70-130	04/20/2	22 04/22/22	
Surrogate: Toluene-d8		101 %	70-130	04/20/2	.2 04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1		Batch: 2217020	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/20/2	22 04/20/22	
Dil Range Organics (C28-C36)	ND	50.0	1	04/20/2	04/20/22	
Surrogate: n-Nonane		96.9 %	50-200	04/20/2	22 04/20/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: RAS		Batch: 2217019
Chloride	46.7	20.0	1	04/20/2	22 04/21/22	

Sample Data



	S	ample D	ata				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Numb Project Manaş	ber: 2004	an SWD 46-0001 Ilie Gladder	n			Reported: 4/22/2022 1:43:40PM
		Comp 2 E204099-02					
		Reporting					
Analyte	Result	Limit	Dilu	ition Pi	repared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: IY			Batch: 2217026
Benzene	ND	0.0250	1	1 04	1/20/22	04/22/22	
Ethylbenzene	ND	0.0250	1	1 04	4/20/22	04/22/22	
Toluene	ND	0.0250	1	1 04	4/20/22	04/22/22	
p-Xylene	ND	0.0250	1	1 04	4/20/22	04/22/22	
o,m-Xylene	ND	0.0500	1	1 04	1/20/22	04/22/22	
Total Xylenes	ND	0.0250	1	1 04	4/20/22	04/22/22	
Surrogate: Bromofluorobenzene		87.7 %	70-130	04	4/20/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		102 %	70-130	04	4/20/22	04/22/22	
Surrogate: Toluene-d8		100 %	70-130	04	4/20/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: IY			Batch: 2217026
Gasoline Range Organics (C6-C10)	ND	20.0	1	1 04	4/20/22	04/22/22	
Surrogate: Bromofluorobenzene		87.7 %	70-130	04	4/20/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		102 %	70-130	04	4/20/22	04/22/22	
Surrogate: Toluene-d8		100 %	70-130	04	4/20/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK	Batch: 2217020		
Diesel Range Organics (C10-C28)	ND	25.0	1	1 04	1/20/22	04/20/22	
Dil Range Organics (C28-C36)	ND	50.0	1	1 04	4/20/22	04/20/22	
Surrogate: n-Nonane		108 %	50-200	04	4/20/22	04/20/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: RAS			Batch: 2217019
Chloride	30.2	20.0	1	1 04	4/20/22	04/20/22	



Sample Data											
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Nam Project Num Project Mana	ber: 2004	an SWD 46-0001 Ilie Gladde	n			Reported: 4/22/2022 1:43:40PM				
		Comp 3									
		E204099-03									
		Reporting									
Analyte	Result	Limit	Dih	ution	Prepared	Analyzed	Notes				
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2217026				
Benzene	ND	0.0250		1	04/20/22	04/22/22					
Ethylbenzene	ND	0.0250		1	04/20/22	04/22/22					
Toluene	ND	0.0250		1	04/20/22	04/22/22					
o-Xylene	ND	0.0250		1	04/20/22	04/22/22					
p,m-Xylene	ND	0.0500		1	04/20/22	04/22/22					
Total Xylenes	ND	0.0250		1	04/20/22	04/22/22					
Surrogate: Bromofluorobenzene		88.7 %	70-130		04/20/22	04/22/22					
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/20/22	04/22/22					
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/22/22					
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2217026				
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/20/22	04/22/22					
Surrogate: Bromofluorobenzene		88.7 %	70-130		04/20/22	04/22/22					
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/20/22	04/22/22					
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/22/22					
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK		Batch: 2217020					
Diesel Range Organics (C10-C28)	ND	25.0		1	04/20/22	04/20/22					
Oil Range Organics (C28-C36)	ND	50.0		1	04/20/22	04/20/22					
Surrogate: n-Nonane		83.2 %	50-200		04/20/22	04/20/22					
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	RAS		Batch: 2217019				
Chloride	56.9	20.0		1	04/20/22	04/21/22					



	S	ample D	ata				
Mack Energy	Project Name	U	an SWD				
7 W. Compress Road	Project Numl		46-0001				Reported:
Artesia NM, 88210	Project Mana	iger: Nata	lie Gladde	en			4/22/2022 1:43:40PM
		Comp 4					
		E204099-04					
		Reporting					
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: IY		Batch: 2217026
Benzene	ND	0.0250		1	04/20/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/20/22	04/22/22	
Toluene	ND	0.0250		1	04/20/22	04/22/22	
o-Xylene	ND	0.0250		1	04/20/22	04/22/22	
p,m-Xylene	ND	0.0500		1	04/20/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/20/22	04/22/22	
Surrogate: Bromofluorobenzene		88.9 %	70-130		04/20/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/20/22	04/22/22	
Surrogate: Toluene-d8		99.9 %	70-130		04/20/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: IY		Batch: 2217026
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/20/22	04/22/22	
Surrogate: Bromofluorobenzene		88.9 %	70-130		04/20/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/20/22	04/22/22	
Surrogate: Toluene-d8		99.9 %	70-130		04/20/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK			Batch: 2217020
Diesel Range Organics (C10-C28)	ND	25.0		1	04/20/22	04/20/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/20/22	04/20/22	
Surrogate: n-Nonane		90.4 %	50-200		04/20/22	04/20/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: RAS		Batch: 2217019
Chloride	76.0	20.0		1	04/20/22	04/21/22	



Sample Data											
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Num Project Mana	ber: 2004	an SWD 46-0001 Ilie Gladder	n			Reported: 4/22/2022 1:43:40PM				
L		Comp 5									
		E204099-05									
		Reporting									
Analyte	Result	Limit	Dilı	ution	Prepared	Analyzed	Notes				
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2217026				
Benzene	ND	0.0250		1	04/20/22	04/22/22					
Ethylbenzene	ND	0.0250		1	04/20/22	04/22/22					
Toluene	ND	0.0250		1	04/20/22	04/22/22					
o-Xylene	ND	0.0250		1	04/20/22	04/22/22					
p,m-Xylene	ND	0.0500		1	04/20/22	04/22/22					
Total Xylenes	ND	0.0250		1	04/20/22	04/22/22					
Surrogate: Bromofluorobenzene		89.2 %	70-130		04/20/22	04/22/22					
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/20/22	04/22/22					
Surrogate: Toluene-d8		99.4 %	70-130		04/20/22	04/22/22					
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2217026				
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/20/22	04/22/22					
Surrogate: Bromofluorobenzene		89.2 %	70-130		04/20/22	04/22/22					
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/20/22	04/22/22					
Surrogate: Toluene-d8		99.4 %	70-130		04/20/22	04/22/22					
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK		Batch: 2217020					
Diesel Range Organics (C10-C28)	ND	25.0		1	04/20/22	04/20/22					
Oil Range Organics (C28-C36)	ND	50.0		1	04/20/22	04/20/22					
Surrogate: n-Nonane		111 %	50-200		04/20/22	04/20/22					
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	RAS		Batch: 2217019				
Chloride	50.3	20.0		1	04/20/22	04/21/22					



	S	Sample D	ata				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Num Project Mana	ber: 2004	an SWD 46-0001 Ilie Gladd	en			Reported: 4/22/2022 1:43:40PM
		Comp 6					
		E204099-06					
		Reporting					
Analyte	Result	Limit	Di	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: IY		Batch: 2217026
Benzene	ND	0.0250		1	04/20/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/20/22	04/22/22	
Toluene	ND	0.0250		1	04/20/22	04/22/22	
o-Xylene	ND	0.0250		1	04/20/22	04/22/22	
p,m-Xylene	ND	0.0500		1	04/20/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/20/22	04/22/22	
Surrogate: Bromofluorobenzene		88.6 %	70-130		04/20/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/20/22	04/22/22	
Surrogate: Toluene-d8		102 %	70-130		04/20/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: IY		Batch: 2217026	
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/20/22	04/22/22	
Surrogate: Bromofluorobenzene		88.6 %	70-130		04/20/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/20/22	04/22/22	
Surrogate: Toluene-d8		102 %	70-130		04/20/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK			Batch: 2217020
Diesel Range Organics (C10-C28)	ND	25.0		1	04/20/22	04/20/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/20/22	04/20/22	
Surrogate: n-Nonane		88.3 %	50-200		04/20/22	04/20/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: RAS		Batch: 2217019
Chloride	80.2	20.0		1	04/20/22	04/21/22	



Sample Data											
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Num Project Mana	ber: 2004	an SWD 46-0001 Ilie Gladder	n			Reported: 4/22/2022 1:43:40PM				
		Comp 7									
		E204099-07									
		Reporting									
Analyte	Result	Limit	Dilu	ition	Prepared	Analyzed	Notes				
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: IY			Batch: 2217026				
Benzene	ND	0.0250	1	1	04/20/22	04/21/22					
Ethylbenzene	ND	0.0250	1	1	04/20/22	04/21/22					
Toluene	ND	0.0250	1	1	04/20/22	04/21/22					
p-Xylene	ND	0.0250	1	1	04/20/22	04/21/22					
p,m-Xylene	ND	0.0500	1	1	04/20/22	04/21/22					
Total Xylenes	ND	0.0250	1	1	04/20/22	04/21/22					
Surrogate: Bromofluorobenzene		88.1 %	70-130		04/20/22	04/21/22					
Surrogate: 1,2-Dichloroethane-d4		103 %	70-130		04/20/22	04/21/22					
Surrogate: Toluene-d8		102 %	70-130		04/20/22	04/21/22					
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: IY			Batch: 2217026				
Gasoline Range Organics (C6-C10)	ND	20.0	1	1	04/20/22	04/21/22					
Surrogate: Bromofluorobenzene		88.1 %	70-130		04/20/22	04/21/22					
Surrogate: 1,2-Dichloroethane-d4		103 %	70-130		04/20/22	04/21/22					
Surrogate: Toluene-d8		102 %	70-130		04/20/22	04/21/22					
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK		Batch: 2217020					
Diesel Range Organics (C10-C28)	ND	25.0	1	1	04/20/22	04/20/22					
Oil Range Organics (C28-C36)	ND	50.0	1	1	04/20/22	04/20/22					
Surrogate: n-Nonane		86.3 %	50-200		04/20/22	04/20/22					
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: RA	AS		Batch: 2217019				
Chloride	223	20.0	1	1	04/20/22	04/21/22					



Sample Data											
Mack Energy 7 W. Compress Road	Project Name Project Num	ber: 2004	an SWD 46-0001		Reported:						
Artesia NM, 88210	Project Mana	nger: Nata	lie Gladde	en			4/22/2022 1:43:40PM				
		Comp 8									
		E204099-08									
		Reporting									
Analyte	Result	Limit	Di	lution	Prepared	Analyzed	Notes				
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: IY		Batch: 2217026				
Benzene	ND	0.0250		1	04/20/22	04/21/22					
Ethylbenzene	ND	0.0250		1	04/20/22	04/21/22					
Toluene	ND	0.0250		1	04/20/22	04/21/22					
o-Xylene	ND	0.0250		1	04/20/22	04/21/22					
p,m-Xylene	ND	0.0500		1	04/20/22	04/21/22					
Total Xylenes	ND	0.0250		1	04/20/22	04/21/22					
Surrogate: Bromofluorobenzene		89.6 %	70-130		04/20/22	04/21/22					
Surrogate: 1,2-Dichloroethane-d4		102 %	70-130		04/20/22	04/21/22					
Surrogate: Toluene-d8		102 %	70-130		04/20/22	04/21/22					
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: IY		Batch: 2217026				
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/20/22	04/21/22					
Surrogate: Bromofluorobenzene		89.6 %	70-130		04/20/22	04/21/22					
Surrogate: 1,2-Dichloroethane-d4		102 %	70-130		04/20/22	04/21/22					
Surrogate: Toluene-d8		102 %	70-130		04/20/22	04/21/22					
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK		Batch: 2217020					
Diesel Range Organics (C10-C28)	ND	25.0		1	04/20/22	04/21/22					
Oil Range Organics (C28-C36)	ND	50.0		1	04/20/22	04/21/22					
Surrogate: n-Nonane		90.3 %	50-200		04/20/22	04/21/22					
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	RAS		Batch: 2217019				
Chloride	146	20.0		1	04/20/22	04/21/22					



Sample Data											
Mack Energy	Project Name	•	an SWD								
7 W. Compress Road	Project Num		46-0001				Reported:				
Artesia NM, 88210	Project Mana	ager: Nata	ilie Gladd	en			4/22/2022 1:43:40PM				
		Comp 9									
		E204099-09									
		Reporting									
Analyte	Result	Limit	Di	lution	Prepared	Analyzed	Notes				
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2217026				
Benzene	ND	0.0250		1	04/20/22	04/21/22					
Ethylbenzene	ND	0.0250		1	04/20/22	04/21/22					
Toluene	ND	0.0250		1	04/20/22	04/21/22					
p-Xylene	ND	0.0250		1	04/20/22	04/21/22					
p,m-Xylene	ND	0.0500		1	04/20/22	04/21/22					
Total Xylenes	ND	0.0250		1	04/20/22	04/21/22					
Surrogate: Bromofluorobenzene		89.1 %	70-130		04/20/22	04/21/22					
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/20/22	04/21/22					
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/21/22					
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2217026				
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/20/22	04/21/22					
Surrogate: Bromofluorobenzene		89.1 %	70-130		04/20/22	04/21/22					
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/20/22	04/21/22					
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/21/22					
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK		Batch: 2217020					
Diesel Range Organics (C10-C28)	ND	25.0		1	04/20/22	04/21/22					
Oil Range Organics (C28-C36)	ND	50.0		1	04/20/22	04/21/22					
Surrogate: n-Nonane		93.8 %	50-200		04/20/22	04/21/22					
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	RAS		Batch: 2217019				
Chloride	116	20.0		1	04/20/22	04/21/22					



Sample Data											
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Nam Project Num Project Man	ber: 2004	an SWD 16-0001 Ilie Gladde	Reported: 4/22/2022 1:43:40PM							
		Comp 10									
		E204099-10									
		Reporting									
Analyte	Result	Limit	Dil	lution	Prepared	Analyzed	Notes				
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: IY		Batch: 2217026				
Benzene	ND	0.0250		1	04/20/22	04/21/22					
Ethylbenzene	ND	0.0250		1	04/20/22	04/21/22					
Toluene	ND	0.0250		1	04/20/22	04/21/22					
o-Xylene	ND	0.0250		1	04/20/22	04/21/22					
p,m-Xylene	ND	0.0500		1	04/20/22	04/21/22					
Total Xylenes	ND	0.0250		1	04/20/22	04/21/22					
Surrogate: Bromofluorobenzene		87.4 %	70-130		04/20/22	04/21/22					
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/20/22	04/21/22					
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/21/22					
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: IY		Batch: 2217026				
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/20/22	04/21/22					
Surrogate: Bromofluorobenzene		87.4 %	70-130		04/20/22	04/21/22					
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/20/22	04/21/22					
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/21/22					
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK			Batch: 2217020				
Diesel Range Organics (C10-C28)	ND	25.0		1	04/20/22	04/21/22					
Oil Range Organics (C28-C36)	ND	50.0		1	04/20/22	04/21/22					
Surrogate: n-Nonane		71.3 %	50-200		04/20/22	04/21/22					
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: RAS		Batch: 2217019				
Chloride	23.7	20.0		1	04/20/22	04/21/22					



Sample Data										
Mack Energy	Project Nam	•	an SWD		D					
7 W. Compress Road Artesia NM, 88210	Project Num		46-0001 die Gladde				Reported: 4/22/2022 1:43:40PM			
Artesia NM, 88210	Project Mana	ager: Nata	llie Gladde	en			4/22/2022 1:43:40PM			
		Comp 11								
		E204099-11								
		Reporting								
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes			
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2217026			
Benzene	ND	0.0250		1	04/20/22	04/21/22				
Ethylbenzene	ND	0.0250		1	04/20/22	04/21/22				
Toluene	ND	0.0250		1	04/20/22	04/21/22				
o-Xylene	ND	0.0250		1	04/20/22	04/21/22				
p,m-Xylene	ND	0.0500		1	04/20/22	04/21/22				
Total Xylenes	ND	0.0250		1	04/20/22	04/21/22				
Surrogate: Bromofluorobenzene		87.9 %	70-130		04/20/22	04/21/22				
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/20/22	04/21/22				
Surrogate: Toluene-d8		102 %	70-130		04/20/22	04/21/22				
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2217026			
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/20/22	04/21/22				
Surrogate: Bromofluorobenzene		87.9 %	70-130		04/20/22	04/21/22				
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/20/22	04/21/22				
Surrogate: Toluene-d8		102 %	70-130		04/20/22	04/21/22				
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK			Batch: 2217020			
Diesel Range Organics (C10-C28)	ND	25.0		1	04/20/22	04/21/22				
Oil Range Organics (C28-C36)	ND	50.0		1	04/20/22	04/21/22				
Surrogate: n-Nonane		85.8 %	50-200		04/20/22	04/21/22				
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	RAS		Batch: 2217019			
Chloride	69.6	20.0		1	04/20/22	04/21/22				



	S	Sample D	ata				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Nam Project Num Project Man	ber: 2004	an SWD 46-0001 Ilie Gladde		Reported: 4/22/2022 1:43:40PM		
		Comp 12					
		E204099-12					
		Reporting					
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: IY		Batch: 2217026
Benzene	ND	0.0250		1	04/20/22	04/21/22	
Ethylbenzene	ND	0.0250		1	04/20/22	04/21/22	
Toluene	ND	0.0250		1	04/20/22	04/21/22	
o-Xylene	ND	0.0250		1	04/20/22	04/21/22	
p,m-Xylene	ND	0.0500		1	04/20/22	04/21/22	
Total Xylenes	ND	0.0250		1	04/20/22	04/21/22	
Surrogate: Bromofluorobenzene		88.1 %	70-130		04/20/22	04/21/22	
Surrogate: 1,2-Dichloroethane-d4		102 %	70-130		04/20/22	04/21/22	
Surrogate: Toluene-d8		100 %	70-130		04/20/22	04/21/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: IY		Batch: 2217026
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/20/22	04/21/22	
Surrogate: Bromofluorobenzene		88.1 %	70-130		04/20/22	04/21/22	
Surrogate: 1,2-Dichloroethane-d4		102 %	70-130		04/20/22	04/21/22	
Surrogate: Toluene-d8		100 %	70-130		04/20/22	04/21/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK			Batch: 2217020
Diesel Range Organics (C10-C28)	ND	25.0		1	04/20/22	04/21/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/20/22	04/21/22	
Surrogate: n-Nonane		84.3 %	50-200		04/20/22	04/21/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: RAS		Batch: 2217019
Chloride	113	20.0		1	04/20/22	04/21/22	



	S	Sample D	ata				
Mack Energy	Project Nam	•	an SWD				
7 W. Compress Road	Project Num		46-0001				Reported: 4/22/2022 1:43:40PM
Artesia NM, 88210	Project Man	ager: Nata	lie Gladd	en			
		Comp 13					
		E204099-13					
		Reporting					
Analyte	Result	Limit	Di	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: IY		Batch: 2217026
Benzene	ND	0.0250		1	04/20/22	04/21/22	
Ethylbenzene	ND	0.0250		1	04/20/22	04/21/22	
Toluene	ND	0.0250		1	04/20/22	04/21/22	
o-Xylene	ND	0.0250		1	04/20/22	04/21/22	
p,m-Xylene	ND	0.0500		1	04/20/22	04/21/22	
Total Xylenes	ND	0.0250		1	04/20/22	04/21/22	
Surrogate: Bromofluorobenzene		88.7 %	70-130		04/20/22	04/21/22	
Surrogate: 1,2-Dichloroethane-d4		103 %	70-130		04/20/22	04/21/22	
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/21/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	IY		Batch: 2217026
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/20/22	04/21/22	
Surrogate: Bromofluorobenzene		88.7 %	70-130		04/20/22	04/21/22	
Surrogate: 1,2-Dichloroethane-d4		103 %	70-130		04/20/22	04/21/22	
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/21/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK			Batch: 2217020
Diesel Range Organics (C10-C28)	ND	25.0		1	04/20/22	04/21/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/20/22	04/21/22	
Surrogate: n-Nonane		92.2 %	50-200		04/20/22	04/21/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	RAS		Batch: 2217019
Chloride	32.7	20.0		1	04/20/22	04/21/22	



Sample Data										
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Nam Project Num Project Man	ber: 2004	an SWD 46-0001 Ilie Gladde	en			Reported: 4/22/2022 1:43:40PM			
		Comp 14								
		E204099-14								
		Reporting								
Analyte	Result	Limit	Dil	lution	Prepared	Analyzed	Notes			
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: IY		Batch: 2217026			
Benzene	ND	0.0250		1	04/20/22	04/21/22				
Ethylbenzene	ND	0.0250		1	04/20/22	04/21/22				
Toluene	ND	0.0250		1	04/20/22	04/21/22				
o-Xylene	ND	0.0250		1	04/20/22	04/21/22				
p,m-Xylene	ND	0.0500		1	04/20/22	04/21/22				
Total Xylenes	ND	0.0250		1	04/20/22	04/21/22				
Surrogate: Bromofluorobenzene		88.5 %	70-130		04/20/22	04/21/22				
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/20/22	04/21/22				
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/21/22				
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	: IY		Batch: 2217026			
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/20/22	04/21/22				
Surrogate: Bromofluorobenzene		88.5 %	70-130		04/20/22	04/21/22				
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/20/22	04/21/22				
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/21/22				
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK			Batch: 2217020			
Diesel Range Organics (C10-C28)	ND	25.0		1	04/20/22	04/21/22				
Oil Range Organics (C28-C36)	ND	50.0		1	04/20/22	04/21/22				
Surrogate: n-Nonane		92.2 %	50-200		04/20/22	04/21/22				
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	: RAS		Batch: 2217019			
Chloride	76.2	20.0		1	04/20/22	04/21/22				



	S	ample D	ata				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Numb Project Mana	ber: 2004	an SWD 46-0001 Ilie Gladde	'n			Reported: 4/22/2022 1:43:40PM
Andsid 100, 00210	T Tojeet Wiana	-		-11			
		Comp 15 E204099-15					
		Reporting					
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2217026
Benzene	ND	0.0250		1	04/20/22	04/21/22	
Ethylbenzene	ND	0.0250		1	04/20/22	04/21/22	
Toluene	ND	0.0250		1	04/20/22	04/21/22	
p-Xylene	ND	0.0250		1	04/20/22	04/21/22	
p,m-Xylene	ND	0.0500		1	04/20/22	04/21/22	
Total Xylenes	ND	0.0250		1	04/20/22	04/21/22	
Surrogate: Bromofluorobenzene		87.5 %	70-130		04/20/22	04/21/22	
Surrogate: 1,2-Dichloroethane-d4		103 %	70-130		04/20/22	04/21/22	
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/21/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2217026
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/20/22	04/21/22	
Surrogate: Bromofluorobenzene		87.5 %	70-130		04/20/22	04/21/22	
Surrogate: 1,2-Dichloroethane-d4		103 %	70-130		04/20/22	04/21/22	
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/21/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK			Batch: 2217020
Diesel Range Organics (C10-C28)	ND	25.0		1	04/20/22	04/21/22	
Dil Range Organics (C28-C36)	ND	50.0		1	04/20/22	04/21/22	
Surrogate: n-Nonane		91.4 %	50-200		04/20/22	04/21/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	RAS		Batch: 2217019
Chloride	93.9	20.0		1	04/20/22	04/21/22	



	S	ample D	ata				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Numb Project Mana	ber: 2004	an SWD 46-0001 Ilie Gladder	n			Reported: 4/22/2022 1:43:40PM
		Comp 16					
		E204099-16					
Analyte	Result	Reporting Limit	Dilu	ition	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: IY			Batch: 2217026
Benzene	ND	0.0250		1	04/20/22	04/21/22	
Ethylbenzene	ND	0.0250	1	1	04/20/22	04/21/22	
Toluene	ND	0.0250	:	1	04/20/22	04/21/22	
p-Xylene	ND	0.0250	1	1	04/20/22	04/21/22	
p,m-Xylene	ND	0.0500	1	1	04/20/22	04/21/22	
Total Xylenes	ND	0.0250	:	1	04/20/22	04/21/22	
Surrogate: Bromofluorobenzene		88.0 %	70-130		04/20/22	04/21/22	
Surrogate: 1,2-Dichloroethane-d4		103 %	70-130		04/20/22	04/21/22	
Surrogate: Toluene-d8		100 %	70-130		04/20/22	04/21/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: IY			Batch: 2217026
Gasoline Range Organics (C6-C10)	ND	20.0	1	1	04/20/22	04/21/22	
Surrogate: Bromofluorobenzene		88.0 %	70-130		04/20/22	04/21/22	
Surrogate: 1,2-Dichloroethane-d4		103 %	70-130		04/20/22	04/21/22	
Surrogate: Toluene-d8		100 %	70-130		04/20/22	04/21/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK			Batch: 2217020
Diesel Range Organics (C10-C28)	ND	25.0	:	1	04/20/22	04/21/22	
Oil Range Organics (C28-C36)	ND	50.0	1	1	04/20/22	04/21/22	
Surrogate: n-Nonane		85.3 %	50-200		04/20/22	04/21/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: RA	\S		Batch: 2217019
Chloride	110	20.0	1	1	04/20/22	04/21/22	



Sample Data										
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Nam Project Num Project Man	ber: 2004	an SWD 46-0001 Ilie Gladdo	Reported: 4/22/2022 1:43:40PM						
Artesia (111, 00210	Troject Main	-	ine Glada				1722/2022 1.19.101 W			
		Comp 17 E204099-17								
Analyte	Result	Reporting Limit	Di	lution	Prepared	Analyzed	Notes			
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: IY		Batch: 2217026			
Benzene	ND	0.0250		1	04/20/22	04/21/22				
Ethylbenzene	ND	0.0250		1	04/20/22	04/21/22				
Toluene	ND	0.0250		1	04/20/22	04/21/22				
o-Xylene	ND	0.0250		1	04/20/22	04/21/22				
p,m-Xylene	ND	0.0500		1	04/20/22	04/21/22				
Total Xylenes	ND	0.0250		1	04/20/22	04/21/22				
Surrogate: Bromofluorobenzene		86.8 %	70-130		04/20/22	04/21/22				
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/20/22	04/21/22				
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/21/22				
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: IY		Batch: 2217026			
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/20/22	04/21/22				
Surrogate: Bromofluorobenzene		86.8 %	70-130		04/20/22	04/21/22				
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/20/22	04/21/22				
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/21/22				
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK			Batch: 2217020			
Diesel Range Organics (C10-C28)	ND	25.0		1	04/20/22	04/21/22				
Oil Range Organics (C28-C36)	ND	50.0		1	04/20/22	04/21/22				
Surrogate: n-Nonane		88.9 %	50-200		04/20/22	04/21/22				
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	RAS		Batch: 2217019			
Chloride	66.8	20.0		1	04/20/22	04/21/22				



	S	ample D	ata				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Numb Project Mana	ber: 2004	an SWD 46-0001 Ilie Gladder		Reported: 4/22/2022 1:43:40PM		
		Comp 18					
		E204099-18					
		Reporting					
Analyte	Result	Limit	Dilu	tion Pre	pared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: IY			Batch: 2217026
Benzene	ND	0.0250	1	. 04/	20/22	04/21/22	
Ethylbenzene	ND	0.0250	1	. 04/	20/22	04/21/22	
Toluene	ND	0.0250	1	04/	20/22	04/21/22	
p-Xylene	ND	0.0250	1	04/	20/22	04/21/22	
p,m-Xylene	ND	0.0500	1	. 04/	20/22	04/21/22	
Total Xylenes	ND	0.0250	1	. 04/	20/22	04/21/22	
Surrogate: Bromofluorobenzene		88.7 %	70-130	04/	20/22	04/21/22	
Surrogate: 1,2-Dichloroethane-d4		107 %	70-130	04/	20/22	04/21/22	
Surrogate: Toluene-d8		103 %	70-130	04/	20/22	04/21/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: IY			Batch: 2217026
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/	20/22	04/21/22	
Surrogate: Bromofluorobenzene		88.7 %	70-130	04/	20/22	04/21/22	
Surrogate: 1,2-Dichloroethane-d4		107 %	70-130	04/	20/22	04/21/22	
Surrogate: Toluene-d8		103 %	70-130	04/	20/22	04/21/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK			Batch: 2217020
Diesel Range Organics (C10-C28)	ND	25.0	1	. 04/	20/22	04/21/22	
Oil Range Organics (C28-C36)	ND	50.0	1	. 04/	20/22	04/21/22	
Surrogate: n-Nonane		90.0 %	50-200	04/	20/22	04/21/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: RAS			Batch: 2217019
Chloride	204	20.0	1	. 04/	20/22	04/21/22	



	S	ample D	ata				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Numb Project Mana	ber: 2004	an SWD 46-0001 Ilie Gladder	n			Reported: 4/22/2022 1:43:40PM
		Comp 19					
		E204099-19					
		Reporting					
Analyte	Result	Limit	Dilu	ition	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: IY			Batch: 2217026
Benzene	ND	0.0250	:	1	04/20/22	04/22/22	
Ethylbenzene	ND	0.0250	i	1	04/20/22	04/22/22	
Toluene	ND	0.0250	1	1	04/20/22	04/22/22	
p-Xylene	ND	0.0250	:	1	04/20/22	04/22/22	
p,m-Xylene	ND	0.0500	:	1	04/20/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/20/22	04/22/22	
Surrogate: Bromofluorobenzene		90.4 %	70-130		04/20/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/20/22	04/22/22	
Surrogate: Toluene-d8		102 %	70-130		04/20/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: IY			Batch: 2217026
Gasoline Range Organics (C6-C10)	ND	20.0	1	1	04/20/22	04/22/22	
Surrogate: Bromofluorobenzene		90.4 %	70-130		04/20/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/20/22	04/22/22	
Surrogate: Toluene-d8		102 %	70-130		04/20/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK			Batch: 2217020
Diesel Range Organics (C10-C28)	ND	25.0	:	1	04/20/22	04/21/22	
Oil Range Organics (C28-C36)	ND	50.0	1	1	04/20/22	04/21/22	
Surrogate: n-Nonane		91.3 %	50-200		04/20/22	04/21/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: RA	AS		Batch: 2217019
Chloride	106	20.0	1	1	04/20/22	04/21/22	



Sample Data										
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Nam Project Num Project Mana	ber: 2004	an SWD 46-0001 Ilie Gladde	en			Reported: 4/22/2022 1:43:40PM			
		Comp 20								
		E204099-20								
		Reporting								
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes			
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	IY		Batch: 2217026			
Benzene	ND	0.0250		1	04/20/22	04/22/22				
Ethylbenzene	ND	0.0250		1	04/20/22	04/22/22				
Toluene	ND	0.0250		1	04/20/22	04/22/22				
o-Xylene	ND	0.0250		1	04/20/22	04/22/22				
p,m-Xylene	ND	0.0500		1	04/20/22	04/22/22				
Total Xylenes	ND	0.0250		1	04/20/22	04/22/22				
Surrogate: Bromofluorobenzene		88.5 %	70-130		04/20/22	04/22/22				
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/20/22	04/22/22				
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/22/22				
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	IY		Batch: 2217026			
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/20/22	04/22/22				
Surrogate: Bromofluorobenzene		88.5 %	70-130		04/20/22	04/22/22				
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/20/22	04/22/22				
Surrogate: Toluene-d8		101 %	70-130		04/20/22	04/22/22				
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: AK			Batch: 2217020			
Diesel Range Organics (C10-C28)	ND	25.0		1	04/20/22	04/21/22				
Oil Range Organics (C28-C36)	ND	50.0		1	04/20/22	04/21/22				
Surrogate: n-Nonane		93.7 %	50-200		04/20/22	04/21/22				
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	RAS		Batch: 2217019			
Chloride	72.0	20.0		1	04/20/22	04/21/22				



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Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numb Project Manag	er: 2004	an SWD 46-0001 alie Gladden			Reported: 4/22/2022 1:43:40PM
		Comp 21				
		E204099-21				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	t: IY		Batch: 2217027
Benzene	ND	0.0250	1	04/20/22	04/21/22	
Ethylbenzene	ND	0.0250	1	04/20/22	04/21/22	
Toluene	ND	0.0250	1	04/20/22	04/21/22	
-Xylene	0.0314	0.0250	1	04/20/22	04/21/22	
o,m-Xylene	ND	0.0500	1	04/20/22	04/21/22	
Total Xylenes	0.0314	0.0250	1	04/20/22	04/21/22	
Surrogate: 4-Bromochlorobenzene-PID		97.8 %	70-130	04/20/22	04/21/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	t: IY		Batch: 2217027
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/20/22	04/21/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.8 %	70-130	04/20/22	04/21/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	Analyst: JL		Batch: 2217021
Diesel Range Organics (C10-C28)	ND	25.0	1	04/20/22	04/21/22	
Dil Range Organics (C28-C36)	ND	50.0	1	04/20/22	04/21/22	
Gurrogate: n-Nonane		91.4 %	50-200	04/20/22	04/21/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: CS		Batch: 2217018
Chloride	52.1	20.0	1	04/20/22	04/20/22	



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Mack Energy	Project Name		an SWD				
7 W. Compress Road	Project Numb		46-0001			Reported:	
Artesia NM, 88210	Project Manag	ger: Nata	alie Gladden			4/22/2022 1:43:40PM	
		E204099-22					
		Reporting					
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes	
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: IY			Batch: 2217027	
Benzene	ND	0.0250	1	04/20/22	04/21/22		
Ethylbenzene	ND	0.0250	1	04/20/22	04/21/22		
Toluene	ND	0.0250	1	04/20/22	04/21/22		
o-Xylene	ND	0.0250	1	04/20/22	04/21/22		
p,m-Xylene	ND	0.0500	1	04/20/22	04/21/22		
Total Xylenes	ND	0.0250	1	04/20/22	04/21/22		
Surrogate: 4-Bromochlorobenzene-PID		97.5 %	70-130	04/20/22	04/21/22		
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	st: IY		Batch: 2217027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/20/22	04/21/22		
Surrogate: 1-Chloro-4-fluorobenzene-FID		93.4 %	70-130	04/20/22	04/21/22		
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	st: JL		Batch: 2217021	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/20/22	04/21/22		
Oil Range Organics (C28-C36)	ND	50.0	1	04/20/22	04/21/22		
Surrogate: n-Nonane		71.9 %	50-200	04/20/22	04/21/22		
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	st: CS		Batch: 2217018	
Chloride	109	20.0	1	04/20/22	04/20/22		



	3	ample D	ala								
Mack Energy 7 W. Compress Road	Project Name Project Numb		an SWD 16-0001			Reported:					
Artesia NM, 88210	Project Manag		lie Gladden	4/22/2022 1:43:40PM							
Comp 23											
		E204099-23									
		Reporting									
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes					
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	Analyst: IY		Batch: 2217027					
Benzene	ND	0.0250	1	04/20/22	04/21/22						
Ethylbenzene	ND	0.0250	1	04/20/22	04/21/22						
oluene	ND	0.0250	1	04/20/22	04/21/22						
-Xylene	ND	0.0250	1	04/20/22	04/21/22						
o,m-Xylene	ND	0.0500	1	04/20/22	04/21/22						
Total Xylenes	ND	0.0250	1	04/20/22	04/21/22						
Surrogate: 4-Bromochlorobenzene-PID		95.8 %	70-130	04/20/22	04/21/22						
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: IY	Batch: 2217027						
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/20/22	04/21/22						
urrogate: 1-Chloro-4-fluorobenzene-FID		94.6 %	70-130	04/20/22	04/21/22						
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: JL		Batch: 2217021					
Diesel Range Organics (C10-C28)	ND	25.0	1	04/20/22	04/21/22						
Dil Range Organics (C28-C36)	ND	50.0	1	04/20/22	04/21/22						
urrogate: n-Nonane		88.6 %	50-200	04/20/22	04/21/22						
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: CS		Batch: 2217018					
Chloride	120	20.0	1	04/20/22	04/20/22						



QC Summary Data

		QU N		ing Data	•				
Mack Energy		Project Name:		ogan SWD					Reported:
7 W. Compress Road		Project Number:	20	046-0001					
Artesia NM, 88210		Project Manager:	Na	atalie Gladden					4/22/2022 1:43:40PM
	V	olatile Organic	Compo	unds by EP.	A 82601	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 (2217026-BLK1)						F	Prepared: 04	4/20/22 A	nalyzed: 04/21/22
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
p-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	0.448		0.500		89.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.531		0.500		106	70-130			
Surrogate: Toluene-d8	0.492		0.500		98.3	70-130			
LCS (2217026-BS1)						F	Prepared: 04	4/20/22 A	nalyzed: 04/21/22
Benzene	2.61	0.0250	2.50		104	70-130			
Ethylbenzene	2.57	0.0250	2.50		103	70-130			
Toluene	2.60	0.0250	2.50		104	70-130			
p-Xylene	2.47	0.0250	2.50		98.7	70-130			
o,m-Xylene	4.99	0.0500	5.00		99.8	70-130			
Total Xylenes	7.46	0.0250	7.50		99.4	70-130			
Surrogate: Bromofluorobenzene	0.477		0.500		95.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.509		0.500		102	70-130			
Surrogate: Toluene-d8	0.515		0.500		103	70-130			
LCS Dup (2217026-BSD1)						I	Prepared: 04	4/20/22 A	nalyzed: 04/21/22
Benzene	2.58	0.0250	2.50		103	70-130	1.00	23	
Ethylbenzene	2.55	0.0250	2.50		102	70-130	0.860	27	
Foluene	2.56	0.0250	2.50		102	70-130	1.84	24	
p-Xylene	2.46	0.0250	2.50		98.5	70-130	0.203	27	
- m Vilana	4.96	0.0500	5.00		99.2	70-130	0.563	27	
			7.50		99.0	70-130	0.444	27	
	7.42	0.0250	7.50						
Total Xylenes	7.42 0.483	0.0250	0.500		96.6	70-130			
p,m-Xylene Total Xylenes Surrogate: Bromofluorobenzene Surrogate: 1,2-Dichloroethane-d4		0.0250				70-130 70-130			



QC Summary Data

		V C D		ir y Data	•						
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	20	ogan SWD 0046-0001 atalie Gladden					Reported: 4/22/2022 1:43:40PM		
		Volatile Or	rganics b	oy EPA 802	EPA 8021B A						
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit			
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes		
Blank (2217027-BLK1)]	Prepared: 0	4/20/22 A	analyzed: 04/20/22		
Benzene	ND	0.0250									
Ethylbenzene	ND	0.0250									
Toluene	ND	0.0250									
p-Xylene	ND	0.0250									
p,m-Xylene	ND	0.0500									
Total Xylenes	ND	0.0250									
Surrogate: 4-Bromochlorobenzene-PID	7.81		8.00		97.7	70-130					
LCS (2217027-BS1)]	Prepared: 0	4/20/22 A	analyzed: 04/21/22		
Benzene	4.67	0.0250	5.00		93.3	70-130					
Ethylbenzene	5.16	0.0250	5.00		103	70-130					
Toluene	5.30	0.0250	5.00		106	70-130					
o-Xylene	5.13	0.0250	5.00		103	70-130					
p,m-Xylene	10.5	0.0500	10.0		105	70-130					
Total Xylenes	15.6	0.0250	15.0		104	70-130					
Surrogate: 4-Bromochlorobenzene-PID	7.86		8.00		98.3	70-130					
LCS Dup (2217027-BSD1)]	Prepared: 0	4/20/22 A	analyzed: 04/20/22		
Benzene	5.17	0.0250	5.00		103	70-130	10.2	20			
Ethylbenzene	5.60	0.0250	5.00		112	70-130	8.17	20			
Toluene	5.78	0.0250	5.00		116	70-130	8.77	20			
o-Xylene	5.56	0.0250	5.00		111	70-130	8.16	20			
p,m-Xylene	11.4	0.0500	10.0		114	70-130	8.00	20			
Total Xylenes	16.9	0.0250	15.0		113	70-130	8.05	20			
Surrogate: 4-Bromochlorobenzene-PID	7.89		8.00		98.6	70-130					



QC Summary Data

		QC D	umm	ary Date	L				
Mack Energy 7 W. Compress Road		Project Name: Project Number:	2	Logan SWD 20046-0001					Reported: 4/22/2022 1:43:40PM
Artesia NM, 88210		Project Manager:	r r	Natalie Gladden					4/22/2022 1:43:40PM
	No	nhalogenated (Organics	s by EPA 801	5D - 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 (2217026-BLK1)							Prepared: 0	4/20/22 A	nalyzed: 04/21/22
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.448		0.500		89.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.531		0.500		106	70-130			
Surrogate: Toluene-d8	0.492		0.500		98.3	70-130			
LCS (2217026-BS2)							Prepared: 0	4/20/22 A	nalyzed: 04/21/22
Gasoline Range Organics (C6-C10)	55.0	20.0	50.0		110	70-130			
Surrogate: Bromofluorobenzene	0.468		0.500		93.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.480		0.500		96.0	70-130			
Surrogate: Toluene-d8	0.505		0.500		101	70-130			
LCS Dup (2217026-BSD2)							Prepared: 0	4/20/22 A	nalyzed: 04/21/22
Gasoline Range Organics (C6-C10)	53.4	20.0	50.0		107	70-130	2.94	20	
Surrogate: Bromofluorobenzene	0.468		0.500		93.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.500		0.500		99.9	70-130			
Surrogate: Toluene-d8	0.502		0.500		100	70-130			



QC Summary Data

					•				
Mack Energy		Project Name:	L	ogan SWD					Reported:
7 W. Compress Road		Project Number	: 2	0046-0001					
Artesia NM, 88210		Project Manage	r: N	Vatalie Gladden					4/22/2022 1:43:40PM
	No	nhalogenated	Organics	by EPA 801	5 D - 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 (2217027-BLK1)							Prepared: 0	4/20/22 A	nalyzed: 04/20/22
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.88		8.00		98.5	70-130			
LCS (2217027-BS2)							Prepared: 0	4/20/22 A	nalyzed: 04/20/22
Gasoline Range Organics (C6-C10)	53.7	20.0	50.0		107	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.78		8.00		97.2	70-130			
LCS Dup (2217027-BSD2)							Prepared: 0	4/20/22 A	nalyzed: 04/20/22
Gasoline Range Organics (C6-C10)	52.1	20.0	50.0		104	70-130	3.01	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.62		8.00		95.2	70-130			



QC Summary Data

		QC DI		aly Data					
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	2	Logan SWD 20046-0001 Natalie Gladden					Reported: 4/22/2022 1:43:40PM
	Nonh	alogenated Orga	anics by	v EPA 8015D	- DRO	/ORO			Analyst: AK
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2217020-BLK1)							Prepared: 0	4/20/22 A	analyzed: 04/20/22
Diesel Range Organics (C10-C28) Oil Range Organics (C28-C36)	ND ND	25.0 50.0							
Surrogate: n-Nonane	52.0		50.0		104	50-200			
LCS (2217020-BS1)							Prepared: 0	4/20/22 A	analyzed: 04/20/22
Diesel Range Organics (C10-C28)	484	25.0	500		96.7	38-132			
Surrogate: n-Nonane	47.7		50.0		95.5	50-200			
Matrix Spike (2217020-MS1)				Source: E	204099-	15	Prepared: 0	4/20/22 A	analyzed: 04/20/22
Diesel Range Organics (C10-C28)	488	25.0	500	ND	97.6	38-132			
Surrogate: n-Nonane	51.7		50.0		103	50-200			
Matrix Spike Dup (2217020-MSD1)				Source: E	204099-	15	Prepared: 0	4/20/22 A	analyzed: 04/20/22
Diesel Range Organics (C10-C28)	480	25.0	500	ND	96.0	38-132	1.59	20	
Surrogate: n-Nonane	53.0		50.0		106	50-200			



QC Summary Data

		QC D	u 111111	ary Data					
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:		Logan SWD 20046-0001 Natalie Gladden					Reported: 4/22/2022 1:43:40PM
	Nonh	alogenated Org	anics by	y EPA 8015D	- DRO	/ORO			Analyst: JL
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2217021-BLK1)							Prepared: 0	4/20/22 A	Analyzed: 04/20/22
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	41.5		50.0		82.9	50-200			
LCS (2217021-BS1)							Prepared: 0	4/20/22 A	Analyzed: 04/20/22
Diesel Range Organics (C10-C28)	496	25.0	500		99.2	38-132			
Surrogate: n-Nonane	44.1		50.0		88.1	50-200			
Matrix Spike (2217021-MS1)				Source: E	204098-	03	Prepared: 0	4/20/22 A	Analyzed: 04/20/22
Diesel Range Organics (C10-C28)	533	25.0	500	ND	107	38-132			
Surrogate: n-Nonane	47.4		50.0		94.8	50-200			
Matrix Spike Dup (2217021-MSD1)				Source: E	204098-	03	Prepared: 0	4/20/22 A	Analyzed: 04/20/22
Diesel Range Organics (C10-C28)	540	25.0	500	ND	108	38-132	1.27	20	
Surrogate: n-Nonane	48.8		50.0		97.7	50-200			



QC Summary Data

Logan SWD		
20046-0001 Natalie Gladden		Reported: 4/22/2022 1:43:40PM
A 300.0/9056A		Analyst: CS
Source Rec Result Rec Limits mg/kg % %	RPD RPD Limit % %	Notes
	Prepared: 04/20/22	Analyzed: 04/20/22
	Prepared: 04/20/22	Analyzed: 04/20/22
100 90-110	Duran and 04/20/22	A
Source: E204098-01 74.5 106 80-120	Prepared: 04/20/22	Analyzed: 04/20/22
Source: E204098-01	Prepared: 04/20/22	Analyzed: 04/20/22
74.5 99.9 80-120	4.62 20	
	Source Rec Result Rec mg/kg % 100 90-110 Source: E204098-01 74.5 106 80-120 Source: E204098-01 80-120	20046-0001 Natalie Gladden A 300.0/9056A Source Rec Limits RPD Limitinitinitinitinitinitinitinitinitinit



QC Summary Data

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Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager	2	.ogan SWD 0046-0001 Jatalie Gladder	1				Reported: 4/22/2022 1:43:40PM
		Anions	by EPA	300.0/90564	4				Analyst: RAS
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2217019-BLK1)							Prepared: 0	4/20/22 A	nalyzed: 04/20/22
Chloride LCS (2217019-BS1)	ND	20.0					Prepared: 0	4/20/22 A	analyzed: 04/21/22
Chloride	253	20.0	250		101	90-110			
Matrix Spike (2217019-MS1)				Source:	E204099-	01	Prepared: 0	4/20/22 A	analyzed: 04/21/22
Chloride	290	20.0	250	46.7	97.2	80-120			
Matrix Spike Dup (2217019-MSD1)				Source:	E204099-	01	Prepared: 0	4/20/22 A	analyzed: 04/21/22
Chloride	283	20.0	250	46.7	94.4	80-120	2.44	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.


Γ	Mack Energy	Project Name:	Logan SWD	
	7 W. Compress Road	Project Number:	20046-0001	Reported:
	Artesia NM, 88210	Project Manager:	Natalie Gladden	04/22/22 13:43

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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Page 182 of 292

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eld sampler), attes	ion is conside	ered fraud a	nd may be grounds fo	or legal action.	A Samp					me		-				Lab	Use	Only		
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ple Mat	rix: S - Soil, S	d - Solid, Sg	- Sludge, A	Aqueous, O - Other _				Containe	er Type	e: g - g	glass,	_		_		nber gla	ass, v	- VOA				
e: Sam	ples are dis	carded 30 d	days after r	esults are reported	unless othe	r arrangements	are made. Hazardou												eport f	or the ana	alysis of the	above

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Envirotech Analytical Laboratory

Sample Receipt Checklist (SRC)

Client:	Mack Energy Da	ate Received:	04/20/22 0	5:30		Work Order ID:	E204099
Phone:	(575) 390-6397 Da	ate Logged In:	04/19/22 1:	5:58		Logged In By:	Caitlin Christian
Email:	Natalie@energystaffingllc.com De	ue Date:	04/22/22 1	7:00 (2 day TAT)			
<u>Chain of</u>	Custody (COC)						
1. Does t	he sample ID match the COC?		Yes				
2. Does t	he number of samples per sampling site location match	the COC	Yes				
3. Were s	samples dropped off by client or carrier?		Yes	Carrier: C	ourrier		
4. Was th	e COC complete, i.e., signatures, dates/times, requested	l analyses?	No				
5. Were a	all samples received within holding time? Note: Analysis, such as pH which should be conducted in the i.e, 15 minute hold time, are not included in this disucssion.	e field,	Yes			<u>Commen</u>	ts/Resolution
Sample 7	<u> Turn Around Time (TAT)</u>						
6. Did the	e COC indicate standard TAT, or Expedited TAT?		Yes		Time sam	pled not prov	ided on COC.
Sample (<u>Cooler</u>						
7. Was a	sample cooler received?		Yes				
8. If yes,	was cooler received in good condition?		Yes				
9. Was th	he sample(s) received intact, i.e., not broken?		Yes				
10. Were	custody/security seals present?		No				
11. If yes	s, were custody/security seals intact?		NA				
12. Was th	he sample received on ice? If yes, the recorded temp is 4°C, i.e. Note: Thermal preservation is not required, if samples are re-		Yes				
13 Ifno	minutes of sampling visible ice, record the temperature. Actual sample ter	nnerature 4º	С				
	Container	<u></u>	<u> </u>				
-	iqueous VOC samples present?		No				
	VOC 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				
	non-VOC samples collected in the correct containers?		Yes				
	appropriate volume/weight or number of sample containers	collected?	Yes				
Field La							
	field sample labels filled out with the minimum inform	ation:					
S	Sample ID?		Yes				
	Date/Time Collected?		No	L			
-	Collectors name?		No				
	Preservation	myed?	No				
	ample(s) correctly preserved?		NO				
	o filteration required and/or requested for dissolved meta	ils?	No				
	ase Sample Matrix	1	110				
	the sample waterix than one phase, i.e., multiphase?		No				
	s, does the COC specify which phase(s) is to be analyzed		No NA				
-		u.	INA				
-	ract Laboratory		хτ.				
	amples required to get sent to a subcontract laboratory? a subcontract laboratory specified by the client and if so		No NA	Subcontract Lab			
	a subcourract laboratory specified by the client and if so	wno?	INA	Supcontract Lab	· na		

C

Date

envirotech Inc.

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





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: Logan

Logan 35 SWD

Work Order: E204117

Job Number: 20046-0001

Received: 4/22/2022

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 4/25/22

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: 4/25/22

Natalie Gladden 7 W. Compress Road Artesia, NM 88210

Project Name: Logan 35 SWD Workorder: E204117 Date Received: 4/22/2022 10:00:00AM

Natalie Gladden,



Page 187 of 292

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/22/2022 10:00:00AM, under the Project Name: Logan 35 SWD.

The analytical test results summarized in this report with the Project Name: Logan 35 SWD 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,

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Sample Summary

		Sample Sum	mary		
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	Logan 35 SWD 20046-0001 Natalie Gladden		Reported: 04/25/22 17:04
lient Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
omp 24	E204117-01A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 25	E204117-02A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 26	E204117-03A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 27	E204117-04A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 28	E204117-05A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 29	E204117-06A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 30	E204117-07A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 31	E204117-08A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 32	E204117-09A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 33	E204117-10A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 34	E204117-11A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 35	E204117-12A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 36	E204117-13A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 37	E204117-14A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 38	E204117-15A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 39	E204117-16A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 40	E204117-17A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 41	E204117-18A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 42	E204117-19A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 43	E204117-20A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.



	0	ampic D	ala			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Numb Project Mana	ber: 2004	an 35 SWD 46-0001 Ilie Gladden			Reported: 4/25/2022 5:04:33PM
		Comp 24				
		E204117-01				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	vst: RKS		Batch: 2217042
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
o-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Fotal Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		96.1 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	yst: RKS		Batch: 2217042
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		93.1 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	vst: JL		Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Dil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		102 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	vst: RAS		Batch: 2217040
Chloride	ND	40.0	2	04/22/22	04/22/22	

Sample Data

Sample Data

	5	ampie D	ala			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numb Project Manag	er: 2004	an 35 SWD 46-0001 alie Gladden			Reported: 4/25/2022 5:04:33PM
		Comp 25				
		E204117-02				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217042
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
o-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Fotal Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		97.3 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217042
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.9 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	t: JL		Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		104 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: RAS		Batch: 2217040
Chloride	ND	100	5	04/22/22	04/22/22	



Sample Data

	5	ampic D	ala			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numb Project Manag	er: 2004	an 35 SWD 46-0001 Ilie Gladden			Reported: 4/25/2022 5:04:33PM
		Comp 26				
		E204117-03				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217042
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Foluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Fotal Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		97.2 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217042
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.0 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2217048	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		103 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: RAS		Batch: 2217040
Chloride	ND	100	5	04/22/22	04/22/22	



Sample Data

	5	ampic D	ala			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbe Project Manag	er: 2004	an 35 SWD 46-0001 alie Gladden			Reported: 4/25/2022 5:04:33PM
		Comp 27				
		E204117-04				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217042
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		97.2 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217042
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.8 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2217048	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		102 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: RAS		Batch: 2217040
Chloride	ND	100	5	04/22/22	04/22/22	



Sample Data

	D	ampic D	ala			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numb Project Manag	er: 2004	an 35 SWD 46-0001 alie Gladden			Reported: 4/25/2022 5:04:33PM
		Comp 28				
		E204117-05				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	st: RKS		Batch: 2217042
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		97.5 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	st: RKS		Batch: 2217042
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.5 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	st: JL		Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		108 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	st: RAS		Batch: 2217040
Chloride	ND	100	5	04/22/22	04/22/22	



Sample Data

	D.	ampic D	ala			
Mack Energy 7 W. Compress Road	Project Name: Project Numb		Logan 35 SWD 20046-0001			Reported:
Artesia NM, 88210	Project Manag		alie Gladden			4/25/2022 5:04:33PM
		Comp 29				
		E204117-06				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst	: RKS		Batch: 2217042
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Fotal Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		95.8 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst	:: RKS		Batch: 2217042
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.6 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst	:: JL		Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Dil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		115 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst	: RAS		Batch: 2217040
Chloride	ND	200	10	04/22/22	04/22/22	



Sample Data

	50	ampie D	ala			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbe Project Manag	er: 2004	an 35 SWD 46-0001 ilie Gladden			Reported: 4/25/2022 5:04:33PM
		Comp 30				
		E204117-07				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217042
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Fotal Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		106 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	:: RKS		Batch: 2217042
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.0 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	t: JL		Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		117 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	:: RAS		Batch: 2217040
Chloride	ND	200	10	04/22/22	04/22/22	



Sample Data

	5	ampie D	ala			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numb Project Manag	er: 2004	an 35 SWD 46-0001 alie Gladden			Reported: 4/25/2022 5:04:33PM
		Comp 31				
		E204117-08				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217042
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
oluene	ND	0.0250	1	04/22/22	04/22/22	
-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/22/22	
urrogate: 4-Bromochlorobenzene-PID		104 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217042
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
urrogate: 1-Chloro-4-fluorobenzene-FID		88.2 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Dil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		117 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: RAS		Batch: 2217040
Chloride	ND	100	5	04/22/22	04/22/22	



Sample Data

	~	umpic D				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Numb Project Manag	er: 2004	an 35 SWD 46-0001 alie Gladden			Reported: 4/25/2022 5:04:33PM
	-	Comp 32				
		E204117-09				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst	: RKS		Batch: 2217042
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		98.9 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2217042
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.6 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Dil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		118 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst	: RAS		Batch: 2217040
Chloride	ND	200	10	04/22/22	04/22/22	



Sample Data

	5	ample D	ala			
Mack Energy	Project Name	-	an 35 SWD			
7 W. Compress Road	Project Numb		46-0001			Reported:
Artesia NM, 88210	Project Manag	ger: Nata	alie Gladden			4/25/2022 5:04:33PM
		Comp 33				
		E204117-10				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst	t: RKS		Batch: 2217042
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		103 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst	:: RKS		Batch: 2217042
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.9 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst	t: JL		Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		114 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst	t: RAS		Batch: 2217040
Chloride	ND	200	10	04/22/22	04/22/22	



Sample Data

	Di	ample D	ala			
Mack Energy 7 W. Compress Road	Project Name: Project Numbe		an 35 SWD 46-0001			Reported:
Artesia NM, 88210	Project Manag	ger: Nata	alie Gladden			4/25/2022 5:04:33PM
		Comp 34				
		E204117-11				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	:: RKS		Batch: 2217042
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Fotal Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		104 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2217042
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.4 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Dil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		96.9 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: RAS		Batch: 2217040
Chloride	ND	200	10	04/22/22	04/22/22	



Sample Data

	Di	ample D	ala			
Mack Energy 7 W. Compress Road	Project Name: Project Numbe	er: 2004	an 35 SWD 46-0001			Reported: 4/25/2022 5:04:33PM
Artesia NM, 88210	Project Manag	ger: Nata	alie Gladden			4/25/2022 5:04:53PM
		Comp 35				
		E204117-12				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	:: RKS		Batch: 2217042
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Fotal Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		102 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	:: RKS		Batch: 2217042
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.0 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Dil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		96.5 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: RAS		Batch: 2217040
Chloride	ND	200	10	04/22/22	04/22/22	



Sample Data

	5	ampie D	ala			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numb Project Manag	er: 2004	an 35 SWD 46-0001 ilie Gladden			Reported: 4/25/2022 5:04:33PM
		Comp 36				
		E204117-13				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	:: RKS		Batch: 2217042
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Fotal Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		97.4 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	:: RKS		Batch: 2217042
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.3 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	t: JL		Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		117 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: RAS		Batch: 2217040
Chloride	ND	200	10	04/22/22	04/22/22	



Sample Data

	D	ample D	uu				
Mack Energy	Project Name		an 35 SWI	D			
7 W. Compress Road	Project Numb		46-0001				Reported:
Artesia NM, 88210	Project Manag	ger: Nata	ilie Gladde	en			4/25/2022 5:04:33PM
		Comp 37					
		E204117-14					
		Reporting					
Analyte	Result	Limit	Di	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	RKS		Batch: 2217045
Benzene	ND	0.0250		1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/22/22	04/22/22	
Toluene	ND	0.0250		1	04/22/22	04/22/22	
o-Xylene	ND	0.0250		1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500		1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		88.9 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		101 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	RKS		Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		88.9 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		101 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: JL		Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0		1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/22/22	04/22/22	
Surrogate: n-Nonane		108 %	50-200		04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	RAS		Batch: 2217040
Chloride	ND	200		10	04/22/22	04/22/22	



Sample Data

		ample D	uu				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbe Project Manag	er: 2004	an 35 SWI 46-0001 alie Gladde				Reported: 4/25/2022 5:04:33PM
		Comp 38					
		E204117-15					
Analyte	Result	Reporting Limit		lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	RKS		Batch: 2217045
Benzene	ND	0.0250		1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/22/22	04/22/22	
Toluene	ND	0.0250		1	04/22/22	04/22/22	
p-Xylene	ND	0.0250		1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500		1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		87.0 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		107 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		100 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	RKS		Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		87.0 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		107 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		100 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	: JL		Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0		1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/22/22	04/22/22	
Surrogate: n-Nonane		104 %	50-200		04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	RAS		Batch: 2217040
Chloride	ND	200		10	04/22/22	04/22/22	



Sample Data

		imple D					
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbe Project Manag	er: 2004	an 35 SWI 46-0001 Ilie Gladdo				Reported: 4/25/2022 5:04:33PM
		Comp 39					
		E204117-16					
Analyte	Result	Reporting Limit	Di	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: RKS		Batch: 2217045
Benzene	ND	0.0250		1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/22/22	04/22/22	
Toluene	ND	0.0250		1	04/22/22	04/22/22	
p-Xylene	ND	0.0250		1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500		1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		89.3 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		100 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: RKS		Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		89.3 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		100 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: JL		Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0		1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/22/22	04/22/22	
Surrogate: n-Nonane		109 %	50-200		04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: RAS		Batch: 2217040
Chloride	ND	200		10	04/22/22	04/22/22	



Sample Data

	D	ample D	uu				
Mack Energy	Project Name		an 35 SWI	D			
7 W. Compress Road	Project Numb		46-0001				Reported:
Artesia NM, 88210	Project Mana	ger: Nata	ilie Gladd	en			4/25/2022 5:04:33PM
		Comp 40					
		E204117-17					
		Reporting					
Analyte	Result	Limit	Di	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	RKS		Batch: 2217045
Benzene	ND	0.0250		1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/22/22	04/22/22	
Toluene	ND	0.0250		1	04/22/22	04/22/22	
p-Xylene	ND	0.0250		1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500		1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		86.2 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		101 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	RKS		Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		86.2 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		101 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: JL		Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0		1	04/22/22	04/22/22	
Dil Range Organics (C28-C36)	ND	50.0		1	04/22/22	04/22/22	
Surrogate: n-Nonane		111 %	50-200		04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	RAS		Batch: 2217040
Chloride	ND	200		10	04/22/22	04/22/22	



Sample Data

	5	ample D	utu				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Numb Project Mana	ber: 2004	an 35 SWI 46-0001 Ilie Gladde				Reported: 4/25/2022 5:04:33PM
		Comp 41					
		E204117-18					
		Reporting					
Analyte	Result	Limit	Di	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: RKS		Batch: 2217045
Benzene	ND	0.0250		1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/22/22	04/22/22	
Toluene	ND	0.0250		1	04/22/22	04/22/22	
p-Xylene	ND	0.0250		1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500		1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		87.8 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		103 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		101 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: RKS		Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		87.8 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		103 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		101 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: JL		Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0		1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/22/22	04/22/22	
Surrogate: n-Nonane		106 %	50-200		04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: RAS		Batch: 2217040
Chloride	ND	200		10	04/22/22	04/22/22	



Sample Data

		ample D	uta				
Mack Energy 7 W. Compress Road	Project Name Project Numb	er: 2004	an 35 SWE 46-0001				Reported:
Artesia NM, 88210	Project Manag	ger: Nata	lie Gladde	n			4/25/2022 5:04:33PM
		Comp 42					
		E204117-19					
		Reporting					
Analyte	Result	Limit	Dilı	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	RKS		Batch: 2217045
Benzene	ND	0.0250		1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/22/22	04/22/22	
Toluene	ND	0.0250		1	04/22/22	04/22/22	
p-Xylene	ND	0.0250		1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500		1	04/22/22	04/22/22	
Fotal Xylenes	ND	0.0250		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		85.8 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		108 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		98.8 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	RKS		Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		85.8 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		108 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		98.8 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0		1	04/22/22	04/22/22	
Dil Range Organics (C28-C36)	ND	50.0		1	04/22/22	04/22/22	
Surrogate: n-Nonane		108 %	50-200		04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	RAS		Batch: 2217040
Chloride	ND	200	1	10	04/22/22	04/22/22	



Sample Data

	~•	impic D				
Mack Energy 7 W. Compress Road	Project Name: Project Numbe		an 35 SWD 46-0001			Reported:
Artesia NM, 88210	Project Manag		lie Gladden			4/25/2022 5:04:33PM
	j8					
		Comp 43				
		E204117-20				
		Reporting				
Analyte	Result	Limit	Dilutio	on Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	Aı	nalyst: RKS		Batch: 2217045
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		87.7 %	70-130	04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		110 %	70-130	04/22/22	04/22/22	
Surrogate: Toluene-d8		100 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Aı	nalyst: RKS		Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		87.7 %	70-130	04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		110 %	70-130	04/22/22	04/22/22	
Surrogate: Toluene-d8		100 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Aı	nalyst: JL		Batch: 2217048
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		111 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Aı	nalyst: RAS		Batch: 2217040
Chloride	ND	200	10	04/22/22	04/22/22	



QC Summary Data

		ve si	u 111117	ary Data					
Mack Energy		Project Name:	Lo	ogan 35 SWD					Reported:
7 W. Compress Road		Project Number:	20	0046-0001					
Artesia NM, 88210		Project Manager:	N	atalie Gladden				4/	25/2022 5:04:33PM
		Volatile Organic	Compo	unds by EPA	A 82601	В			Analyst: RKS
Analyte		Reporting	Spike	Source		Rec		RPD	
5	Result	Limit	Level	Result	Rec	Limits	RPD	Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2217045-BLK1)							Prepared: 04	4/22/22 Ana	lyzed: 04/22/22
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	0.425		0.500		84.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.548		0.500		110	70-130			
Surrogate: Toluene-d8	0.500		0.500		100	70-130			
LCS (2217045-BS1)							Prepared: 04	4/22/22 Ana	lyzed: 04/22/22
Benzene	2.39	0.0250	2.50		95.5	70-130	1 .		5
Ethylbenzene	2.43	0.0250	2.50		97.2	70-130			
Toluene	2.45	0.0250	2.50		97.9	70-130			
o-Xylene	2.35	0.0250	2.50		93.9	70-130			
p,m-Xylene	4.76	0.0500	5.00		95.2	70-130			
Total Xylenes	7.11	0.0250	7.50		94.8	70-130			
Surrogate: Bromofluorobenzene	0.472		0.500		94.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.502		0.500		100	70-130			
Surrogate: Toluene-d8	0.531		0.500		106	70-130			
Matrix Spike (2217045-MS1)				Source: E	204117-	14	Prepared: 04	4/22/22 Ana	lyzed: 04/22/22
Benzene	2.44	0.0250	2.50	ND	97.6	48-131			-
Ethylbenzene	2.50	0.0250	2.50	ND	100	45-135			
Toluene	2.49	0.0250	2.50	ND	99.8	48-130			
o-Xylene	2.41	0.0250	2.50	ND	96.4	43-135			
p,m-Xylene	4.84	0.0500	5.00	ND	96.8	43-135			
Total Xylenes	7.25	0.0250	7.50	ND	96.7	43-135			
Surrogate: Bromofluorobenzene	0.479		0.500		95.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.523		0.500		105	70-130			
Surrogate: Toluene-d8	0.526		0.500		105	70-130			
Matrix Spike Dup (2217045-MSD1)				Source: E	204117-	14	Prepared: 04	4/22/22 Ana	lyzed: 04/22/22
Benzene	2.42	0.0250	2.50	ND	96.9	48-131	0.699	23	-
Ethylbenzene	2.50	0.0250	2.50	ND	100	45-135	0.100	27	
Toluene	2.51	0.0250	2.50	ND	100	48-130	0.540	24	
o-Xylene	2.42	0.0250	2.50	ND	96.8	43-135	0.352	27	
p,m-Xylene	4.86	0.0500	5.00	ND	97.2	43-135	0.443	27	
Total Xylenes	7.28	0.0250	7.50	ND	97.1	43-135	0.413	27	
			0.500						
Surrogate: Bromofluorobenzene Surrogate: 1,2-Dichloroethane-d4 Surrogate: Toluene-d8	0.481 0.512 0.528	0.0250			96.2 102 106	70-130 70-130 70-130 70-130			



QC Summary Data

		<u>v</u> e s		in y Data	•				
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	20	ogan 35 SWD 0046-0001 atalie Gladden					Reported: 4/25/2022 5:04:33PM
		Volatile O	rganics l	oy EPA 8021	IB				Analyst: RKS
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2217042-BLK1)							Prepared: 0	4/22/22 A	Analyzed: 04/24/22
Benzene	ND	0.0250					1		J -
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	8.10		8.00		101	70-130			
LCS (2217042-BS1)							Prepared: 0	4/22/22 A	Analyzed: 04/24/22
Benzene	5.25	0.0250	5.00		105	70-130			
Ethylbenzene	4.71	0.0250	5.00		94.2	70-130			
Toluene	5.00	0.0250	5.00		100	70-130			
o-Xylene	4.90	0.0250	5.00		98.1	70-130			
p,m-Xylene	9.68	0.0500	10.0		96.8	70-130			
Total Xylenes	14.6	0.0250	15.0		97.2	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.00		8.00		100	70-130			
LCS Dup (2217042-BSD1)							Prepared: 0	4/22/22 A	Analyzed: 04/24/22
Benzene	5.57	0.0250	5.00		111	70-130	5.90	20	
Ethylbenzene	4.99	0.0250	5.00		99.8	70-130	5.77	20	
Toluene	5.31	0.0250	5.00		106	70-130	5.89	20	
o-Xylene	5.20	0.0250	5.00		104	70-130	5.88	20	
p,m-Xylene	10.3	0.0500	10.0		103	70-130	5.78	20	
Total Xylenes	15.5	0.0250	15.0		103	70-130	5.81	20	
Surrogate: 4-Bromochlorobenzene-PID	7.99		8.00		99.9	70-130			



QC Summary Data

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Mack Energy		Project Name:		Logan 35 SWD					Reported:
7 W. Compress Road		Project Number		20046-0001					
Artesia NM, 88210		Project Manage	r: 1	Natalie Gladden					4/25/2022 5:04:33PM
	No	nhalogenated	Organics	s by EPA 801	15D - G	RO			Analyst: RKS
Analyte		Reporting	Spike	Source	D	Rec	DDD	RPD	
	Result	Limit	Level	Result	Rec	Limits	RPD	Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2217042-BLK1)							Prepared: 0	4/22/22 <i>I</i>	Analyzed: 04/24/22
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.04		8.00		88.1	70-130			
LCS (2217042-BS2)							Prepared: 0	4/22/22 A	Analyzed: 04/24/22
Gasoline Range Organics (C6-C10)	44.1	20.0	50.0		88.1	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.07		8.00		88.4	70-130			
LCS Dup (2217042-BSD2)							Prepared: 0	4/22/22 <i>I</i>	Analyzed: 04/24/22
Gasoline Range Organics (C6-C10)	45.4	20.0	50.0		90.8	70-130	2.97	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.11		8.00		88.9	70-130			



QC Summary Data

		$\mathbf{t} \in \mathcal{S}$		ary Data					
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	2	ogan 35 SWD 0046-0001 Vatalie Gladden					Reported: 4/25/2022 5:04:33PM
	No	onhalogenated O	rganics	by EPA 801	5D - GI	RO			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 (2217045-BLK1)							Prepared: 0	4/22/22	Analyzed: 04/22/22
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.425		0.500		84.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.548		0.500		110	70-130			
Surrogate: Toluene-d8	0.500		0.500		100	70-130			
LCS (2217045-BS2)							Prepared: 0	4/22/22	Analyzed: 04/22/22
Gasoline Range Organics (C6-C10)	55.8	20.0	50.0		112	70-130			
Surrogate: Bromofluorobenzene	0.459		0.500		91.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.503		0.500		101	70-130			
Surrogate: Toluene-d8	0.533		0.500		107	70-130			
Matrix Spike (2217045-MS2)				Source: E	204117-1	4	Prepared: 0	4/22/22	Analyzed: 04/25/22
Gasoline Range Organics (C6-C10)	53.1	20.0	50.0	ND	106	70-130			
Surrogate: Bromofluorobenzene	0.496		0.500		99.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.481		0.500		96.1	70-130			
Surrogate: Toluene-d8	0.501		0.500		100	70-130			
Matrix Spike Dup (2217045-MSD2)				Source: E	204117-1	4	Prepared: 0	4/22/22	Analyzed: 04/25/22
Gasoline Range Organics (C6-C10)	53.3	20.0	50.0	ND	107	70-130	0.354	20	
Surrogate: Bromofluorobenzene	0.491		0.500		98.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.486		0.500		97.2	70-130			
surrogale. 1,2-Dichloroeinane-a4	0.400				27.2	/0 100			



QC Summary Data

		QU DI	u 111111	ary Data					
Mack Energy 7 W. Compress Road		Project Name: Project Number:		Logan 35 SWD 20046-0001					Reported:
Artesia NM, 88210		Project Manager:	ľ	Natalie Gladden					4/25/2022 5:04:33PM
	Nonh	alogenated Org	anics by	7 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 (2217048-BLK1)							Prepared: 0	4/22/22 A	nalyzed: 04/22/22
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	52.9		50.0		106	50-200			
LCS (2217048-BS1)							Prepared: 0	4/22/22 A	analyzed: 04/22/22
Diesel Range Organics (C10-C28)	476	25.0	500		95.3	38-132			
Surrogate: n-Nonane	53.1		50.0		106	50-200			
Matrix Spike (2217048-MS1)				Source: E204117-12			Prepared: 04/22/22 Analyzed: 04/22/22		
Diesel Range Organics (C10-C28)	518	25.0	500	ND	104	38-132			
Surrogate: n-Nonane	55.3		50.0		111	50-200			
Matrix Spike Dup (2217048-MSD1)				Source: E204117-12			Prepared: 04/22/22 Analyzed: 04/22/22		
Diesel Range Organics (C10-C28)	516	25.0	500	ND	103	38-132	0.277	20	
Surrogate: n-Nonane	55.4		50.0		111	50-200			



QC Summary Data

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Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager	2	ogan 35 SWD 0046-0001 Jatalie Gladder					Reported: 4/25/2022 5:04:33PM	
		Anions	by EPA	300.0/90564	4				Analyst: RAS	
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes	
Blank (2217040-BLK1)							Prepared: 04/22/22 Analyzed: 04/22/22			
Chloride LCS (2217040-BS1)	ND	20.0					Prepared: 0	4/22/22 <i>I</i>	Analyzed: 04/22/22	
Chloride	248	20.0	250	_	99.4	90-110				
Matrix Spike (2217040-MS1)				Source: E204117-01				Prepared: 04/22/22 Analyzed: 04/22/22		
Chloride	263	40.0	250	ND	105	80-120				
Matrix Spike Dup (2217040-MSD1)			Source: E204117-01				Prepared: 0	4/22/22 A	Analyzed: 04/25/22	
Chloride	252	40.0	250	ND	101	80-120	4.35	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.


Mack Energ	у	Project Name:	Logan 35 SWD	
7 W. Compr	ess Road	Project Number:	20046-0001	Reported:
Artesia NM	88210	Project Manager:	Natalie Gladden	04/25/22 17:04

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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oject:	Logan	35			Atte	ntion: ESS	665, NM		Lab	WO#		-		Number		1D	2D7 3	D St	andard	CWA	SDWA
ject N	lanager:				Add	ess: 2427 Q	Completes Co	unty B	Eá	104	11-	+	du	046-0	DI	X	d'	1	-		RCRA
dress:	e, Zip 🗛	-Le Cin	NIM		Phoi	State, Zip 17 C	605, MM	-	-		-		Analy	sis and N	lethod	-	T	1	200		RCRA
one:	e, zip 📙	116.216	4 10 101		Ema	il: Natalie			15	15										State	
ail:									by 8015	by 80	121	20	0	0.00		WN	~		NM CO	UT AZ	TX
port d					1240			Lab	ORO	DRO	by 80	oy 82	ls 603	ide 31			C TX		×		
fime mpled	Date Sampled	Matrix	No. of Containers	Sample ID				Number	DRO/ORO	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0		BGDOC	BGDOC			Remarks	
	4/20	S	1	Com	p 24									6.7		X					
	1	1	1		00			2								1		1	1		
		-((Com	0 23								-			6					
				Com	26			3										_			
				com	p 27			4								(
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				Com				7			-	-	-								
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				Com	p 31			8				-				1		-			
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	/	1	1	Con	10 33	_		10								(
ditio	nal Instru	ctions:	1		4				-	1											
							intentionally mislabell	ing the samp	le locat	ion,	-		1000						d on ice the day i n subsequent da		led or receiv
	e of collection ned by: (Sigr		Dat	te	s for legal action.	Received by: (Sign	ature)	Date	1/10	Time	11.	N		1		J	ab Use	Only			-
dallu		-	4	11 7	14.00	1 12		TIP	168	1/	1.	a	Rec	eived or	ice:	C	// N				
linquis	ped by (Sig	rature)	Dat	21/22	15:15	Received by: (Sign	~ hete	Date 4/22	22):0	Ø	T1		10	<u>T2</u>		-	<u>T3</u>		
linquis	hed by: (Sigi	nature)	Dat	te l	fime	Received by: (Sign	ature)	Date		Time			AV	G Temp	c 4						
				- Aqueous, O - O									oly/p	lastic, ag	- ambe						
							e made. Hazardous bility of the laborator								the clier	nt exp	ense. T	he repo	rt for the ana	lysis of the	above

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Page 2 of 5

ient: N						ESC Bill	То	1			b Us						TAT			rogram
pject N	Logan Ianager:	35			Atte	ntion: ESS ress: 2427 u	I County nd	Laby	NO#	117	2	au	Number			2D ₂ 31	St	andard	CWA	SDWA RCRA
dress: y, Stati one: nail: port di	e, Zip A	rtesic	a, NM		Pho	il: Natalie		DRO/ORO by 8015	O by 8015	8021			300.0		WN	X			State UT AZ	1
Fime mpled	Date Sampled	Matrix	No. of Containers	Sample ID		-	Lab Number	DRO/OR	GRO/DRO by	BTEX by 8021	VOC by 8260	Metals 6010	Chloride		BGDOC	BGDOC			Remarks	;
	4/20	\$	5	Comp	34		11						1		X					
	- /	1	1	Comp	35		12								1					
				Comp	36		13													
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				comp	38	P	15													
				Comp	39		14													e.
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31	-	(comp	41		18							_			-			
		1		Comp	42		19										-			
	((comp	43		20													
field sam	nal Instruction	to the validit		the stand of the	legal action.	Sampled by	entionally mislabelling the samp					States of Care			above (0 but less th	an 6 °C on	on ice the day subsequent da		led or receive
las.	hed by: (Sign	ung	Dat	11 -0	1	Received by: (Signatu	11010	22	Time	$l_{s}^{\circ}($	D	Rec	eived o	n ice:		ab Use D/N	Only			
	hed by: (Sigr	18	Dat		201	Received by: (Signatu	Inter 4/221	22		:00)	<u>T1</u>		-	<u>T2</u>		-	<u>T3</u>		
mole M:	atriv: S - Soil	Sd - Solid Se	- Sludge A -	Aqueous, O - Othe			Containe	er Tvp	e: g -	glass.	p - p	_	Temp		er gla:	ss, v - V(DA			
te: Sar	nples are dis	scarded 30	days after r	esults are report	ed unless oth		ade. Hazardous samples wi y of the laboratory is limited	ll be re	turne	d to cli	ient o	r disp	osed of at	the clie	nt exp	ense. Th	ne repor	t for the and		

Envirotech Analytical Laboratory

Sample Receipt Checklist (SRC)

Client:	Mack Energy Da	te Received:	04/22/22 10:0	00	Work Order ID: E204117
Phone:	(575) 390-6397 Da	te Logged In:	04/22/22 08::	56	Logged In By: Caitlin Christian
Email:		e Date:	04/22/22 17:	00 (0 day TAT)	<i>a i</i>
Chain o	f Custody (COC)				
1. Does	the sample ID match the COC?		Yes		
2. Does	the number of samples per sampling site location match t	he COC	Yes		
3. Were	samples dropped off by client or carrier?		Yes	Carrier: F	FedEx
4. Was t	he COC complete, i.e., signatures, dates/times, requested	analyses?	No		
5. Were	all samples received within holding time? Note: Analysis, such as pH which should be conducted in the	field,	Yes		Comments/Resolution
Samula	i.e, 15 minute hold time, are not included in this disucssion.				Comments/Resolution
	Turn Around Time (TAT) ne COC indicate standard TAT, or Expedited TAT?		Yes		Project has been seperated into 2 reports
Sample	•		1.40		due to amount of samples. Workorders are
	a sample cooler received?		Yes		as follows:
	, was cooler received in good condition?		Yes		
-	he sample(s) received intact, i.e., not broken?		Yes		E204117 COC page 1&2 of 5, E204118
10. Wer	e custody/security seals present?		No		COC page 3,4 &5 of 5. Time sampled not
	s, were custody/security seals intact?		NA		provided on COC.
2	the sample received on ice? If yes, the recorded temp is 4°C, i.e., Note: Thermal preservation is not required, if samples are rec		Yes		
	minutes of sampling				
13. If no	visible ice, record the temperature. Actual sample tem	perature: <u>4°</u>	<u>'C</u>		
	<u>Container</u>				
	aqueous VOC samples present?		No		
	VOC samples collected in VOA Vials?		NA		
	e head space less than 6-8 mm (pea sized or less)?		NA		
	a trip blank (TB) included for VOC analyses?		NA 		
	non-VOC samples collected in the correct containers?	11 / 10	Yes		
	e appropriate volume/weight or number of sample containers	collected?	Yes		
Field La	abel e field sample labels filled out with the minimum informa	tion			
	Sample ID?		Yes		
	Date/Time Collected?		No		L
1	Collectors name?		No		
	Preservation				
	s the COC or field labels indicate the samples were presen	rved?	No		
	sample(s) correctly preserved?	9	NA		
	b filteration required and/or requested for dissolved metal	S?	No		
	ase Sample Matrix				
	s the sample have more than one phase, i.e., multiphase?		No		
27. If ye	es, does the COC specify which phase(s) is to be analyzed	?	NA		
	tract Laboratory				
28. Are	samples required to get sent to a subcontract laboratory?		No NA Si		
	a subcontract laboratory specified by the client and if so				o: na



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Pro	ject Information	

Project Information	Chain o	f Custody												Page]	_of_5_
<u>Hisizec Per Clurt</u> <u>Client: Mack</u> <u>Project: Logan 35</u> SWD <u>Project Manager:</u>	Bill To Attention: ESS Address: 2427 Completes Co City, State, Zip Hobbs, NM Phone:	Unty B	Laby	wo#	La		ob Nu	mber 16-00	01		T 207 3D	Sta	andard	EPA Pr CWA	ogram SDWA
Address: <u>City, State, Zip</u> <u>ArteSia</u> , <u>NM</u> <u>Phone:</u> <u>Email:</u> Report due by:	City, State, Zip HOBOS, NM Phone: Email: Natalie		DRO/ORO by 8015	GRO/DRO by 8015				and Me	ethod		X			State UT AZ	TX
Time Date Matrix No. of Containers Sample ID		Lab Number	DRO/OI	GRO/DI	BTEX by 8021	VOC by 8260	Metals 6010	CUIOLIG		BGDOC	BGDOC			Remarks	
4/20 S 1 Comp		1								X	_				
((Comp	25	8						_		$\left(\right)$	-				
Comp	26	3)		-			
Comp	27	4					_			$\left(\right)$					
Comp	28	5	-)	-				
Comp	29	4								(•
Comp	30	7 8					-	-		1					
Comp Comp	31 32	9						-)					
Comp	- 0	10								(
Additional Instructions:		T	J	1	1				1						
I, (field sampler), attest to the validity and authenticity of this sample date or time of collection is considered fraud and may be grounds fo		ing the sample	e locati	ion;			and the second second		and successive and	above O	but less tha	n 6 °C on	on ice the day subsequent d	they are sampl ays.	ed or received
Relinquished by: (Signature) Date Tin Date U/20 Relinquished by: (Signature) Date Tin Relinquished by: (Signature) Date Tin	Received by: (Signature)	Date Date	1/22	Time	4:0		Recei	ved on	ice:		b Use C / N	only			
Relinquished by: (Signature)	ne Received by: (Signature)	Date	u	Time	<u>): C</u>		<u>T1</u> AVG 1	ſemp °(- 4	<u>T2</u>			<u>T3</u>		
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Othe Note: Samples are discarded 30 days after results are report samples is applicable only to those samples received by the	ed unless other arrangements are made. Hazardous	Containe samples wil y is limited t	l be re	turne	d to cli	ient or	dispose	ed of at t					t for the an	alysis of the	above
		36 of 37				(er	1	vi	r	01	te	ch

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	formation					Chain	of Custody	•												Page _2	_ of <u>5</u>
lient: /	Vack Logan Manager:			*	Atte Add City	ntion: ESS ress: 2427 W Country State, Zip Hobbs, M	y nd	Lab V E é	wo#		b Use	ad ad	Numb Ho	er -000	l 1D od	20	TA 3D	- Andrew Street of the second s	ndard	EPA P	SDWA RCRA
ity, Stat hone: mail: teport d	te, Zip A	rtesic	a, NM		Pho	ne: il: Natalie		DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021			Chloride 300.0		MN	ТX				State UT AZ	
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID			Lab Number	DRO/O	GRO/D	BTEX b	VOC by 8260	Metals 6010	Chlorid		BGDOC	BGDOC				Remarks	
	4/20	\$	1	Com	p 34		11								X			-			
	1	1	1	Comp	, 35		12								(_
				Com			13														
				com			14								(
	1			com	20		15														
				Com	20		10								(
				Com	110		17														
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	+ -	1		Comr	.10		19								1						
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Additio	onal Instru	ctions:		wirip		and a second	- the state of the	-								1	LL				
I, (field sa	mpler), attest	to the validity	y and authen	ticity of this sam	ple. I am aware	that tampering with or intentionally mislabel	ting the samp	alocat	ion,			10.000		and the second sec					ice the day	they are sampl	ed or received
date or tin	shed by: (Sig	nature)	Date	$\frac{1}{20}$	for legal action.	that tampering with or intentionally mislabel Sampled by: (William () Received by: (Signardire)	4/21/2	22	14	100	X	E.F.	-	on ice	R.A.		se Onl				
Relinqui	shed by:)(Sig	hature	Dat	9	Time 5:10	Received by (Signature)	4/221	22	Time 10	:00)	T1	10	and the second s			-	Ï	3		
Relinqui	shed by: (Sig	nature)	Dat	e	Time	Received by: (Signature)	Date		Time			AVO	a Tem	p°C_	4						
Sample M Note: Sa	Matrix: S - Soil, amples are d	Sd - Solid, Sg iscarded 30	- Sludge, A - days after r	Aqueous, O - Of esults are rep	her orted unless ot	ner arrangements are made. Hazardou:	Containe s samples wi				p - p ient o	oly/p	lastic,	ag - an	nber gla client ex	pense.	VOA The re	eport f	or the ana	alysis of the	above
samples	is applicable	e only to tho	se samples	received by th	e laboratory w	ith this COC. The liability of the laborato	ry is limited	to the	amou	nt paid	d for o	n the	report	•						Stanger and Street	above Ch

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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: Logan

Logan 35 SWD

Work Order: E204118

Job Number: 20046-0001

Received: 4/22/2022

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 4/25/22

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: 4/25/22

Natalie Gladden 7 W. Compress Road Artesia, NM 88210

Project Name: Logan 35 SWD Workorder: E204118 Date Received: 4/22/2022 10:00:00AM

Natalie Gladden,



Page 224 of 292

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/22/2022 10:00:00AM, under the Project Name: Logan 35 SWD.

The analytical test results summarized in this report with the Project Name: Logan 35 SWD 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,

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Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

		Sample Sum	illal y		
Mack Energy		Project Name:	Logan 35 SWD		Reported:
7 W. Compress Road Artesia NM, 88210		Project Number: Project Manager:	20046-0001 Natalie Gladden		04/25/22 16:52
11105hi 1111, 00210		riojeet munuger.	Tunine Gladden		0 11 201 22 10.02
Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Comp 44	E204118-01A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
Comp 45	E204118-02A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
Comp 46	E204118-03A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
Comp 47	E204118-04A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
Comp 48	E204118-05A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
Comp 49	E204118-06A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
Comp 50	E204118-07A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
Comp 51	E204118-08A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
Comp 52	E204118-09A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
Comp 53	E204118-10A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
Comp 54	E204118-11A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
comp 55	E204118-12A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
omp 56	E204118-13A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
W Comp 1	E204118-14A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
W Comp 2	E204118-15A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
W Comp 3	E204118-16A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
SW Comp 4	E204118-17A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
W Comp 5	E204118-18A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
W Comp 6	E204118-19A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
W Comp 7	E204118-20A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
W Comp 8	E204118-21A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
W Comp 9	E204118-22A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
W Comp 10	E204118-23A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
W Comp 11	E204118-24A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
W Comp 12	E204118-25A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.
W Comp 13	E204118-26A	Soil	04/20/22	04/22/22	Glass Jar, 4 oz.



		ampic D	ata			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Num Project Mana	ber: 2004	an 35 SWD 46-0001 ilie Gladden			Reported: 4/25/2022 4:52:31PM
		Comp 44				
		E204118-01				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	st: RKS		Batch: 2217044
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Fotal Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		97.1 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	st: RKS		Batch: 2217044
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.7 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	st: JL		Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		108 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	st: RAS		Batch: 2217041
Chloride	ND	200	10	04/22/22	04/22/22	

Sample Data



Sample Data

	5	ampic D	ala			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Numb Project Manaş	er: 2004	an 35 SWD 46-0001 alie Gladden			Reported: 4/25/2022 4:52:31PM
		Comp 45				
		E204118-02				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	:: RKS		Batch: 2217044
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
o-Xylene	ND	0.0250	1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		105 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	:: RKS		Batch: 2217044
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.4 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2217047	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		112 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	:: RAS		Batch: 2217041
Chloride	ND	200	10	04/22/22	04/22/22	



Sample Data

		ampie D				
Mack Energy 7 W. Compress Road	Project Name: Project Numbe	er: 2004	an 35 SWD 46-0001			Reported:
Artesia NM, 88210	Project Manag	ger: Nata	alie Gladden		4/25/2022 4:52:31PM	
		Comp 46				
		E204118-03				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst	: RKS		Batch: 2217044
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
o-Xylene	ND	0.0250	1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		105 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst	: RKS		Batch: 2217044
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.2 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2217047	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		102 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst	: RAS		Batch: 2217041
Chloride	ND	200	10	04/22/22	04/22/22	



Sample Data

	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ampic D				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Numb Project Mana	ber: 2004	an 35 SWD 46-0001 alie Gladden			<b>Reported:</b> 4/25/2022 4:52:31PM
		Comp 47				
		E204118-04				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst	:: RKS		Batch: 2217044
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		105 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2217044
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.7 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Dil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		105 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst	: RAS		Batch: 2217041
Chloride	ND	200	10	04/22/22	04/22/22	

## Sample Data

	5	ample D	ala			
Mack Energy 7 W. Compress Road	Project Name: Project Numb		Logan 35 SWD 20046-0001			<b>Reported:</b> 4/25/2022 4:52:31PM
Artesia NM, 88210	Project Manag		lie Gladden			
		Comp 48				
		E204118-05				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	:: RKS		Batch: 2217044
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		98.4 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217044
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.7 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		115 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	:: RAS		Batch: 2217041
Chloride	ND	100	5	04/22/22	04/22/22	



# Sample Data

Project Name	т				
		an 35 SWD			<b>Reported:</b> 4/25/2022 4:52:31PM
Project Numb		46-0001			
Project Manag	ger: Nata	ilie Gladden			
	Comp 49				
	E204118-06				
	Reporting				
Result	Limit	Dilution	Prepared	Analyzed	Notes
mg/kg	mg/kg	Analy	/st: RKS		Batch: 2217044
ND	0.0250	1	04/22/22	04/22/22	
ND	0.0250	1	04/22/22	04/22/22	
ND	0.0250	1	04/22/22	04/22/22	
ND	0.0250	1	04/22/22	04/22/22	
ND	0.0500	1	04/22/22	04/22/22	
ND	0.0250	1	04/22/22	04/22/22	
	97.7 %	70-130	04/22/22	04/22/22	
mg/kg	mg/kg	Analy	/st: RKS		Batch: 2217044
ND	20.0	1	04/22/22	04/22/22	
	88.8 %	70-130	04/22/22	04/22/22	
mg/kg	mg/kg	Analyst: JL			Batch: 2217047
ND	25.0	1	04/22/22	04/22/22	
ND	50.0	1	04/22/22	04/22/22	
	114 %	50-200	04/22/22	04/22/22	
mg/kg	mg/kg	Analy	/st: RAS		Batch: 2217041
ND	100	5	04/22/22	04/22/22	
	Result mg/kg ND ND ND ND ND ND MD MD MD MD MD MD MD MD MD MD MD MD MD	Project Manager:   Nata     Comp 49   E204118-06     E204118-06   Reporting     Result   Limit     mg/kg   mg/kg     ND   0.0250     MD   20.0     88.8 %   Mg/kg     MD   25.0     ND   50.0     1114 %   mg/kg   mg/kg	Project Manager:   Natalie Gladden     Comp 49     E204118-06   Reporting     Result   Limit   Dilution     mg/kg   mg/kg   Analy     ND   0.0250   1     MD   20.0   1     MD   20.0   1     MD   20.0   1     ND   20.0   1     ND   20.0   1     ND   20.0   1     ND   50.0   1     N	Natalie Gladden   Comp 49   E204118-06   Result Dilution Prepared   mg/kg mg/kg Analyst: RKS   ND 0.0250 1 04/22/22   ND 20.0 1 04/22/22   MD 20.0 1 04/22/22   MD 20.0 1 04/22/22   MD 20.0 1 04/22/22   MD 25.0 1 04/22/22   ND 50.0	Project Manager: Natalie Gladden   Comp 49   E204118-06   Reporting Reporting   Result Limit Dilution Prepared Analyzed   mg/kg mg/kg Analyst: RKS VIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII



# Sample Data

	~	ampic D				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Numb Project Manag	er: 2004	an 35 SWD 46-0001 Ilie Gladden			<b>Reported:</b> 4/25/2022 4:52:31PM
		Comp 50				
		E204118-07				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	: RKS		Batch: 2217044
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Foluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		103 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	: RKS		Batch: 2217044
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.9 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		107 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	: RAS		Batch: 2217041
Chloride	ND	100	5	04/22/22	04/22/22	



# Sample Data

	D	ampie D				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Numb Project Mana	ber: 2004	an 35 SWD 46-0001 alie Gladden			<b>Reported:</b> 4/25/2022 4:52:31PM
Anosa A(A, 00210	i lojeet Mana	-				
		Comp 51				
		E204118-08				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217044
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Fotal Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		107 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217044
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.6 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analys	Analyst: JL		Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		127 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: RAS		Batch: 2217041
	ND	100	5	04/22/22	04/22/22	
Chloride			2		04/22/22	Butch. 22



# Sample Data

	~	ampic D				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name Project Numb Project Mana	er: 2004	an 35 SWD 46-0001 ilie Gladden			<b>Reported:</b> 4/25/2022 4:52:31PM
		Comp 52				
		E204118-09				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst	: RKS		Batch: 2217044
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Foluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		99.1 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst	: RKS		Batch: 2217044
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.3 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst	Analyst: JL		Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		122 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst	: RAS		Batch: 2217041
Chloride	ND	100	5	04/22/22	04/22/22	



## Sample Data

	5	ample D	ala			
Mack Energy	Project Name	: Log	an 35 SWD			
7 W. Compress Road	Project Numb	er: 2004		Reported:		
Artesia NM, 88210	Project Manag	ger: Nata	lie Gladden			4/25/2022 4:52:31PM
		Comp 53				
		E204118-10				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	st: RKS		Batch: 2217044
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		99.7 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	kg Analyst: RKS			Batch: 2217044
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.8 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	g Analyst: JL			Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		121 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	st: RAS		Batch: 2217041
Chloride	ND	100	5	04/22/22	04/22/22	



## Sample Data

	5	ampie D	ala			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbo Project Manag	er: 2004	an 35 SWD 46-0001 alie Gladden			<b>Reported:</b> 4/25/2022 4:52:31PM
		Comp 54				
		E204118-11				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217044
Benzene	ND	0.0250	1	04/22/22	04/23/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/23/22	
Toluene	ND	0.0250	1	04/22/22	04/23/22	
p-Xylene	ND	0.0250	1	04/22/22	04/23/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/23/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/23/22	
Surrogate: 4-Bromochlorobenzene-PID		104 %	70-130	04/22/22	04/23/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217044
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/23/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.4 %	70-130	04/22/22	04/23/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		120 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: RAS		Batch: 2217041
Chloride	ND	100	5	04/22/22	04/22/22	



## Sample Data

	5	ampie D	ala			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numb Project Manag	er: 2004	an 35 SWD 46-0001 alie Gladden			<b>Reported:</b> 4/25/2022 4:52:31PM
		Comp 55				
		E204118-12				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217044
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
o-Xylene	ND	0.0250	1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Fotal Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: 4-Bromochlorobenzene-PID		97.2 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	t: RKS		Batch: 2217044
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.5 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2217047	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Dil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		123 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	t: RAS		Batch: 2217041
Chloride	ND	100	5	04/22/22	04/22/22	



## Sample Data

	3	ample D	ลเล			
Mack Energy	Project Name	: Log	an 35 SWD			
7 W. Compress Road	Project Numb	er: 2004	46-0001			Reported:
Artesia NM, 88210	Project Manag	ger: Nata	alie Gladden			4/25/2022 4:52:31PM
		Comp 56				
		E204118-13				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	Batch: 2217044		
Benzene	ND	0.0250	1	04/22/22	04/23/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/23/22	
Toluene	ND	0.0250	1	04/22/22	04/23/22	
p-Xylene	ND	0.0250	1	04/22/22	04/23/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/23/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/23/22	
Surrogate: 4-Bromochlorobenzene-PID		97.3 %	70-130	04/22/22	04/23/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	Batch: 2217044		
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/23/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.9 %	70-130	04/22/22	04/23/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		125 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	st: RAS		Batch: 2217041
Chloride	ND	100	5	04/22/22	04/22/22	



## Sample Data

	5	ample D	ala			
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbo Project Manag	er: 2004	an 35 SWD 46-0001 1lie Gladden			<b>Reported:</b> 4/25/2022 4:52:31PM
	S	SW Comp 1				
		E204118-14				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	Batch: 2217044		
Benzene	ND	0.0250	1	04/22/22	04/23/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/23/22	
Toluene	ND	0.0250	1	04/22/22	04/23/22	
p-Xylene	ND	0.0250	1	04/22/22	04/23/22	
p,m-Xylene	ND	0.0500	1	04/22/22	04/23/22	
Fotal Xylenes	ND	0.0250	1	04/22/22	04/23/22	
Surrogate: 4-Bromochlorobenzene-PID		97.1 %	70-130	04/22/22	04/23/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	Batch: 2217044		
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/23/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.7 %	70-130	04/22/22	04/23/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	vst: JL		Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		128 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	vst: RAS		Batch: 2217041
Chloride	ND	100	5	04/22/22	04/22/22	



## Sample Data

	58	ample D	ลเล			
Mack Energy	Project Name:		an 35 SWD			D ( )
7 W. Compress Road Artesia NM, 88210	Project Numbe Project Manag		46-0001 alie Gladden			<b>Reported:</b> 4/25/2022 4:52:31PM
Alusia IVIII, 00210	, .		ine Gladden			1.25.2022 1.52.511 11
	S	SW Comp 2				
		E204118-15				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst	Batch: 2217044		
Benzene	ND	0.0250	1	04/22/22	04/23/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/23/22	
Toluene	ND	0.0250	1	04/22/22	04/23/22	
p-Xylene	ND	0.0250	1	04/22/22	04/23/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/23/22	
Fotal Xylenes	ND	0.0250	1	04/22/22	04/23/22	
Surrogate: 4-Bromochlorobenzene-PID		103 %	70-130	04/22/22	04/23/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst	Batch: 2217044		
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/23/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.3 %	70-130	04/22/22	04/23/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Dil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		118 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst	: RAS		Batch: 2217041
Chloride	ND	100	5	04/22/22	04/22/22	



## Sample Data

	5	ample D	ลเล			
Mack Energy	Project Name:		an 35 SWD			D ( )
7 W. Compress Road Artesia NM, 88210	Project Numbe Project Manag		46-0001 alie Gladden			<b>Reported:</b> 4/25/2022 4:52:31PM
Artesia NM, 88210	Project Manag	ger: Nata	alle Gladden			4/23/2022 4:52:51PM
	S	SW Comp 3				
		E204118-16				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys	Batch: 2217044		
Benzene	ND	0.0250	1	04/22/22	04/23/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/23/22	
Toluene	ND	0.0250	1	04/22/22	04/23/22	
p-Xylene	ND	0.0250	1	04/22/22	04/23/22	
o,m-Xylene	ND	0.0500	1	04/22/22	04/23/22	
Fotal Xylenes	ND	0.0250	1	04/22/22	04/23/22	
Surrogate: 4-Bromochlorobenzene-PID		96.0 %	70-130	04/22/22	04/23/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	Batch: 2217044		
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/23/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.7 %	70-130	04/22/22	04/23/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		113 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	:: RAS		Batch: 2217041
Chloride	ND	100	5	04/22/22	04/22/22	



# Sample Data

		ampic D				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbe Project Manag	er: 2004	an 35 SWD 46-0001 Ilie Gladden			<b>Reported:</b> 4/25/2022 4:52:31PM
	S	SW Comp 4				
		E204118-17				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analys		Batch: 2217044	
Benzene	ND	0.0250	1	04/22/22	04/23/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/23/22	
Toluene	ND	0.0250	1	04/22/22	04/23/22	
-Xylene	ND	0.0250	1	04/22/22	04/23/22	
,m-Xylene	ND	0.0500	1	04/22/22	04/23/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/23/22	
urrogate: 4-Bromochlorobenzene-PID		99.2 %	70-130	04/22/22	04/23/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analys	Batch: 2217044		
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/23/22	
urrogate: 1-Chloro-4-fluorobenzene-FID		88.7 %	70-130	04/22/22	04/23/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL			Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Dil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
urrogate: n-Nonane		113 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analys	: RAS		Batch: 2217041
Chloride	ND	100	5	04/22/22	04/22/22	

# Sample Data

		ampic D	uu				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbe Project Manag	er: 2004	an 35 SWI 46-0001 Ilie Gladde				<b>Reported:</b> 4/25/2022 4:52:31PM
	S	SW Comp 5					
		E204118-18					
Analyte	Result	Reporting Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	RKS		Batch: 2217045
Benzene	ND	0.0250		1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/22/22	04/22/22	
Toluene	ND	0.0250		1	04/22/22	04/22/22	
o-Xylene	ND	0.0250		1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500		1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		86.6 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		99.4 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: RKS			Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		86.6 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		99.4 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0		1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/22/22	04/22/22	
Surrogate: n-Nonane		114 %	50-200		04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	RAS		Batch: 2217041
Chloride	ND	100		5	04/22/22	04/22/22	



# Sample Data

	~•	ampic D					
Mack Energy 7 W. Compress Road	Project Name: Project Numbe		Logan 35 SWD 20046-0001				Reported:
Artesia NM, 88210	Project Manag	er: Nata	ilie Gladde	en			4/25/2022 4:52:31PM
	5	SW Comp 6					
		E204118-19					
		Reporting					
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: RKS		Batch: 2217045
Benzene	ND	0.0250		1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/22/22	04/22/22	
Toluene	ND	0.0250		1	04/22/22	04/22/22	
o-Xylene	ND	0.0250		1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500		1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		85.3 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		106 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		100 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: RKS			Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		85.3 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		106 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		100 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: JL		Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0		1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/22/22	04/22/22	
Surrogate: n-Nonane		137 %	50-200		04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: RAS		Batch: 2217041
Chloride	ND	100		5	04/22/22	04/22/22	



# Sample Data

	~•	impic D					
Mack Energy 7 W. Compress Road	Project Name: Project Numbe	r: 2004	an 35 SWI 46-0001	)			Reported:
Artesia NM, 88210	Project Manage	er: Nata	ilie Gladde	en			4/25/2022 4:52:31PM
	S	W Comp 7					
	]	E204118-20					
		Reporting					
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	RKS		Batch: 2217045
Benzene	ND	0.0250		1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/22/22	04/22/22	
Toluene	ND	0.0250		1	04/22/22	04/22/22	
p-Xylene	ND	0.0250		1	04/22/22	04/22/22	
o,m-Xylene	ND	0.0500		1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		86.0 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		99.0 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: RKS			Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		86.0 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		99.0 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	ЛL		Batch: 2217047
Diesel Range Organics (C10-C28)	ND	25.0		1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/22/22	04/22/22	
Surrogate: n-Nonane		128 %	50-200		04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	RAS		Batch: 2217041
Chloride	ND	100		5	04/22/22	04/22/22	



# Sample Data

		mpic D					
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbe Project Manag	r: 2004	an 35 SWI 46-0001 alie Gladde				<b>Reported:</b> 4/25/2022 4:52:31PM
	S	W Comp 8					
		E204118-21					
Analyte	Result	Reporting Limit		ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	RKS		Batch: 2217045
Benzene	ND	0.0250		1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/22/22	04/22/22	
Toluene	ND	0.0250		1	04/22/22	04/22/22	
o-Xylene	ND	0.0250		1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500		1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		85.7 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		107 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		101 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: RKS			Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		85.7 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		107 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		101 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2217049
Diesel Range Organics (C10-C28)	ND	25.0		1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/22/22	04/22/22	
Surrogate: n-Nonane		123 %	50-200		04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	RAS		Batch: 2217039
Chloride	ND	100		5	04/22/22	04/22/22	



# Sample Data

		ampie D	uu				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numb Project Manag	er: 2004	an 35 SWI 46-0001 Ilie Gladde				<b>Reported:</b> 4/25/2022 4:52:31PM
	Ś	SW Comp 9					
		E204118-22					
Analyte	Result	Reporting Limit	Dil	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	RKS		Batch: 2217045
Benzene	ND	0.0250		1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/22/22	04/22/22	
Toluene	ND	0.0250		1	04/22/22	04/22/22	
o-Xylene	ND	0.0250		1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500		1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		87.1 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		106 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		101 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: RKS			Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		87.1 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		106 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		101 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	JL		Batch: 2217049
Diesel Range Organics (C10-C28)	ND	25.0		1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/22/22	04/22/22	
Surrogate: n-Nonane		131 %	50-200		04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	RAS		Batch: 2217039
Chloride	ND	200		10	04/22/22	04/22/22	



## Sample Data

	5	ample D	ata				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbe Project Manag	er: 2004	an 35 SWI 46-0001 Ilie Gladde				<b>Reported:</b> 4/25/2022 4:52:31PM
	S	W Comp 10					
		E204118-23					
		Reporting					
Analyte	Result	Limit	Dil	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	RKS		Batch: 2217045
Benzene	ND	0.0250		1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/22/22	04/22/22	
Toluene	ND	0.0250		1	04/22/22	04/22/22	
o-Xylene	ND	0.0250		1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500		1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		85.9 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		106 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		99.5 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: RKS			Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		85.9 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		106 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		99.5 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2217049
Diesel Range Organics (C10-C28)	ND	25.0		1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/22/22	04/22/22	
Surrogate: n-Nonane		131 %	50-200		04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	RAS		Batch: 2217039
Chloride	ND	200		10	04/22/22	04/22/22	



# Sample Data

		ampic D				
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbe Project Manag	er: 2004	an 35 SWD 46-0001 Ilie Gladden	1		<b>Reported:</b> 4/25/2022 4:52:31PM
	S	W Comp 11				
		E204118-24				
Analyte	Result	Reporting Limit	Dilu	tion Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: RKS		Batch: 2217045
Benzene	ND	0.0250	1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250	1	04/22/22	04/22/22	
Toluene	ND	0.0250	1	04/22/22	04/22/22	
p-Xylene	ND	0.0250	1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500	1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250	1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		85.7 %	70-130	04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		106 %	70-130	04/22/22	04/22/22	
Surrogate: Toluene-d8		98.9 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: RKS		Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		85.7 %	70-130	04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		106 %	70-130	04/22/22	04/22/22	
Surrogate: Toluene-d8		98.9 %	70-130	04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: JL		Batch: 2217049
Diesel Range Organics (C10-C28)	ND	25.0	1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/22/22	04/22/22	
Surrogate: n-Nonane		129 %	50-200	04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: RAS		Batch: 2217039
Chloride	ND	200	10	0 04/22/22	04/22/22	



# Sample Data

		ampie D					
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbe Project Manag	er: 2004	an 35 SWI 46-0001 Ilie Gladde				<b>Reported:</b> 4/25/2022 4:52:31PM
	S	W Comp 12					
		E204118-25					
		Reporting					
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: RKS			Batch: 2217045
Benzene	ND	0.0250		1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/22/22	04/22/22	
Toluene	ND	0.0250		1	04/22/22	04/22/22	
o-Xylene	ND	0.0250		1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500		1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		85.5 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		111 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		98.6 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS				Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		85.5 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		111 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		98.6 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2217049
Diesel Range Organics (C10-C28)	ND	25.0		1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/22/22	04/22/22	
Surrogate: n-Nonane		133 %	50-200		04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: RAS			Batch: 2217039
Chloride	ND	200		10	04/22/22	04/22/22	


### Sample Data

		ampie D					
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Numbe Project Manag	er: 2004	an 35 SWI 46-0001 alie Gladdo				<b>Reported:</b> 4/25/2022 4:52:31PM
	S	W Comp 13					
		E204118-26					
		Reporting					
Analyte	Result	Limit	Di	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	RKS		Batch: 2217045
Benzene	ND	0.0250		1	04/22/22	04/22/22	
Ethylbenzene	ND	0.0250		1	04/22/22	04/22/22	
Toluene	ND	0.0250		1	04/22/22	04/22/22	
o-Xylene	ND	0.0250		1	04/22/22	04/22/22	
p,m-Xylene	ND	0.0500		1	04/22/22	04/22/22	
Total Xylenes	ND	0.0250		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		83.7 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		108 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		98.9 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	RKS		Batch: 2217045
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/22/22	04/22/22	
Surrogate: Bromofluorobenzene		83.7 %	70-130		04/22/22	04/22/22	
Surrogate: 1,2-Dichloroethane-d4		108 %	70-130		04/22/22	04/22/22	
Surrogate: Toluene-d8		98.9 %	70-130		04/22/22	04/22/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2217049
Diesel Range Organics (C10-C28)	ND	25.0		1	04/22/22	04/22/22	
Oil Range Organics (C28-C36)	ND	50.0		1	04/22/22	04/22/22	
Surrogate: n-Nonane		92.0 %	50-200		04/22/22	04/22/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	RAS		Batch: 2217039
Chloride	ND	200		10	04/22/22	04/22/22	



## QC Summary Data

		QC SI	a	iry Data											
Mack Energy		Project Name: Project Number:		ogan 35 SWD 046-0001					Reported:						
7 W. Compress Road Artesia NM, 88210		Project Manager:		atalie Gladden				4/	25/2022 A-52-31PM						
Artesia NM, 88210		Project Manager:	ING	atalle Gladden				4/.	4/25/2022 4:52:31PM						
	Volatile Organic Compounds by EPA 8260B							Analyst: RKS							
Analyte		Reporting	Spike	Source		Rec	DDD	RPD							
	Result	Limit	Level	Result	Rec	Limits	RPD	Limit	N						
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes						
Blank (2217045-BLK1)							Prepared: 04	4/22/22 Ana	lyzed: 04/22/22						
Benzene	ND	0.0250													
Ethylbenzene	ND	0.0250													
Foluene	ND	0.0250													
p-Xylene	ND	0.0250													
o,m-Xylene	ND	0.0500													
Total Xylenes	ND	0.0250													
Surrogate: Bromofluorobenzene	0.425		0.500		84.9	70-130									
Surrogate: 1,2-Dichloroethane-d4	0.548		0.500		110	70-130									
Surrogate: Toluene-d8	0.500		0.500		100	70-130									
LCS (2217045-BS1)							Prepared: 04	4/22/22 Ana	lyzed: 04/22/22						
Benzene	2.39	0.0250	2.50		95.5	70-130	1		-						
Ethylbenzene	2.43	0.0250	2.50		97.2	70-130									
Toluene	2.45	0.0250	2.50		97.9	70-130									
p-Xylene	2.35	0.0250	2.50		93.9	70-130									
o,m-Xylene	4.76	0.0500	5.00		95.2	70-130									
Fotal Xylenes	7.11	0.0250	7.50		94.8	70-130									
Surrogate: Bromofluorobenzene	0.472	0.0250	0.500		94.4	70-130									
	0.502		0.500		100	70-130									
Surrogate: 1,2-Dichloroethane-d4 Surrogate: Toluene-d8	0.502		0.500		106	70-130									
	0.551			<b>a b</b>			D 1.0	4/22/22	1. 0.1/00/00						
Matrix Spike (2217045-MS1)				Source: E			Prepared: 04	4/22/22 Ana	lyzed: 04/22/22						
Benzene	2.44	0.0250	2.50	ND	97.6	48-131									
Ethylbenzene	2.50	0.0250	2.50	ND	100	45-135									
Toluene	2.49	0.0250	2.50	ND	99.8	48-130									
p-Xylene	2.41	0.0250	2.50	ND	96.4	43-135									
o,m-Xylene	4.84	0.0500	5.00	ND	96.8	43-135									
Total Xylenes	7.25	0.0250	7.50	ND	96.7	43-135									
Surrogate: Bromofluorobenzene	0.479		0.500		95.7	70-130									
	0.532		0.500		105	70-130									
Surrogate: 1,2-Dichloroethane-d4	0.523														
surrogate: 1,2-Dichloroethane-d4 Surrogate: Toluene-d8	0.525		0.500		105	70-130									
-			0.500	Source: E			Prepared: 04	4/22/22 Ana	lyzed: 04/22/22						
Surrogate: Toluene-d8		0.0250	0.500	Source: E			Prepared: 04 0.699	4/22/22 Ana 23	lyzed: 04/22/22						
Surrogate: Toluene-d8 Matrix Spike Dup (2217045-MSD1)	0.526	0.0250 0.0250			204117-	14			lyzed: 04/22/22						
Surrogate: Toluene-d8 Matrix Spike Dup (2217045-MSD1) Benzene	0.526		2.50	ND	<b>204117-</b> 96.9	48-131	0.699	23	lyzed: 04/22/22						
Surrogate: Toluene-d8 Matrix Spike Dup (2217045-MSD1) Benzene Ethylbenzene	0.526 2.42 2.50	0.0250	2.50 2.50	ND ND	<b>204117-</b> 96.9 100	<b>14</b> 48-131 45-135	0.699	23 27	lyzed: 04/22/22						
Surrogate: Toluene-d8 Matrix Spike Dup (2217045-MSD1) Benzene Ethylbenzene Foluene	0.526 2.42 2.50 2.51	0.0250 0.0250	2.50 2.50 2.50	ND ND ND	<b>204117-</b> 96.9 100 100	<b>14</b> 48-131 45-135 48-130	0.699 0.100 0.540	23 27 24	lyzed: 04/22/22						
Surrogate: Toluene-d8 Matrix Spike Dup (2217045-MSD1) Benzene Ethylbenzene Toluene p-Xylene	0.526 2.42 2.50 2.51 2.42	0.0250 0.0250 0.0250	2.50 2.50 2.50 2.50	ND ND ND ND	<b>204117-</b> 96.9 100 100 96.8	48-131 45-135 48-130 43-135	0.699 0.100 0.540 0.352	23 27 24 27	lyzed: 04/22/22						
Surrogate: Toluene-d8 Matrix Spike Dup (2217045-MSD1) Benzene Ethylbenzene Toluene p-Xylene p.m-Xylene	0.526 2.42 2.50 2.51 2.42 4.86	0.0250 0.0250 0.0250 0.0500	2.50 2.50 2.50 2.50 5.00	ND ND ND ND ND	<b>204117-</b> 96.9 100 100 96.8 97.2	<b>14</b> 48-131 45-135 48-130 43-135 43-135	0.699 0.100 0.540 0.352 0.443	23 27 24 27 27	lyzed: 04/22/22						
Surrogate: Toluene-d8 Matrix Spike Dup (2217045-MSD1) Benzene Ethylbenzene Toluene o-Xylene o,m-Xylene Total Xylenes	0.526 2.42 2.50 2.51 2.42 4.86 7.28	0.0250 0.0250 0.0250 0.0500	2.50 2.50 2.50 2.50 5.00 7.50	ND ND ND ND ND	<b>204117-</b> 96.9 100 100 96.8 97.2 97.1	<b>14</b> 48-131 45-135 48-130 43-135 43-135 43-135	0.699 0.100 0.540 0.352 0.443	23 27 24 27 27	lyzed: 04/22/22						



# **QC Summary Data**

		QC D		II y Data	•				
Mack Energy 7 W. Compress Road		Project Name: Project Number:		ogan 35 SWD 0046-0001					Reported:
Artesia NM, 88210		Project Manager:	N	atalie Gladden					4/25/2022 4:52:31PM
		Volatile O	rganics l	by EPA 802	IB				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 (2217044-BLK1)							Prepared: 0	4/22/22 A	nalyzed: 04/23/22
Benzene	ND	0.0250							· ·
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	8.37	0.0230	8.00		105	70-130			
LCS (2217044-BS1)							Prepared: 0	4/22/22 A	nalyzed: 04/23/22
Benzene	4.21	0.0250	5.00		84.2	70-130			
Ethylbenzene	4.46	0.0250	5.00		89.2	70-130			
Toluene	4.52	0.0250	5.00		90.4	70-130			
p-Xylene	4.69	0.0250	5.00		93.7	70-130			
p,m-Xylene	9.21	0.0500	10.0		92.1	70-130			
Total Xylenes	13.9	0.0250	15.0		92.7	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.39		8.00		105	70-130			
Matrix Spike (2217044-MS1)				Source: I	E <b>204118-</b> (	01	Prepared: 0	4/22/22 A	analyzed: 04/23/22
Benzene	4.62	0.0250	5.00	ND	92.4	54-133			
Ethylbenzene	4.87	0.0250	5.00	ND	97.4	61-133			
Toluene	4.96	0.0250	5.00	ND	99.1	61-130			
p-Xylene	5.12	0.0250	5.00	ND	102	63-131			
p,m-Xylene	10.0	0.0500	10.0	ND	100	63-131			
Total Xylenes	15.2	0.0250	15.0	ND	101	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.96		8.00		99.5	70-130			
Matrix Spike Dup (2217044-MSD1)				Source: I	E <b>204118-</b> (	01	Prepared: 0	4/22/22 A	nalyzed: 04/23/22
Benzene	4.47	0.0250	5.00	ND	89.3	54-133	3.38	20	
Ethylbenzene	4.71	0.0250	5.00	ND	94.2	61-133	3.39	20	
Toluene	4.79	0.0250	5.00	ND	95.8	61-130	3.42	20	
o-Xylene	4.95	0.0250	5.00	ND	99.0	63-131	3.40	20	
p,m-Xylene	9.70	0.0500	10.0	ND	97.0	63-131	3.51	20	
Total Xylenes	14.7	0.0250	15.0	ND	97.7	63-131	3.47	20	
•									



## **QC Summary Data**

		QC N	<i>u</i>	in y Data	•				
Mack Energy 7 W. Compress Road		Project Name: Project Number:	20	ogan 35 SWD 0046-0001					<b>Reported:</b>
Artesia NM, 88210		Project Manager	: N	atalie Gladden					4/25/2022 4:52:31PM
	Noi	nhalogenated (	Organics	by EPA 801	5D - GI	RO			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 (2217044-BLK1)							Prepared: (	)4/22/22	Analyzed: 04/23/22
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.08		8.00		88.5	70-130			
LCS (2217044-BS2)							Prepared: (	)4/22/22	Analyzed: 04/23/22
Gasoline Range Organics (C6-C10)	46.8	20.0	50.0		93.6	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.18		8.00		89.8	70-130			
Matrix Spike (2217044-MS2)				Source: I	E <b>204118-</b> 0	)1	Prepared: (	)4/22/22	Analyzed: 04/23/22
Gasoline Range Organics (C6-C10)	50.9	20.0	50.0	ND	102	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.12		8.00		89.0	70-130			
Matrix Spike Dup (2217044-MSD2)				Source: I	E204118-0	)1	Prepared: (	04/22/22	Analyzed: 04/23/22
Gasoline Range Organics (C6-C10)	49.5	20.0	50.0	ND	98.9	70-130	2.90	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.01		8.00		87.7	70-130			



### **QC Summary Data**

		QC BI	uIIIII	ary Data					
Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: Project Number: Project Manager:	2	ogan 35 SWD 0046-0001 Vatalie Gladden			<b>Reported:</b> 4/25/2022 4:52:31PM			
	N		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 (2217045-BLK1)							Prepared: 0	4/22/22 /	Analyzed: 04/22/22
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.425		0.500		84.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.548		0.500		110	70-130			
Surrogate: Toluene-d8	0.500		0.500		100	70-130			
LCS (2217045-BS2)							Prepared: 0	4/22/22 <i>I</i>	Analyzed: 04/22/22
Gasoline Range Organics (C6-C10)	55.8	20.0	50.0		112	70-130			
Surrogate: Bromofluorobenzene	0.459		0.500		91.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.503		0.500		101	70-130			
Surrogate: Toluene-d8	0.533		0.500		107	70-130			
Matrix Spike (2217045-MS2)				Source: E	204117-14	4	Prepared: 0	4/22/22 <i>I</i>	Analyzed: 04/25/22
Gasoline Range Organics (C6-C10)	53.1	20.0	50.0	ND	106	70-130			
Surrogate: Bromofluorobenzene	0.496		0.500		99.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.481		0.500		96.1	70-130			
Surrogate: Toluene-d8	0.501		0.500		100	70-130			
Matrix Spike Dup (2217045-MSD2)				Source: E	2 <b>04117-1</b> 4	4	Prepared: 0	4/22/22 <i>I</i>	Analyzed: 04/25/22
Gasoline Range Organics (C6-C10)	53.3	20.0	50.0	ND	107	70-130	0.354	20	
Surrogate: Bromofluorobenzene	0.491		0.500		98.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.486		0.500		97.2	70-130			
Surrogate: Toluene-d8	0.509		0.500		102	70-130			



## **QC Summary Data**

		QC D		ary Data					
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:	,	Logan 35 SWD 20046-0001 Natalie Gladden					<b>Reported:</b> 4/25/2022 4:52:31PM
	Nonh	alogenated Org	anics by	y EPA 8015D	- DRO	/ORO			Analyst: JL
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2217047-BLK1)							Prepared: 0	4/22/22 <i>I</i>	Analyzed: 04/22/22
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	52.3		50.0		105	50-200			
LCS (2217047-BS1)							Prepared: 0	4/22/22 <i>A</i>	Analyzed: 04/22/22
Diesel Range Organics (C10-C28)	518	25.0	500		104	38-132			
Surrogate: n-Nonane	58.2		50.0		116	50-200			
Matrix Spike (2217047-MS1)				Source: E	204118-	14	Prepared: 0	4/22/22 <i>A</i>	Analyzed: 04/22/22
Diesel Range Organics (C10-C28)	513	25.0	500	ND	103	38-132			
Surrogate: n-Nonane	54.6		50.0		109	50-200			
Matrix Spike Dup (2217047-MSD1)				Source: <b>E</b>	204118-	14	Prepared: 0	4/22/22 A	Analyzed: 04/22/22
Diesel Range Organics (C10-C28)	489	25.0	500	ND	97.7	38-132	4.91	20	
Surrogate: n-Nonane	52.5		50.0		105	50-200			



## **QC Summary Data**

		QC D		ary Data					
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager:		Logan 35 SWD 20046-0001 Natalie Gladden					<b>Reported:</b> 4/25/2022 4:52:31PM
	Nonh	alogenated Org	anics b	y EPA 8015D	- DRO	/ORO			Analyst: JL
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2217049-BLK1)							Prepared: 0	4/22/22 A	Analyzed: 04/22/22
Diesel Range Organics (C10-C28) Oil Range Organics (C28-C36)	ND ND	25.0 50.0							
Surrogate: n-Nonane	56.2		50.0		112	50-200			
LCS (2217049-BS1)							Prepared: 0	4/22/22 A	Analyzed: 04/22/22
Diesel Range Organics (C10-C28)	509	25.0	500		102	38-132			
Surrogate: n-Nonane	58.8		50.0		118	50-200			
Matrix Spike (2217049-MS1)				Source: E	204118-	21	Prepared: 0	4/22/22 A	Analyzed: 04/22/22
Diesel Range Organics (C10-C28)	519	25.0	500	ND	104	38-132			
Surrogate: n-Nonane	59.1		50.0		118	50-200			
Matrix Spike Dup (2217049-MSD1)				Source: E	204118-	21	Prepared: 0	4/22/22 A	Analyzed: 04/22/22
Diesel Range Organics (C10-C28)	521	25.0	500	ND	104	38-132	0.265	20	
Surrogate: n-Nonane	57.9		50.0		116	50-200			



## **QC Summary Data**

		QU N		ary Date	•				
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager	2	ogan 35 SWD 0046-0001 Jatalie Gladden	L				<b>Reported:</b> 4/25/2022 4:52:31P
		Anions	by EPA	300.0/9056A	•				Analyst: RAS
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2217039-BLK1)							Prepared: 0	4/22/22	Analyzed: 04/22/22
Chloride LCS (2217039-BS1) Chloride	ND 254	20.0	250		102	90-110	Prepared: 0	4/22/22	Analyzed: 04/22/22
Matrix Spike (2217039-MS1)	234	20.0	230	Source:	E204116-(		Prepared: 0	4/22/22	Analyzed: 04/22/22
Chloride	259	20.0	250	ND	104	80-120			
Matrix Spike Dup (2217039-MSD1)				Source:	E204116-(	)1	Prepared: 0	4/22/22	Analyzed: 04/22/22
Chloride	297	20.0	250	ND	119	80-120	13.6	20	



### **QC Summary Data**

		QU N		ary Date	•				
Mack Energy 7 W. Compress Road Artesia NM, 88210		Project Name: Project Number: Project Manager	2	ogan 35 SWD 0046-0001 Jatalie Gladden					<b>Reported:</b> 4/25/2022 4:52:31PM
		Anions	by EPA	300.0/9056A	1				Analyst: RAS
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2217041-BLK1)							Prepared: 0	4/22/22	Analyzed: 04/22/22
Chloride	ND	20.0							
LCS (2217041-BS1)							Prepared: 0	4/22/22	Analyzed: 04/22/22
Chloride	251	20.0	250		101	90-110			
Matrix Spike (2217041-MS1)				Source:	E204118-(	)1	Prepared: 0	4/22/22	Analyzed: 04/22/22
Chloride	318	200	250	ND	127	80-120			M6
Matrix Spike Dup (2217041-MSD1)				Source:	E204118-(	)1	Prepared: 0	4/22/22	Analyzed: 04/22/22
Chloride	406	200	250	ND	162	80-120	24.2	20	M6, R3

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.



	D UIIIIUUI	5 <b>unu</b> 1 (0005	
Mack Energy	Project Name:	Logan 35 SWD	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	04/25/22 16:52

M6 Matrix spike recovery has a high bias. The native sample results were below the RL, but appears to have contributed to high MS recoveries.

R3 The RPD exceeded the acceptance limit. LCS spike recovery met acceptance criteria.

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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dress: y, State, Zip one: nail:	o Art	resia	., NA	1	Phone	tate, Zip Hobbs , NM						Analy	rsis and	Metho	WN	X			State UT AZ	RCRA TX
port due by Time Da mpled Sam	ate	Matrix	No. of Containers	Sample ID			Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0		BGDOC	BGDOC 1			Remarks	
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linquished by	y:/(Signa	ture)	Dat	ě ( Time		Received by: (Signature)							G Tem		1					
te: Samples a	are disc	arded 30 d	days after r	Aqueous, O - Other esults are reported	inless othe	r arrangements are made. Hazardo h this COC. The liability of the laborat	Containe us samples wi	ll be re	turne	d to cl	lient o	or disp	osed of	at the cli	ent exp	pense.	The repo	ort for the an		

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oject:	Logan	35			Atten	tion: ESS ss: 2427 W COUNTY	120	Lab	NO#	118		Job N	Number 146-000	1D	2D 3[	St St	andard	Page EPA P CWA  State UT AZ	SDWA
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one: ail:					Email	vajane		DRO/ORO by 8015	GRO/DRO by 8015	21	0	0	0.0	WN			NM CO	UT AZ	TX
	ue by:		1				Lab	ORO h	DRO t	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	C TX		X		
Time mpled	Date Sampled	Matrix	No. of Container	s Sample ID			Number	DRO/	GRO/	BTEX	VOC	Meta	Chloi	BGDOC	BGDOC			Remarks	
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te or tim	e of collection	n is consider	ed fraud a	nd may be grounds for le	gal action.4	Sampled by: Man	Date	To A	Time	11.4	H. 7	packer	d in ice at an avg ten		ab Use (		n subsequent da	iys.	
An	Ted by: (Sign	hature)	-	4/20 #	#35	Received by Signature)	Date 4/2/1	2)	+/	41	X	Rec	eived on ice:	1	J/N	July			
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mole M	atrix: S - Soil	Sd - Solid Se	- Sludge	A - Aqueous, O - Other			Containe	er Typ	e: g -	glass,	<b>p</b> - p	oly/p	lastic, ag - am	ber gla	ss, v - VC	A			
Note: Sar	atrix: S - Soil, ! nples are dis s applicable	scarded 30	days afte	A - Aqueous, O - Other r results are reported	unless othe	r arrangements are made. Hazard	Containe ous samples wil	l be re	e: g -	glass, d to cl	p - p ient o	oly/p r disp	olastic, ag - amb osed of at the cli	ent exp	oense. Th	DA ne repor	t for the ana	alysis of the	above

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Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID				Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0		BGDOC	BGDOC			Page EPA P CWA State D UT AZ Remarks	
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Addition	nal Instruc	tions:	I																		
						at tampering with or inter	6	g the sampl	elocati	on,	-	1							ived on ice the da C on subsequent o		led or rece
	e of collection red by: (Sign		Date	may be grounds e +/20		Sampled by: Received by (Signature		Date 21	22	Time	1°E	0	Rec	eived	on ice:		ab Us D/ N	e Only	1		
Relinguist	ed by://sign	ature)	Date	12122	17:15	Received by Signatur	Thate	Date 4/m	122.	Time	a		T1			T2			T3		
Relinguist	ied by: (Sign	nature)	Dat	e	Time	Received by: (Signature	2)	Date		Time			AVO	6 Tem	p°C '	4		-			
ample Ma	trix: S - Soil, S	d - Solid, Sg -	Sludge, A -	Aqueous, O - Ot	her			Containe	er Type	e: g - g	glass,	p - p	oly/p	lastic,	ag - am	ber gla	ISS, V -	VOA			
Note: San	nples are dis	carded 30 d	ays after r	esults are repo	orted unless othe	r arrangements are ma	de. Hazardous sa	mples wi	ll be re	turned	to cli	ient or	dispo	osed of	at the cl	ient exp	pense.	The re	port for the ar	nalysis of the	above

#### **Envirotech Analytical Laboratory**

	s: Please take note of any NO checkmarks.	_	-	Checklist (SR)	
	e no response concerning these items within 24 hours of the			-	
Client:	Mack Energy D	ate Received:	04/22/22 1	10:00	Work Order ID: E204118
Phone:		ate Logged In:	04/22/22 0		Logged In By: Caitlin Christian
Email:	Natalie@energystaffingllc.com D	ue Date:	04/22/22 1	17:00 (0 day TAT)	)
<u>Chain o</u>	f Custody (COC)				
1. Does	the sample ID match the COC?		Yes		
2. Does	the number of samples per sampling site location match	the COC	Yes		
3. Were	samples dropped off by client or carrier?		Yes	Carrier:	FedEx
4. Was tl	he COC complete, i.e., signatures, dates/times, requested	d analyses?	No		
5. Were	all samples received within holding time?	·	Yes		
	Note: Analysis, such as pH which should be conducted in th				Commonts/Decolution
	i.e, 15 minute hold time, are not included in this disucssion.				<u>Comments/Resolution</u>
	Turn Around Time (TAT)				Project has been seperated into 2 reports
	ne COC indicate standard TAT, or Expedited TAT?		Yes		
<u>Sample</u>			<b>.</b> -		due to amount of samples. Workorders are
	sample cooler received?		Yes		as follows:
-	, was cooler received in good condition?		Yes		E204117 COC page 1&2 of 5, E204118
9. Was tl	he sample(s) received intact, i.e., not broken?		Yes		COC page 3,4 &5 of 5. Time sampled not
10. Were	e custody/security seals present?		No		provided on COC.
11. If ye	s, were custody/security seals intact?		NA		provided on COC.
	the sample received on ice? If yes, the recorded temp is 4°C, i.e Note: Thermal preservation is not required, if samples are re- minutes of sampling	eceived w/i 15	Yes		
	visible ice, record the temperature. Actual sample te	mperature: <u>4</u> °	<u>C</u>		
	Container				
	aqueous VOC samples present?		No		
	VOC samples collected in VOA Vials?		NA		
	e head space less than 6-8 mm (pea sized or less)?		NA		
	a trip blank (TB) included for VOC analyses?		NA		
	non-VOC samples collected in the correct containers?		Yes		
19. Is the	e appropriate volume/weight or number of sample container	s collected?	Yes		
Field La					
	e field sample labels filled out with the minimum inform	nation:			
	Sample ID?		Yes		
	Date/Time Collected? Collectors name?		No		
	Preservation_		No		
-	s the COC or field labels indicate the samples were pres-	erved?	No		
	sample(s) correctly preserved?		NA		
	b filteration required and/or requested for dissolved met	als?	No		
			110		
	nase Sample Matrix	)	NT-		
	es, does the COC specify which phase(s) is to be analyze		No		
		iu:	NA		
-	tract Laboratory				
	samples required to get sent to a subcontract laboratory		No		
29. Was	a subcontract laboratory specified by the client and if so	o who?	NA	Subcontract La	ab: na
<u>Client l</u>	Instruction				

Date



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

Pro	ject	Inform	nation
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4/25	aacc	, Per	cli	int						_									1	
lient: /	1ack	2 35	5110	-	Atton	Bill To		Lab	14/0#			e Only		or	1D		TAT 3D	Standard	CWA	SDWA
Project:	anager:	100	au		Addr	ess: 2427 Count	Ra	F	WO#	119	5	200	16-	1001	T	2D	50	Standard		50117
Address:					City,	State, Zip Hobbs , NM					4	Analys	is and	Metho	d			- 355		RCRA
City, State Phone:	e, Zip As	tesia	-, NA	1	Phon	e: 1: NaLalie		5	5				-			-		- <u>1550-1</u>	State	1
Email:					Emai	: Wallarie		y 801	V 801	-			0.0		5			NM CO	UT AZ	TX
Report du	ie by:							RO b	RO b	y 802	y 826	6010	de 30(		C NM	¥		X		
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID			Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0		BGDOC	BGDOC			Remarks	
	4/20	S	1	Com	p AR	44	1								X					
	(	(	1	Com	at 7.00	45	2								1					
			5	Com	IF		3													
			11	Com	1177		4								(					
	1			Com	rim		5													
	/			Comp	, 49		6								1					
				1		A transmission of the two of the second s	7								1					
			$\left  \right $	Com	P		8			-					11					
	-(			Comp		and the second s	9													
	$\left  \right\rangle$	<u>  l -</u>	11	-	p 52 p 53		10								·					
	al Instru	tioner		10m	000			4	1							1				
Addition		cuons.												_						
						at tampering with or intentionally mist		ale loca	tion,			A REAL PROPERTY OF A REAL	Sec. 2. 10.00					eived on ice the day °C on subsequent o		led or recei
LAN DESCRIPTION OF THE PARTY	ed by: (Sigr	10.00			s for legal action.	Received by: (Signature)	Date 1/	Lan	Time	1.	D	KSLOC-	100		1	ab Us	se Onl	y	1-2-3	1
drie	he i	durl 1		4/20	14.0	TAD	431	122	1	<u>('</u>		Rece	ived	on ice:	¢	DIN				
Relinquish	ed by: 19gr	RR	Dat	1/21/22	1105.15	Received by (Signature) to	Bate 4/2	1/22	Time	y a	D	T1			T2			ТЗ		
Relinquish	ed by: (Sign	nature)	Dal	e	Time	Received by: (Signature)	Date		Time				TT	.00	4		12			
Camalant		ed calld ca	Chudan A	Anuanus 0 0	these		Contain	er Tu	10. 0	elace	n-n	AVG			ber gla		VOA	and the second	and the second	
Sample Ma	uix: 5 - 50il, 1	scarded 30	- Sludge, A -	Aqueous, O - O	orted unless oth	er arrangements are made. Hazard	dous samples w	ill be r	eturne	d to cl	lient o	r dispo	sed of	at the cl	ient ex	pense.	The re	eport for the ar	alysis of the	above

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Released to Imaging: 11/17/2022 9:16:10 AM

Page <u>U</u> of <u>5</u>

4/25/22 CC Per Client

Client: Mack	Bill To				La	b Us	e On	y	1			TAT		EPA Pr	rogram
Project: Logan 35 SWD	Attention: ESS		Lab \	NO#	-	-	Job N	Jumi	per ,	1D	2D	3D	Standard	CWA	SDWA
Project Manager:	Address: 2427 W COUNTY R	2	Ea	NO#	118	5.	200	46	-0001	T	AL				
Address:	City, State, Zip Hobbs, NM		- n				Analy	sis ar	d Metho	bd	"		S. Gald		RCRA
City, State, Zip Artosia, NM	Phone:														
Phone:	Email: Natalic		115	115										State	
Email:			y 80	V 80	12	0	0	0.0		Σ			NM CO	UT AZ	TX
Report due by:			RO b	30 b	80	826	6010	e 30		MN	¥		X		
Time Date the d	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0		BGDOC	BGDOC			Remarks	
4/20 5 1	Comp 54	11								X					
	Comp 55	12								(					
()	comp 56	13													
	SW Comp 1	14								5					
	SW COMP 2	15								5					
	SW COMP 3	16								(					
	SW Comp 4	17								K					
	SW Comp 5	18								(			-		
	SW Comp 6	19								5	P				
	SW COMP 7	20								3					
Additional Instructions:															
I, (field sampler), attest to the validity and authent date or time of collection is considered fraud and	ticity of this sample. I am aware that tampering with or intentionally mislabelling may be grounds for legal action 4. CO Sampled by:	g the sampl	etocati	ion	-		And the second		and the second second second				ved on ice the day Con subsequent da	and the second se	ed or received
Relinquisted by: (Signature)	4/20 Tiple Received by (signature)	Date 4/2/	23	Time	47	X	Rec	eiveo	d on ice:		ab U	se Only			
Relinquished by?(Signature) Date	14122 The 45 Received by (Signature)	4/72/	22	Time 10	:a	2	T1			T2			<u>T3</u>		
Relinquished by: (Signature) Date	e Time Received by: (Signature)	Date		Time			AVO	Ten	np °C_4	4		120		and a state	
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A	Aqueques Q - Other	Containe	er Typ	e: g - 1	glass	p - p	olv/p	lastic	, ag - am	ber gla	ass, v	VOA			
Note: Samples are discarded 30 days after r	esults are reported unless other arrangements are made. Hazardous sa	amples wil	l be re	turned	d to cl	lient o	r disp	osed o	of at the c	ient ex	pense.	The rep	port for the an	alysis of the	above
samples is applicable only to those samples	received by the laboratory with this COC. The liability of the laboratory	is limited t	to the	amour	nt pai	d for o						-			
						(	E	3	e	n	V	i	rot	e	ch

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Pro	ject	Inform	nation
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Project Information	Chain o'	f Custody	•											Page 5	_of_5
4/25/22 CC Per Client Client: MacCK Project: Logan 35 SWD Project Manager: Address:	Bill To Attention: ESS Address: 2427 W County City, State, Zip HO665, NM	RJ	Laby	¥04	La //8			umber 10-0 is and N		1D	20	TAT 3D S	itandard	EPA P	ogram SDWA RCRA
City, State, Zip Artesta, NM Phone: Email: Report due by:	Phone: Email: Natalie		DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0		C NM	TX			State UT AZ	TX
Time Date Matrix No. of Containers Sampled Date		Lab Number	DRO/G	GRO/I	BTEX	voc b	Metal	Chlori		BGDOC	BGDOC			Remarks	
4/20 S   5W CC	omp 8	21								X					
/ ( / SW C	iomp 9	22								1					
SW CO	omp 10	23								)					
/ ( / Sw C	omp 11	24								1					
		25								1					
	omp 13	2.6								1					
										1					
		. alien								(				t - Alexandria and	
		1000								2					
										5					
Additional Instructions:		1	<u> </u>	-		1			_	I	1	L	-		
I, (field sampler), attest to the validity and authenticity of this sample		ng the sampl	elocat	ion,	-	-	and the second second						ed on ice the day on subsequent d		ed or received
date or time of collection is considered fraud and may be grounds for       Relinquished by: (Signature)     Date       Mu     4/20       Relinquished by: (Signature)     Date       Date     12	4:00 Received by (signature)	Date J	22	Time	1:1		Rece	ived or	n ice:		ab Us D/ N	se Only			
Relinguished by: (Signature) Date Tim	ne Received by Clignature)	Date	122	Time	.ac	)	T1 AVG	Temp	°c_4	<u>12</u>			<u>T3</u>		5
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other Note: Samples are discarded 30 days after results are reported	ed unless other arrangements are made. Hazardous	Containe samples wi	ll be re	eturne	d to cl	lient o	r dispos	sed of at					ort for the an	alysis of the	above
samples is applicable only to those samples received by the la		47 of 47	to the	anou	nt pait				91	n	V	ir	01	te	ch

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#### LOGAN 35 SWD

### **EXCAVATION AND FINAL PHOTOS**







































Form C-141

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State of New Mexico

Oil Conservation Division

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Incident ID	
District RP	
Facility ID	
Application ID	

# Site Assessment/Characterization

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

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

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

#### Characterization Report Checklist: Each of the following items must be included in the report.

Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells,
 Field data

- Data table of soil contaminant concentration data
- $\overline{\boxtimes}$  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.

Received by OCD: 7/25/2022 10	0:52:55 AM State of New Mexico			Page 290 of 292
Form C-141			Incident ID	
Page 4	Oil Conservation Division		District RP	
			Facility ID	
			Application II	)
regulations all operators are requ public health or the environment. failed to adequately investigate an addition, OCD acceptance of a C and/or regulations. Printed Name: Latate Signature: Latate email: <u>AtaleCe</u>	on given above is true and complete to the ired to report and/or file certain release not The acceptance of a C-141 report by the nd remediate contamination that pose a thr -141 report does not relieve the operator of <u>e Gladder</u> <del>Caldder</del> <del>Caldder</del> <del>Caldder</del> <del>Caldder</del>	tifications and perform co OCD does not relieve the reat to groundwater, surfa f responsibility for comp Title:	prrective actions for e operator of liability ice water, human he liance with any othe the press ( 122	releases which may endanger y should their operations have alth or the environment. In rr federal, state, or local laws
OCD Only				
Received by:		Date:		

*Received by OCD: 7/25/2022 10:52:55 AM* Form C-141 Sta

State of New Mexico

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Oil Conservation Division

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# Closure

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

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

Printed Name: htalic Giladden Signature: public Giladden	Title: Env. + Reg. Director
Signature: public Caladden	Date: 1/17/22
email: Matic energy stoffing K com	Telephone: 575-390-60357

<b>OCD</b> Only
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Received by:

Date: _____

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

Closure Approved by:	Date:
Printed Name:	Title:

District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Operator:	OGRID:
Redwood Operating LLC	330211
PO Box 1370	Action Number:
Artesia, NM 88210	128371
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created By Condition

We have received your closure report and final C-141 for Incident #NAPP2124247509 LOGAN 35 SWD, thank you. This closure is approved. rhamlet 11/17/2022

CONDITIONS

Action 128371

Condition Date