



**MA B #4
CLOSURE REQUEST**

**API NO. 30-025-36494
Unit Letter H, Section 31, Township 17S, Range 33E
LEA COUNTY, NEW MEXICO**

**DATE OF RELEASE: 6/25/2018
INCIDENT NO. 1RP-5115/NOY1818639026**

**July 8, 2026
Prepared by:**



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July 8, 2026

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Subject: Closure Request for Mack Energy – MA B #4

API No. 30-025-36494
Incident ID No. 1RP-5115/NOY1818639026
Legal U/L H, Section 31, Township 17 South, Range 33 East
Lea County, NM

To Whom It May Concern:

Mack Energy retained Energy Staffing Services, LLC (ESS) to perform a comprehensive spill assessment for the MA B #4 well (MA B 4) in response to the crude oil and produced water release that occurred on June 25, 2018. American Safety Services, Inc. (ASSI) was the operator of record at the time of the release and was contracted to remediate the site.

Notification of the incident was provided to the New Mexico Oil Conservation Division (NMOCD), District Office II, on June 26, 2018, at 7:52 a.m., in accordance with 19.15.29 NMAC reporting requirements. A C-141 Release Notification Form was submitted on July 3, 2018, and accepted by NMOCD on July 5, 2018, under Incident No. 1RP-5115 / NOY1818639026.

The attached report documents the investigative methods, analytical results, site characterization, delineation activities, and remedial measures implemented at MA B 4. Based on the data collected and evaluated, the site conditions meet the applicable closure/deferral criteria established under 19.15.29.12 NMAC. All required notification, assessment, and corrective action measures have been completed in accordance with Division rules.

A deferral request of the facility area was submitted to the OCD back in March of 2025 and was denied for the following reasons:

Deferral request is denied for the following reasons: 1. Did not provide sampling notifications for 4/21/2022, 4/22/2022, 4/25/2022, and 6/16/2022 either via telephone or email included within the report. 2. Did not fully delineate both horizontally and vertically per 19.15.29.11 NMAC, especially the deferral area in question. 3. Have not recorded the estimated soil

volume left in place to be deferred. 4. Have not provided adequate photos or site map to demonstrate the area being deferred.

Accordingly, Mack Energy respectfully requests NMOCD review and approval of the closure for the above-referenced release.

Incident Description

On June 25, 2018, a gasket failure occurred on the upper clean-out plate of a heater treater, resulting in the release of an estimated 40 barrels of crude oil and produced water. The released fluids were initially contained within the earthen berm surrounding the tank battery and associated production equipment; however, a partial containment breach allowed a portion of the fluids to migrate beyond the pad and into the adjacent pasture south of the facility (see attached impact map).

In accordance with 19.15.29.8 NMAC, immediate corrective actions were implemented upon discovery of the release to control, contain, and remediate the impacted area. The failed gasket was repaired to eliminate the source of the release, and a vacuum truck was mobilized to recover standing fluids. Approximately 10 barrels of free liquids were recovered.

Consistent with Division requirements for abatement and removal of impacted materials, visibly saturated and petroleum-impacted soils were promptly excavated to prevent further migration, infiltration, and potential impacts to subsurface soils or groundwater. Excavated materials were transported to an NMOCD-approved disposal facility. The documented impact area extended approximately 100 feet south of the tank battery and measured approximately 50 feet in width (see attached initial site photographs).

These response actions were conducted to mitigate environmental impacts and to comply with the corrective action and site remediation requirements set forth under 19.15.29.8 NMAC.

Site Characterization

The MA B #4 (MA B 4) release occurred on private land at latitude 32.79361111 and longitude -103.69666667, approximately 6.5 miles southeast of Maljamar, Lea County, New Mexico. The legal description of the site is Unit Letter H, Section 31, Township 17 South, Range 33 East. Site elevation is approximately 3,998 feet above mean sea level. A site schematic is included as an attachment.

The MA B 4 facility consists of production lines and associated tank battery equipment located adjacent to other production facilities and well pads. The release originated within the earthen containment area and migrated onto the well pad and into the adjacent pasture south of the facility.

The surrounding land use is rangeland. Vegetation in the area is historically dominated by little bluestem, blue grama, black grama, side oats grama, and other perennial forbs and grasses (see attached Rangeland and Vegetation Classification documentation).

According to the United States Department of Agriculture Natural Resources Conservation Service (NRCS), mapped soil types within the project area consist of approximately: 30.5% Pyote soils and dune land; 22% Kermit soils and dune land; 20.4% Ratliff-Wink fine sandy loams; 10.5% Ratliff loams; 6.2% Jal association; 5.1% Pyote loamy fine sands; 4.5% Sharvana loamy fine sands; and 0.7% caliche pit sands (see attached Soil Map). These soil types are generally characterized by sandy to loamy textures with moderate to high permeability.

Review of the FEMA National Flood Hazard Layer indicates the site is located within an area identified as Zone X (0.2% annual chance flood hazard), defined as areas of minimal flood risk, including drainage areas less than one square mile or areas subject to shallow flooding with average depths of less than one foot (see attached FEMA map).

A review of Bureau of Land Management (BLM) karst mapping indicates "low potential" for karst geology in the vicinity of the MA B 4 site (see attached Karst Map).

There are no mapped surface water features within or adjacent to the release area. The site is not located within one-half mile of a continuously flowing watercourse or lakebed (see attached Watercourse Map). No other critical environmental or community receptors were identified within the immediate vicinity of the release.

A groundwater and water well survey was conducted utilizing the New Mexico Office of the State Engineer (NMOSE) POD Location Mapping System. The nearest registered well is L13909 POD1 (drilled 2015), located approximately 712 yards from the site, with a total depth of 240 feet and reported groundwater at 240 feet. Additional nearby wells include:

- L14159 POD1 (2016): Total depth 298 feet; groundwater reported at 165 feet; located approximately 2,231 yards from the site.
- L13049 POD1 (1958): Total depth 244 feet; groundwater reported at 204 feet; located approximately 2,689 yards from the site.
- L03713 (1957): Total depth 210 feet; groundwater data not available; located approximately 2,767 yards from the site.
- RA11957 POD1 (2013): Total depth 55 feet; groundwater data not available; located approximately 3,161 yards from the site.

An extended search identified RA12300 within a one-half mile radius of the MA B 4 release; however, no groundwater depth information is available for this well. Based on available records, groundwater in the vicinity of the site appears to occur at depths ranging from approximately 165 to 240 feet below ground surface. NMOSE well location and groundwater maps are attached.

Closure Criteria Determination

The applicable soil closure criteria for releases are established under 19.15.29.12 NMAC and are dependent upon depth to groundwater (DGW), land status, and site-specific hydrogeologic conditions. A review of available groundwater data within a one-half mile radius of the MA B 4 release identified limited and, in some cases, incomplete groundwater depth information.

Although nearby wells indicate groundwater depths ranging from approximately 165 to 240 feet below ground surface, no verified groundwater depth data were available within a one-half mile radius of the release location at the time of evaluation.

In accordance with 19.15.29.12 NMAC, and consistent with Division guidance, the most conservative soil closure criteria were applied. Due to the absence of verified groundwater data within one-half mile, the site was evaluated under the ≤ 50 feet to groundwater (DGW) closure threshold. The site is located on private land and BLM mapping indicates low karst potential; however, the ≤ 50 feet DGW criteria were utilized to ensure a conservative and protective assessment.

The applicable soil closure criteria under the ≤ 50 feet DGW category are summarized below:

DGW	Constituent	Analytical Method	Closure Limit
≤ 50 feet	Chloride	EPA 300.0 or SM 4500 Cl-B	600 mg/kg
≤ 50 feet	TPH (GRO + DRO + MRO)	EPA SW-846 Method 8015M	100 mg/kg
≤ 50 feet	GRO + DRO	EPA SW-846 Method 8015M	50 mg/kg
≤ 50 feet	BTEX	EPA SW-846 Method 8021B or 8260B	10 mg/kg
≤ 50 feet	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

Soil Remediation Action Levels

Energy Staffing Services LLC (ESS) has generated and evaluated sufficient analytical and field data to characterize the nature and extent of soil impacts associated with the MA B 4 release. The assessment and corrective action measures implemented at the site were conducted in accordance with the remediation and abatement goals outlined in the New Mexico Oil Conservation Division (NMOCD) *Closure Criteria for Soils Impacted by a Release* (dated August 14, 2018).

This guidance document established the framework for Mack Energy's initial response actions, site investigation methodology, analytical sampling protocols, and delineation procedures performed by ESS personnel. All field activities were conducted consistent with Division requirements to define the horizontal and vertical extent of impacts and to evaluate compliance with applicable soil closure standards.

The following section presents a detailed summary of the delineation activities performed in support of the release evaluation described herein.

Soil Sampling Procedures

Soil sampling activities were conducted in accordance with New Mexico Oil Conservation Division (NMOCD) requirements and accepted industry standards for environmental site assessment and analytical integrity. Field collection, handling, and shipment procedures were implemented to ensure representative sampling and preservation of sample quality.

The following quality assurance and quality control (QA/QC) procedures were followed:

- Samples were collected directly into laboratory-supplied, pre-cleaned, airtight glass containers appropriate for the requested analytical methods.
- Each container was clearly labeled with unique sample identification, date, time of collection, and site information.
- Samples were immediately placed in a cooled environment and maintained on ice to preserve sample integrity and minimize volatilization or degradation.
- Samples were transported under strict chain-of-custody documentation and delivered to the laboratory within method-required holding times.

Both bottom-of-excavation (vertical delineation) and sidewall (horizontal delineation) soil samples were submitted to Envirotech Analytical Laboratory, an accredited analytical facility, for analysis using the following United States Environmental Protection Agency (EPA) methods consistent with NMOCD Closure Criteria:

Volatile Organic Compounds (VOCs)

- EPA Method 8021B
 - Benzene
 - Toluene
 - Ethylbenzene
 - p/m-Xylene
 - o-Xylene
 - Total Xylenes

Nonhalogenated Organics (Total Petroleum Hydrocarbons)

- EPA Method 8015D
 - Gasoline Range Organics (C6–C10)
 - Diesel Range Organics (C10–C28)
 - Oil Range Organics (C28–C40)

Anions

- EPA Methods 300.0 / 9056A
 - Chloride

All analytical methods utilized are those specified under 19.15.29.12 NMAC for evaluation of soil impacts associated with releases. Laboratory reporting limits were reviewed to ensure they met or were below applicable NMOCD soil closure criteria.

Release Investigation Data Evaluation

On June 25, 2018, American Safety Services, Inc. (ASSI), the operator of record at the time, conducted the initial site inspection and delineation activities for the release at the MA B #4 facility. Soil sampling performed by ASSI on July 10, 2018, confirmed the presence of total petroleum hydrocarbons (TPH) in impacted soils (see attached report).

In October 2019, ASSI expanded the initial excavation to address remaining contaminated soils. During these activities, a previously unidentified breach in the heater treater secondary containment berm was discovered, confirming that hydrocarbons had migrated beyond the pad and into the adjacent pasture area.

On November 18, 2019, Mack Energy retained Vertex to perform confirmation sampling. Beginning November 20, 2019, Vertex collected 200-square-foot composite soil samples, obtaining a total of 38 composites. These samples were submitted to a National Environmental Laboratory Accreditation Program (NELAP)-accredited laboratory for analytical confirmation. No additional delineation or follow-up documentation was provided by Vertex. Consequently, Mack Energy retained Energy Staffing Services, LLC (ESS) to complete delineation and corrective action activities (see attached report).

In early 2022, ESS was contracted to perform comprehensive delineation and remediation of the MA B #4 release area. On March 1, 2022, ESS mobilized to the site and established systematic delineation sampling locations. Global Positioning System (GPS) coordinates were recorded for each sample point to ensure accurate spatial documentation.

The site was divided into two primary excavation areas (North and South), both of which had been previously excavated to approximately four (4) feet below ground surface (BGS) in 2018. ESS established a total of ten (10) vertical delineation locations and fourteen (14) horizontal delineation locations across both excavation areas to define the extent of remaining impacts.

Soil sampling was conducted at one-foot and two-foot depth intervals using hand auger and backhoe excavation methods, as appropriate. Bottom-of-excavation (vertical extent) samples were submitted for laboratory confirmation analysis in accordance with NMOCD closure criteria.

The delineation sample results, corresponding sample location map, and laboratory analytical reports are included herein. For clarity and ease of regulatory review, laboratory analytical results are highlighted within the summary tables provided in this report.

EXCAVATION IS AT 4'BGS FROM 2018

ORIGINAL RELEASE AREA - SOUTH
OF BTY

SP ID	Depth	Titr	PID	L- BTEX	L- GRO	L- DRO	L- ORO	L- TPH	L- CHL	DATE
SP1	4'	20	H	ND	ND	60.8	82.8	143.6	ND	3/1/2022
	5'	240	L							
	6'	80	L							
	7'	20	L	ND	ND	ND	ND	ND	ND	3/1/2022
SP2	4'	20	H	ND	ND	63.2	84.4	147.6	ND	3/1/2022
	5'	80	L							
	6'	80	L							
	7'	20	H	ND	ND	47	62.6	109.6	ND	3/1/2022
SP3	4'	20		ND	ND	60.8	82.3	143.1	ND	3/1/2022
	5'	160								
	6'	240								
	7'	20		ND	ND	ND	ND	ND	ND	3/1/2022
SP4	4'	20		ND	ND	ND	ND	ND	ND	3/1/2022
	5'	80								
	6'	60								
	7'	20		ND	ND	ND	ND	ND	ND	3/1/2022
SP5	4'	40		ND	ND	ND	ND	ND	ND	3/1/2022
	5'	20								
	6'	20								
	7'	20		ND	ND	ND	ND	ND	ND	3/1/2022
SP6	4'	80		ND	ND	ND	ND	ND	ND	3/1/2022
	5'	80								
	6'	40								
	7'	20		ND	ND	ND	ND	ND	ND	3/1/2022
SW1	2'	80		ND	ND	ND	ND	ND	ND	3/1/2022
SW2	2'	40		ND	ND	ND	ND	ND	ND	3/1/2022
SW3	2'	40		ND	ND	ND	ND	ND	32	3/1/2022
SW4	2'	80		ND	ND	ND	ND	ND	86.6	3/1/2022

SW5	2'	20		ND	ND	ND	ND	ND	ND	3/1/2022
SW6	SURF	2000		ND	ND	ND	ND	ND	1990	3/1/2022
SW7	SURF	800		ND	ND	2200	1710	3910	636	3/1/2022
SW8	2'	20		ND	ND	ND	ND	ND	ND	3/1/2022
EXCAVATION IS AT 4'BGS FROM 2018				SECOND EXCAVATION AREA - WEST OF BTY						
SP1	4'	540		ND	ND	ND	ND	ND	521	3/1/2022
	5'	80								
	6'	400								
	7'	320		ND	ND	ND	ND	ND	287	3/1/2022
SP2	4'	80		ND	ND	ND	ND	ND	ND	3/1/2022
	5'	80								
	6'	120								
	7'	80		ND	ND	ND	ND	ND	ND	3/1/2022
SP3	4'	400		ND	ND	ND	ND	ND	404	3/1/2022
	5'	80								
	6'	400								
	7'	180		ND	ND	ND	ND	ND	164	3/1/2022
SP4	4'	160		ND	ND	ND	ND	ND	160	3/1/2022
	5'	280								
	6'	240								
	7'	220		ND	ND	ND	ND	ND	209	3/1/2022
SW1	2'	80		ND	ND	37	86.6	123.6	ND	3/1/2022
SW2	2'	20		ND	ND	118	190	308	ND	3/1/2022
SW3	2'	20		ND	ND	140	230	370	ND	3/1/2022
SW4	2'	20		ND	ND	ND	ND	ND	ND	3/1/2022
SW5	2'	20		ND	ND	ND	ND	ND	ND	3/1/2022
SW6	2'	20		ND	ND	ND	ND	ND	ND	3/1/2022

Delineation photographs documenting excavation conditions, sampling locations, and field activities are included as attachments to this report.

On April 21, 2022, ESS initiated collection of 200-square-foot composite soil samples within the excavation areas to further evaluate residual impacts. A total of sixty-four (64) bottom-of-excavation composite samples and twenty (20) sidewall composite samples were collected from the South and West excavation areas. All samples were field screened and subsequently submitted for laboratory confirmation analysis in accordance with NMOCD requirements.

Analytical results indicated that several sidewall composite samples contained elevated TPH concentrations above applicable soil closure criteria. These exceedances are located beneath the existing tank battery infrastructure. Due to the presence of active production equipment and structural constraints, these areas cannot be fully accessed or remediated until the well is plugged and abandoned or the tank battery is removed.

As reflected in the composite sample data tables provided herein, analytical results exceeding applicable closure criteria are highlighted in red for ease of review. The composite sampling summary sheets are included below and attached to this report, followed by the corresponding laboratory analytical reports.

Composite sampling notification was entered into the OCD Portal on November 4, 2024. The original 2022 portal notification record could not be located; therefore, the 2024 entry was submitted to ensure documentation completeness and regulatory transparency (see attached portal confirmation).

WEST										
SP ID	Depth	Titr	PID	L-BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL	Dates
COMP 1A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 2A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 3A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 4A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 5A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 6A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP7A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 8A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 9A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 10A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 11A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 12A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP13A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 14A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022

COMP 15A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 16A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 17A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 18A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 19A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 20A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 21A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 22A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 23A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 24A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 25A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 26A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 27A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 28A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 29A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 30A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 31A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 32A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 33A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
SW COMP 1A	2	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW COMP 2A	2	80	L	ND	ND	ND	ND	ND	20.5	4/22/2022
SW COMP 3A	2	160	H	ND	ND	70.8	122	192.8	ND	4/22/2022
SW COMP 4A	2	160	H	MD	MD	72.8	130	202.8	ND	4/22/2022
SW COMP 5A	2	80	L	ND	ND	ND	ND	ND	259	4/22/2022
SW COMP 6A	2	80	L	ND	ND	ND	ND	ND	219	4/22/2022
SW COMP 7A	2	320	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW COMP 8A	2	320	L	ND	ND	ND	ND	ND	ND	4/22/2022
SOUTH										
COMP 1B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 2B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 3B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 4B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 5B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 6B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 7B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022

COMP 8B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 9B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 9B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 10B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 11B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 12B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 13B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 14B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 15B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 16B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 17B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 18B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 19B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 20B	2	80	H	ND	ND	112	190	302	ND	4/21/2022
COMP 21B	2	80	H	ND	ND	124	220	344	ND	4/21/2022
COMP 22B	2	80	H	ND	ND	132	245	377	ND	4/21/2022
COMP 23B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 24B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 25B	2	80	H	ND	ND	39.5	78	117.5	ND	4/21/2022
COMP 26B	2	80	H	ND	ND	61.9	88.6	150.5	ND	4/21/2022
COMP 27B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 28B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 29B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 30B	2	80	H	ND	ND	29.5	53	82.5	ND	4/21/2022
COMP 31B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
SW1 B	6	1840	L	ND	ND	ND	ND	ND	1630	4/22/2022
SW2 B	6	>4000	L	ND	ND	ND	ND	ND	3450	4/22/2022
SW3 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW4 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW5 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW6 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW7 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW8 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW9 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW10 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW11 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW12 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022

Delineation and final remediation photographs are included as attachments to this report.

The prior deferral request submitted in March 2025 was denied by the New Mexico Oil Conservation Division (NMOCD) on March 11, 2025, for the following reasons:

1. Sampling notifications for April 21, 22, 25, 2022, and June 16, 2022, were not provided via telephone or email, nor documented within the submittal report.
2. The release area, particularly the deferral zone, was not fully delineated both horizontally and vertically in accordance with 19.15.29.11 NMAC.
3. The estimated volume of impacted soil left in place for deferral was not recorded.
4. Adequate site photographs and a detailed site map demonstrating the area proposed for deferral were not provided.
5. Mack Energy was advised to submit a final remediation or closure report within 90 days (by June 9, 2025).

In response, on March 28, 2025, ESS initiated delineation activities at the MA B #4 facility in accordance with NMOCD directives. A formal sampling notification was submitted to the OCD Portal on June 19, 2025, under Application ID 477208, and was accepted for implementation.

Due to the presence of existing production infrastructure within the bermed facility area, soil samples were collected using hand auger methods. Mechanical excavation was deemed impractical because of the potential risk of damaging production equipment and associated surface and subsurface flowlines. Sampling was conducted to define the horizontal and vertical extent of residual impacts in accordance with NMOCD closure criteria.

Attached to this report are the following supporting materials: composite and delineation sample data, site map with delineation points, field and final remediation photographs, and laboratory confirmation analyses.

SP ID	Depth	Titr	PID	L-BTE X	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL	DATES
SP1	SURF	1440	L	ND	ND	ND	ND	ND	1450	3/28/2025
	1	320								
	2	320	L	ND	ND	ND	ND	ND	319	4/1/2025
SP2	SURF	1440	H	ND	ND	7100	4490	11590	1800	3/28/2025
	1	1200								
	2	1040								
	3	720								
	4	400								
	5	880								
	6	640								
	7	480								
	8	480	L	ND	ND	ND	ND	ND	336	4/14/2025

SP3	SURF	2040	L	ND	ND	ND	ND	ND	2780	3/28/2025
	1	800								
	2	320								
	3	320	L	ND	ND	ND	ND	ND	344	4/1/2025
SP4	SURF	80	L	ND	ND	ND	ND	ND	251	3/28/2025
	1	720								
	2	800								
	3	320								
	4	80	L	ND	ND	ND	ND	ND	123	4/1/2025
SP5	SURF	>4000	L	ND	ND	ND	ND	ND	30200	3/28/2025
	1	2720								
	2	480								
	3	160	L	ND	ND	ND	ND	ND	108	4/1/2025
SP6	SURF	>4000	L	ND	ND	ND	ND	ND	14600	3/28/2025
	1	2320								
	2	880								
	3	540								
	4	400	L	ND	ND	ND	ND	ND	324	4/3/2025
SP7	SURF	2640	H	ND	ND	6580	4710	11290	5080	3/28/2025
	1	480								
	2	240	L	ND	ND	26.5	ND	26.5	255	4/1/2025
SP8	SURF	80	H	ND	ND	5030	5780	10810	35.4	3/28/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	96.8	4/1/2025
SP9	SURF	80	H	ND	ND	8590	8630	17220	21.5	3/28/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	33.3	4/1/2025
SP10	SURF	80	H	ND	ND	602	580	1182	52.5	3/28/2025
	1	240								
	2	160	L	ND	ND	ND	ND	ND	77.3	4/1/2025
SP11	SURF	>4000	L	ND	ND	ND	ND	ND	10900	3/28/2025
	1	680								

	2	640								
	3	500								
	4	480	L	ND	ND	ND	ND	ND	469	4/3/2025
SP12	SURF	>4000	L	ND	ND	ND	ND	ND	18500	3/28/2025
	1	2560								
	2	960								
	3	400								
	4	320	L	ND	ND	ND	ND	ND	181	4/1/2025
SP13	SURF	>4000	L	ND	ND	ND	ND	ND	13900	3/28/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	220	4/1/2025
SP14	SURF	400	H	ND	ND	18000	10800	28800	333	3/28/2025
	1	320								
	2	160	H	ND	ND	199	236	435	147	4/1/2025
	3	80								
	4	80								
	5	80								
	6	80	L	ND	ND	ND	ND	ND	ND	4/17/2025
SP15	SURF	>4000	H	ND	ND	18300	11300	29600	8980	3/28/2025
	1	480								
	2	400	H	ND	ND	108	86.3	194.3	759	4/1/2025
	3	160								
	4	160								
	5	880								
	6	880								
	7	720								
	8	80								
	9	80								
	10	80	L	ND	ND	ND	ND	ND	ND	4/17/2025
SP16	SURF	80	H	ND	ND	2160	2820	4980	58.7	3/28/2025
	1									
	2		L	ND	ND	ND	ND	ND	286	4/3/2025
SP17	SURF	80	H	ND	ND	6360	6040	12400	49.6	3/28/2025
	1	2560								
	2	960								

	3	880								
	4	640								
	5	320								
	6	80								
	7	80	L	ND	ND	ND	ND	ND	83.1	4/14/2025
SP18	SURF	>4000	H	ND	ND	1650	2080	3730	6510	3/28/2025
	1									
	2		L	ND	ND	ND	ND	ND	330	4/3/2025
SP19	SURF	3600	H	ND	ND	156	388	544	3840	3/28/2025
	1									
	2		L	ND	ND	34.6	ND	34.6	82.6	4/3/2025
SP20	SURF	>4000		ND	ND	ND	ND	ND	6380	6/25/2025
	1	1840								
	2	80								
	3	80		ND	ND	ND	ND	ND	46.5	6/25/2025
SP21	SURF	>4000	L	ND	ND	ND	ND	ND	1310	4/28/2025
	1	>4000								
	2	1200								
	3	160								
	4	80	L	ND	ND	ND	ND	ND	26.2	4/28/2025
SP22	SURF	1600	L	ND	ND	ND	ND	ND	1930	4/28/2025
	1	2640								
	2	320								
	3	160	L	ND	ND	ND	ND	ND	144	4/28/2025
SP23	SURF	>4000	L	ND	ND	ND	ND	ND	9730	4/29/2025
	1	2880								
	2	720								
	3	400								
	4	400	L	ND	ND	ND	ND	ND	434	4/29/2025
SP24	SURF	400	H	ND	ND	3680	2980	6660	289	4/30/2025
	1	640								
	2	480								
	3	240	L	ND	ND	ND	ND	ND	212	4/30/2025

SP25	SURF	160	L	ND	ND	ND	ND	ND	95.7	4/30/2025
	1	1200								
	2	480								
	3	80	L	ND	ND	ND	ND	ND	136	4/30/2025
SP26	SURF	80	L	ND	ND	ND	ND	ND	60.6	4/30/2025
	1	1120								
	2	320								
	3	320	L	ND	ND	ND	ND	ND	392	4/30/2025
SP27	SURF	880	L	ND	ND	ND	ND	ND	850	4/30/2025
	1	1760								
	2	480								
	3	80	L	ND	ND	ND	ND	ND	40.8	4/30/2025
SP28	SURF	720	L	ND	ND	ND	ND	ND	684	4/30/2025
	1	1760								
	2	720								
	3	560								
	4	80	L	ND	ND	ND	ND	ND	44.1	4/30/2025
SP29	SURF	480	L	ND	ND	ND	ND	ND	511	4/30/2025
	1	880								
	2	400								
	3	400	L	ND	ND	ND	ND	ND	442	4/30/2025
SP30	SURF	80	L	ND	ND	ND	ND	ND	112	4/30/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	ND	4/30/2025
SP31	SURF	80	L	ND	ND	ND	ND	ND	24.2	4/30/2025
	1	240								
	2	240	L	ND	ND	ND	ND	ND	179	4/30/2025
SP32	SURF	1040	L	ND	ND	ND	ND	ND	811	4/30/2025
	1	240								
	2	160	L	ND	ND	ND	ND	ND	144	4/30/2025
SP33	SURF	80	L	ND	ND	ND	ND	ND	ND	4/30/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	135	4/30/2025

SP34	SURF	160	L	ND	ND	ND	ND	ND	132	5/1/2025
	1	480								
	2	320	L	ND	ND	ND	ND	ND	241	5/1/2025
SP35	SURF	80	L	ND	ND	ND	ND	ND	ND	5/1/2025
	1	400								
	2	320	L	ND	ND	ND	ND	ND	327	5/1/2025
SP36	SURF	80	L	ND	ND	ND	ND	ND	ND	5/1/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	ND	5/1/2025
SW1	SURF	>4000	L	ND	ND	ND	ND	ND	6400	3/28/2025
	1	240								
	2	80								
	3	80								
	4	80								
	5	80								
	6	80								
	7	320								
	8	640								
	9	2080								
	10	1600								DROPPED SP20
SW2	SURF	1840	H	ND	ND	46.9	54.6	101.5	2240	3/28/2025
	1	240								
	2	240								
	3	240								
	4	480								
	5	1200								
	6	1360								
	7	160								
	8	2080								
	9	1200								
	10	1200								DROPPED SP21
SW3	SURF	320	L	ND	ND	ND	ND	ND	156	3/28/2025
	1	80	H							
	2	400	H							

	3	480	H							
	4	480	H							
	5	280	H							
	6	460	H							
	7	80	L							
	8	80	L	ND	ND	ND	ND	ND	65.9	4/14/2025
SW4	SURF	80	L	ND	ND	ND	ND	ND	67.5	3/28/2025
	1	400								
	2	200	L	ND	ND	ND	ND	ND	193	4/17/2025
SW5	SURF	400	L	ND	ND	ND	ND	ND	335	3/28/2025
	1	300	H							
	2	280	H							
	3	425	H							
	4	514	H							
	5	320	H							
	6	420	H							
	7	250	H							
	8	180	H							
	9	80								
	10	20		ND	ND	ND	ND	ND	ND	6/25/2025
SW6	SURF	480	L	ND	ND	ND	ND	ND	491	3/28/2025
	1	480	M							
	2	480	H							
	3	400	H							
	4	120	L							
	5	80	L	ND	ND	ND	ND	ND	31.3	4/17/2025
SW7	SURF	80	L	ND	ND	ND	ND	ND	117	3/28/2025
	1	80	M							
	2	80	H							
	3	100	H							
	4	240	H							
	5	300	H							
	6	380	H							
	7	200	L							
	8	80	L	ND	ND	ND	ND	ND	36.4	4/17/2025
SW8	SURF	400	L	ND	ND	ND	ND	ND	134	3/28/2025

	1	240								
	2	160	L	ND	ND	ND	ND	ND	65.1	4/17/2025
SW9	SURF	80	L	ND	ND	ND	ND	ND	ND	3/28/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	ND	4/17/2025
SW10	SURF	80	L	ND	ND	ND	ND	ND	ND	3/28/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	ND	4/17/2025
SW11	SURF	160	L	ND	ND	ND	ND	ND	23.6	
	1	160								
	2	80	L	ND	ND	ND	ND	ND	ND	4/17/2025
SW12	SURF	240	L	ND	ND	ND	ND	ND	179	
	1	160								
	2	160	L	ND	ND	ND	ND	ND	ND	4/17/2025
SW13	SURF	>4000	L	ND	ND	ND	ND	ND	8600	6/25/2025
	1	>4000								
	2	>4000								
	3	>4000								
	4	>4000								
	5	>4000								
	6	>4000								
	7	2140								
	8	860								
	9	514								
	10	20	L	ND	ND	ND	ND	ND	20.1	6/25/2025
SW14	SURF	3520	L	ND	ND	ND	ND	ND	3470	4/28/2025
	1	1920								
	2	1200								
	3	1040								
	4	1360								
	5	1360								
	6	2800								
	7	3760								
	8	720								
	9	80								

	10	20	L	ND	ND	ND	ND	ND	ND	6/25/2025
SW15	SURF	>4000	L	ND	ND	ND	ND	ND	7730	4/28/2025
	1	>4000								
	2	>4000								
	3	>4000								
	4	>4000								
	5	>4000								
	6	>4000								
	7	1800								
	8	620								
	9	415								
	10	20		ND	ND	ND	ND	ND	ND	6/25/2025
SW16	SURF	320	H	ND	ND	148	245	393	180	5/1/2025
	1	300	H							
	2	280	H							
	3	340	H							
	4	260	H							
	5	240	H							
	6	40	L							
	7	20	L	ND	ND	ND	ND	ND	20.4	6/25/2025
SW17	SURF	80	L	ND	ND	ND	ND	ND	55.2	5/1/2025
	1	320	M							
	2	320	H							
	3	320	H							
	4	320	H							
	5	300	H							
	6	400	H							
	7	520	H							
	8	140	L							
	9	20	L	ND	ND	ND	ND	ND	20.4	05/01/2025
SW18	SURF	80	L	ND	ND	ND	ND	ND	40.8	5/1/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	24.8	5/1/2025
SW19	SURF	3440	L	ND	ND	ND	ND	ND	3640	5/1/2025
	1	2480								
	2	80								

	3	80	L	ND	ND	ND	ND	ND	23.6	5/1/2025
SW20	SURF	80	L	ND	ND	ND	ND	ND	ND	5/1/2025
	1	320								
	2	320								
	3	320	L	ND	ND	ND	ND	ND	269	5/1/2025

Full excavation and remediation activities commenced on October 10, 2025. Energy Staffing Services, LLC (ESS) initiated comprehensive removal of impacted soils within the earthen bermed containment area in response to the NMOCD denial of the previously submitted Deferral Request.

Due to the presence of buried production and flow lines within the impact zone, hydrovac excavation was first performed to safely expose subsurface utilities and allow for controlled soil removal around active infrastructure. Contaminated soils adjacent to production equipment within the facility containment were removed using a combination of hand tools (shovels) and precision excavation methods to avoid damage to surface and subsurface lines. In open and accessible areas of the facility, a mini track hoe was utilized to complete excavation activities.

A total of approximately 1,096 cubic yards of petroleum-impacted soil was excavated, temporarily stockpiled on plastic sheeting for characterization and load-out control, and subsequently transported to Gandy Disposal for proper disposal. The total excavated footprint measured approximately 4,197 square feet.

ESS submitted a Notification for (Final) Sampling of a Release (C-141N) for Incident ID NOY1818639026 on November 17, 2025 (Application ID: 527335). Following preliminary confirmation sampling, analytical results indicated that additional excavation was required. Supplemental excavation activities were completed on December 2, 2025.

Final composite confirmation sampling commenced on December 3, 2025. A total of twenty-one (21) 200-square-foot bottom-of-excavation composite samples and twelve (12) 200-square-foot vertical (sidewall) composite samples were collected, field screened, and submitted to Envirotech Laboratories for analytical confirmation in accordance with NMOCD closure criteria. Backfill confirmation samples were also collected from native soils sourced from the Mack Energy MAB #7 reclamation pad to document that imported material met applicable soil standards prior to placement with backfilling the facility area with 1,536 cy of a mixture of caliche and topsoil; lines in the facility were padded with the topsoil and line detector tape was placed for future one-call events.

This report includes composite sample summary tables, the composite location map, laboratory analytical reports, and GPS coordinates for each confirmation sample location.

CONTAINMENT COMPOSITE SAMPLE DATA										
SP ID	Depth	Titr	PID	L-BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL	Dates
COMP1	4'	100	ND	ND	ND	ND	ND	ND	97.7	12/1/2025
COMP2	4'	20	ND	ND	ND	ND	ND	ND	28.1	12/1/2025
COMP3	5'	80	ND	ND	ND	ND	ND	ND	69.8	12/1/2025
COMP4	3'	360	ND	ND	ND	ND	ND	ND	341	12/1/2025
COMP5	5'	120	ND	ND	ND	32	ND	32	143	12/1/2025
COMP6	3'	200	ND	ND	ND	ND	ND	ND	195	12/1/2025
COMP7	6'	100	ND	ND	ND	ND	ND	ND	83.1	12/2/2025
COMP8	6'	297	ND	ND	ND	ND	ND	ND	297	12/2/2025
COMP9	7'	100	ND	ND	ND	ND	ND	ND	106	12/2/2025
COMP10	8'	200	ND	ND	ND	ND	ND	ND	193	12/2/2025
COMP11	12'	180	ND	ND	ND	ND	ND	ND	166	12/2/2025
COMP12	12'	400	ND	ND	ND	ND	ND	ND	412	12/2/2025
COMP13	12'	280	ND	ND	ND	ND	ND	ND	265	12/3/2025
COMP14	8'	500	ND	ND	ND	ND	ND	ND	481	12/3/2025
COMP15	6'	400	ND	ND	ND	ND	ND	ND	392	12/3/2025
COMP16	10'	244	ND	ND	ND	ND	ND	ND	244	12/3/2025
COMP17	7'	400	ND	ND	ND	ND	ND	ND	418	12/3/2025
COMP18	2'	100	ND	ND	ND	ND	ND	ND	106	12/4/2025
COMP19	1'	200	ND	ND	ND	ND	ND	ND	203	12/4/2025
COMP20	1'	100	ND	ND	ND	ND	ND	ND	133	12/4/2025
COMP21	1'	400	ND	ND	ND	ND	ND	ND	363	12/4/2025
SWCOMP1	4'	200	ND	ND	ND	ND	ND	ND	204	12/8/2025
SWCOMP2	4'	100	ND	ND	ND	ND	ND	ND	109	12/8/2025
SWCOMP3	5'	400	ND	ND	ND	ND	ND	ND	365	12/8/2025
SWCOMP4	8'	240	ND	ND	ND	ND	ND	ND	221	12/8/2025
SWCOMP5	10'	200	ND	ND	ND	ND	ND	ND	201	12/8/2025
SWCOMP6	4'	240	ND	ND	ND	ND	ND	ND	229	12/8/2025
SWCOMP7	2'	100	ND	ND	ND	ND	ND	ND	111	12/9/2025
SWCOMP8	5'	260	ND	ND	ND	ND	ND	ND	249	12/9/2025
SWCOMP9	12'	300	ND	ND	ND	ND	ND	ND	273	12/9/2025
SWCOMP10	12'	136	ND	ND	ND	ND	ND	ND	136	12/9/2025
SWCOMP11	3'	200	ND	ND	ND	ND	ND	ND	241	12/9/2025
SWCOMP12	1'	100	ND	ND	ND	ND	ND	ND	109	12/9/2025
BF SURF 1	SURF	120	M	ND	ND	68.4	192	260.4	101	12/11/2025
BF SURF 2	SURF	480	L	ND	ND	ND	57.7	57.7	491	12/11/2025
BF SURF 3	SURF	300	ND	ND	ND	ND	ND	ND	328	12/11/2025

BF SURF 4	SURF	400	ND	ND	ND	ND	ND	ND	354	12/11/2025
BF SURF 5	SURF	300	ND	ND	ND	ND	ND	ND	256	12/11/2025
BF SURF 6	SURF	200	ND	ND	ND	ND	ND	ND	227	12/11/2025
BF SURF 7	SURF	400	ND	ND	ND	ND	ND	ND	409	12/11/2025
BF SURF 8	SURF	200	ND	ND	ND	ND	ND	ND	176	12/11/2025
BF SURF 9	SURF	140	ND	ND	ND	ND	ND	ND	169	12/11/2025

Closure/Deferral Request

On behalf of Mack Energy, Energy Staffing Services, LLC (ESS) respectfully requests regulatory closure of the pasture area associated with Incident 1RP-5115 / NOY1818639026 and deferral of the remaining impacted soils located within the MA B #4 facility containment area.

All impacted soils within the pasture area have been fully delineated, excavated, and confirmed through laboratory analysis to meet applicable NMOCD soil closure criteria. Therefore, closure is requested for the off-pad (pasture) portion of the release.

Deferral is requested solely for residual contamination located directly beneath the existing tank battery infrastructure within the facility containment area. These impacts are inaccessible without decommissioning or removing active production equipment. As directed in the NMOCD's prior denial of the deferral request, Mack Energy and ESS completed excavation of all reasonably accessible impacted soils within the facility without compromising the structural integrity or operational safety of production equipment. All contaminated soils that could be safely accessed and removed have been excavated and properly disposed of. The only remaining impacted soils are those directly underlying the tank battery infrastructure. With the estimated contaminated material left underneath the process equipment that was left behind due to infrastructure, the estimated contaminated soil measures 291 sq. ft. at an approximate depth of 12'bgs, leaving an estimated 130 cy of impacted soil. (please see map attached)

The information contained in this report documents that all reasonable and necessary corrective actions have been implemented to address environmental impacts associated with the MA B #4 release. Mack Energy and ESS certify that the data presented herein are true, accurate, and complete to the best of our knowledge and that applicable closure and deferral requirements have been satisfied in accordance with 19.15.29 NMAC.

Should you have any questions or require additional information regarding this closure and deferral request, please contact the undersigned at (575) 390-6397 or (575) 393-9048, or via email at natalie@energystaffingllc.com.

Sincerely,



Director of Environmental and Regulatory Services

Energy Staffing Services, LLC.

2724 NW County Road

Hobbs, NM 88240

Cell: 575-390-6397

Office: 575-393-9048

Email: natalie@energystaffingllc.com

Attachments

Spill Notification
Initial C141
Impact Map
Initial Site Photos
Site Map
Rangeland and Vegetation Classification
Soil Map
FEMA National Flood Hazard Layer Map
Karst Geology Map
Surface Water Map
Groundwater Information
Groundwater Map
OSE POD Map
ASSI Report
Vertex Report
Delineation Sample Data
Delineation Sample Map
Lab Analysis for Delineation
Delineation Site Photos
Composite Sample Data
Composite Sample Map
Lab analysis for Remediation
Excavation Site Photos
Remediation and Final Photos
Deferral Denial Documentation
Facility Delineation Sample data including Lab Analysis
Facility Sample Delineation Map including GPS Data
Facility Sampling Notification
Facility Delineation Photos
Facility Composite Sample Data Map including Lab Analysis
Facility Composite Map including GPS Data

Backfill Composite Map and GPS
Facility Excavation, Composite and Backfill Photos

From: Matt Buckles
To: Yu, Olivia, EMNRD
Subject: Fee MA B Battery 30-025-36494 Release Notification
Date: Tuesday, June 26, 2018 7:52:57 AM

Olivia,

We had a gasket on the treater blow out and released oil into the battery containment and to the south of the battery yesterday morning. Aprox 40 bbls of oil. We will begin emergency recovery to keep oil from leaching deeper and recovering any surface oil with vac truck. I will follow up with more details in the C -141.

Thanks,

Matt Buckles
Mack Energy
575-703-1958

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

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

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Mack Energy Corporation	Contact Matt Buckles
Address 11344 Lovington Highway	Telephone No. 575-748-1288
Facility Name MA B #4	Facility Type Tank Battery
Surface Owner Concho Land LLC	Mineral Owner Private
API No. 30-025-36494	

LOCATION OF RELEASE

Unit Letter H	Section 31	Township 17S	Range 33E	Feet from the 1650	North/South Line North	Feet from the 990	East/West Line East	County Lea
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Latitude 32.79361111 Longitude -103.69666667 NAD83

NATURE OF RELEASE

Type of Release Oil/PW	Volume of Release 40 bbls	Volume Recovered 10 Bbls
Source of Release Heater Treater	Date and Hour of Occurrence 6/25/2018 6:00 am	Date and Hour of Discovery 6/25/2018 10:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Olivia Yu	
By Whom? Matt Buckles	Date and Hour 6/26/18 7:53 am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RECEIVED

By Olivia Yu at 10:43 am, Jul 05, 2018

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A gasket on an 8'x20' heater treater developed a leak on the top side of the clean out plate. Immediately upon discovery we removed any standing fluid and hauled any saturated oily dirt to an approved disposal site to prevent further leaching.

Describe Area Affected and Cleanup Action Taken.*

The area affected is directly south of the TB. The release is approximately 100 feet south and 50 feet wide. We will fully delineate and discuss remediation plans.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Matt Buckles		OIL CONSERVATION DIVISION Approved by Environmental Specialist: 	
Printed Name: Matt Buckles			
Title: Environmental	Approval Date: 7/5/2018	Expiration Date:	
E-mail Address: mattbuckles@mec.com	Conditions of Approval: see attached directive	Attached ☒	
Date: 7/3/2017	Phone: 575-748-1288		

1RP-5115

nOY1818639026

pOY1818639485

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _07/03/2018_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number _1RP-5115_ has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs__ on or before _8/5/2018_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold

OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

From: [Hernandez, Christina, EMNRD](#)
To: ["tfranklin@americansafety.net"](mailto:tfranklin@americansafety.net); [Yu, Olivia, EMNRD](#)
Cc: ["mattbuckles@mec.com"](mailto:mattbuckles@mec.com)
Subject: RE: Mack Energy - 1RP-5115 MA B #4
Date: Monday, October 22, 2018 8:55:00 AM
Attachments: [Reviewed1RP-5115Mack - MA B #4 Work Plan \(002\).pdf](#)

Dear Mr. Franklin:

Notes

1. A USGS well (324753103410201) 0.7 mi NE of the site shows water depth is at 60.62 ft bgs (1990). Additionally, an OSE stream is identified 600 ft to the SE.
2. Please clarify how deep the initial excavation was and how much soil was removed.

NMOCD approves of the delineation completed for 1RP-5115. The proposed remediation is also approved with these conditions:

- Dated photo documentation of the remedial activities.
- Scaled map with demarcation of original excavation area.
- Please utilize a revised Closure C-141 form available at:
<http://www.emnrd.state.nm.us/OCD/forms.html>

Thanks,
Christina Hernandez
EMNRD-OCD
Environmental Specialist
1625 N. French Drive
Hobbs, NM 88240
575-393-6161 x111
Christina.Hernandez@state.nm.us

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Thomas Franklin <tfranklin@americansafety.net>
Sent: Thursday, September 13, 2018 2:04 PM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: Matt Buckles <mattbuckles@mec.com>
Subject: Mack Energy - 1RP-5115 MA B #4

Ms. Yu,

On behalf of Mack Energy please find attached the remediation work plan for 1RP-5115. If you have any questions or concerns please feel free to contact myself at any time.

Best Regards

Thomas Franklin
Environmental Manager
American Safety Services Inc.
(432) 552-7625 Office
(432) 557-9868 Mobile

tfranklin@americansafety.net

www.americansafety.net



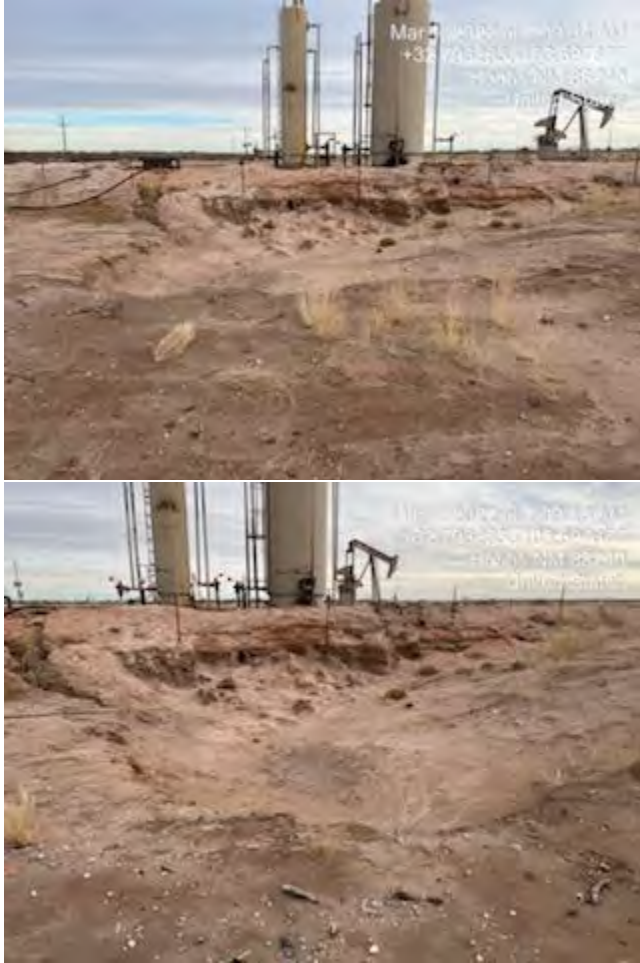


MACK ENERGY: MA B #4 INITIAL SITE PHOTOS











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.

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 Vegetation Classification, Productivity, and Plant Composition—Lea County, New Mexico								
Map unit symbol and soil name	Ecological Site, Plant Association, or Habitat Type	Total dry-weight production			Characteristic rangeland or forest understory vegetation	Composition		
		Favorable year	Normal year	Unfavorable year			Rangeland	Forest understory
		<i>Lb/ac</i>	<i>Lb/ac</i>	<i>Lb/ac</i>		<i>Pct dry wt</i>	<i>Pct dry wt</i>	
CLP—Caliche pit								
Pits, caliche	—	—	—	—	—			



Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition---Lea County, New Mexico

MA B #4

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition--Lea County, New Mexico								
Map unit symbol and soil name	Ecological Site, Plant Association, or Habitat Type	Total dry-weight production			Characteristic rangeland or forest understory vegetation	Composition		
		Favorable year	Normal year	Unfavorable year			Rangeland	Forest understory
		Lb/ac	Lb/ac	Lb/ac		Pct dry wt	Pct dry wt	
JA—Jal association								
Jal	Limy (R070BC030NM)	1,350	—	500	black grama	10		
					blue grama	10		
					hairy grama	10		
					other shrubs	10		
					other perennial forbs	10		
					other perennial grasses	10		
					plains bristlegrass	10		
					bush muhly	5		
					creosote bush	5		
					fourwing saltbush	5		
					sand dropseed	5		
					winterfat	5		
					yucca	5		
Drake	Sandy (R070BD004NM)	2,800	2,100	1,400	little bluestem	30		
					other perennial grasses	15		
					sideoats grama	15		
					other shrubs	10		
					blue grama	5		
					hairy grama	5		
					other perennial forbs	5		
					plains bristlegrass	5		
					sand dropseed	5		
					sand lovegrass	5		



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Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition---Lea County, New Mexico

MA B #4

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition--Lea County, New Mexico								
Map unit symbol and soil name	Ecological Site, Plant Association, or Habitat Type	Total dry-weight production			Characteristic rangeland or forest understory vegetation	Composition		
		Favorable year	Normal year	Unfavorable year			Rangeland	Forest understory
		Lb/ac	Lb/ac	Lb/ac		Pct dry wt	Pct dry wt	
KM--Kermit soils and Dune land, 0 to 12 percent slopes								
Kermit	Sandhills (R070BC022NM)	1,350	—	600	dropseed	15		
					other perennial grasses	15		
					giant dropseed	10		
					Havard's panicgrass	10		
					other perennial forbs	10		
					sand bluestem	10		
					common sunflower	5		
					Havard's oak	5		
					other shrubs	5		
					plains bristlegrass	5		
					sand paspalum	5		
					yucca	5		
Dune land	—	—	—	—	—			



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Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition---Lea County, New Mexico

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Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition--Lea County, New Mexico								
Map unit symbol and soil name	Ecological Site, Plant Association, or Habitat Type	Total dry-weight production			Characteristic rangeland or forest understory vegetation	Composition		
		Favorable year	Normal year	Unfavorable year			Rangeland	Forest understory
		<i>Lb/ac</i>	<i>Lb/ac</i>	<i>Lb/ac</i>		<i>Pct dry wt</i>	<i>Pct dry wt</i>	
MM--Ratliff loam, 0 to 3 percent slopes								
Ratliff	Limy Upland 12-17" PZ (R077DY042TX)	1,800	1,500	700	blue grama	40		
					sideoats grama	15		
					buffalograss	10		
					black grama	5		
					hairy grama	5		
					sand dropseed	5		
					threeawn	5		
					vine mesquite	5		
					other perennial forbs	4		
					other shrubs	3		
					other perennial grasses	3		



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Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition---Lea County, New Mexico

MA B #4

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition—Lea County, New Mexico								
Map unit symbol and soil name	Ecological Site, Plant Association, or Habitat Type	Total dry-weight production			Characteristic rangeland or forest understory vegetation	Composition		
		Favorable year	Normal year	Unfavorable year			Rangeland	Forest understory
		Lb/ac	Lb/ac	Lb/ac		Pct dry wt	Pct dry wt	
MN—Ratliff-Wink fine sandy loams								
Ratliff	Loamy (R070BC007NM)	1,200	900	600	black grama	30		
					other perennial forbs	10		
					sand dropseed	10		
					Arizona cottontop	5		
					blue grama	5		
					bush muhly	5		
					hooded windmill grass	5		
					mesa dropseed	5		
					other shrubs	5		
					other perennial grasses	5		
					plains bristlegrass	5		
					sideoats grama	5		
					spike dropseed	5		
Wink	Sandy (R070BD004NM)	650	550	450	black grama	25		
					bush muhly	20		
					other shrubs	10		
					other perennial forbs	10		
					other perennial grasses	10		
					Arizona cottontop	5		
					mesa dropseed	5		
					plains bristlegrass	5		
					sand dropseed	5		
					spike dropseed	5		



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Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition---Lea County, New Mexico

MA B #4

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition--Lea County, New Mexico								
Map unit symbol and soil name	Ecological Site, Plant Association, or Habitat Type	Total dry-weight production			Characteristic rangeland or forest understory vegetation	Composition		
		Favorable year	Normal year	Unfavorable year			Rangeland	Forest understory
		<i>Lb/ac</i>	<i>Lb/ac</i>	<i>Lb/ac</i>		<i>Pct dry wt</i>	<i>Pct dry wt</i>	
PT—Pyote loamy fine sand								
Pyote	Loamy Sand (R070BD003NM)	2,000	1,500	1,000	little bluestem	10		
					other shrubs	10		
					other perennial forbs	10		
					sand bluestem	10		
					spike dropseed	10		
					Arizona cottontop	5		
					black grama	5		
					bush muhly	5		
					cane bluestem	5		
					giant dropseed	5		
					hooded windmill grass	5		
					mesa dropseed	5		
					other perennial grasses	5		
					plains bristlegrass	5		
					sand dropseed	5		



Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition---Lea County, New Mexico

MA B #4

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition—Lea County, New Mexico								
Map unit symbol and soil name	Ecological Site, Plant Association, or Habitat Type	Total dry-weight production			Characteristic rangeland or forest understory vegetation	Composition		
		Favorable year	Normal year	Unfavorable year			Rangeland	Forest understory
		<i>Lb/ac</i>	<i>Lb/ac</i>	<i>Lb/ac</i>		<i>Pct dry wt</i>	<i>Pct dry wt</i>	
PY—Pyote soils and Dune land								
Pyote	Loamy Sand (R070BD003NM)	2,000	1,500	1,000	little bluestem	10		
					other shrubs	10		
					other perennial forbs	10		
					sand bluestem	10		
					spike dropseed	10		
					Arizona cottontop	5		
					black grama	5		
					bush muhly	5		
					cane bluestem	5		
					giant dropseed	5		
					hooded windmill grass	5		
					mesa dropseed	5		
					other perennial grasses	5		
					plains bristlegrass	5		
					sand dropseed	5		
Dune land	—	—	—	—	—			



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Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition—Lea County, New Mexico								
Map unit symbol and soil name	Ecological Site, Plant Association, or Habitat Type	Total dry-weight production			Characteristic rangeland or forest understory vegetation	Composition		
		Favorable year	Normal year	Unfavorable year			Rangeland	Forest understory
		<i>Lb/ac</i>	<i>Lb/ac</i>	<i>Lb/ac</i>		<i>Pct dry wt</i>	<i>Pct dry wt</i>	
SA—Sharvana loamy fine sand, dry								
Sharvana, dry	Very Shallow 12-17" PZ (R077DY049TX)	1,300	900	600	sideoats grama	25		
					black grama	15		
					little bluestem	15		
					other perennial forbs	10		
					blue grama	5		
					buffalograss	5		
					hairy grama	5		
					other shrubs	5		
					other perennial grasses	5		
					sand dropseed	5		
					New Mexico Feathergrass	3		
					yucca	2		

Data Source Information

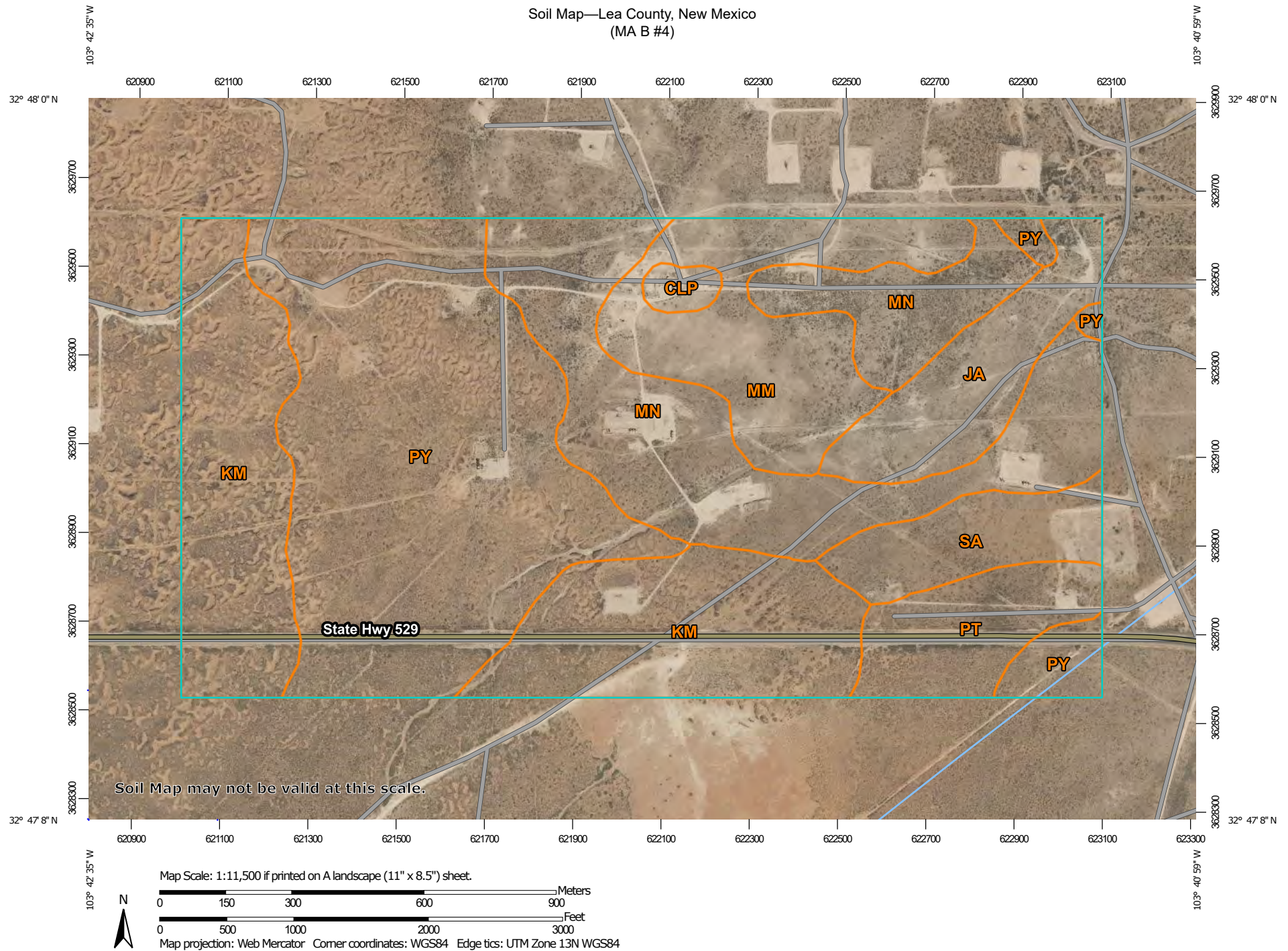
Soil Survey Area: Lea County, New Mexico
 Survey Area Data: Version 20, Sep 6, 2023



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Web Soil Survey
National Cooperative Soil Survey

6/5/2024
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Soil Map—Lea County, New Mexico
(MA B #4)

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Soil Map—Lea County, New Mexico
(MA B #4)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Lea County, New Mexico

Survey Area Data: Version 20, Sep 6, 2023

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

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

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



Natural Resources
Conservation Service

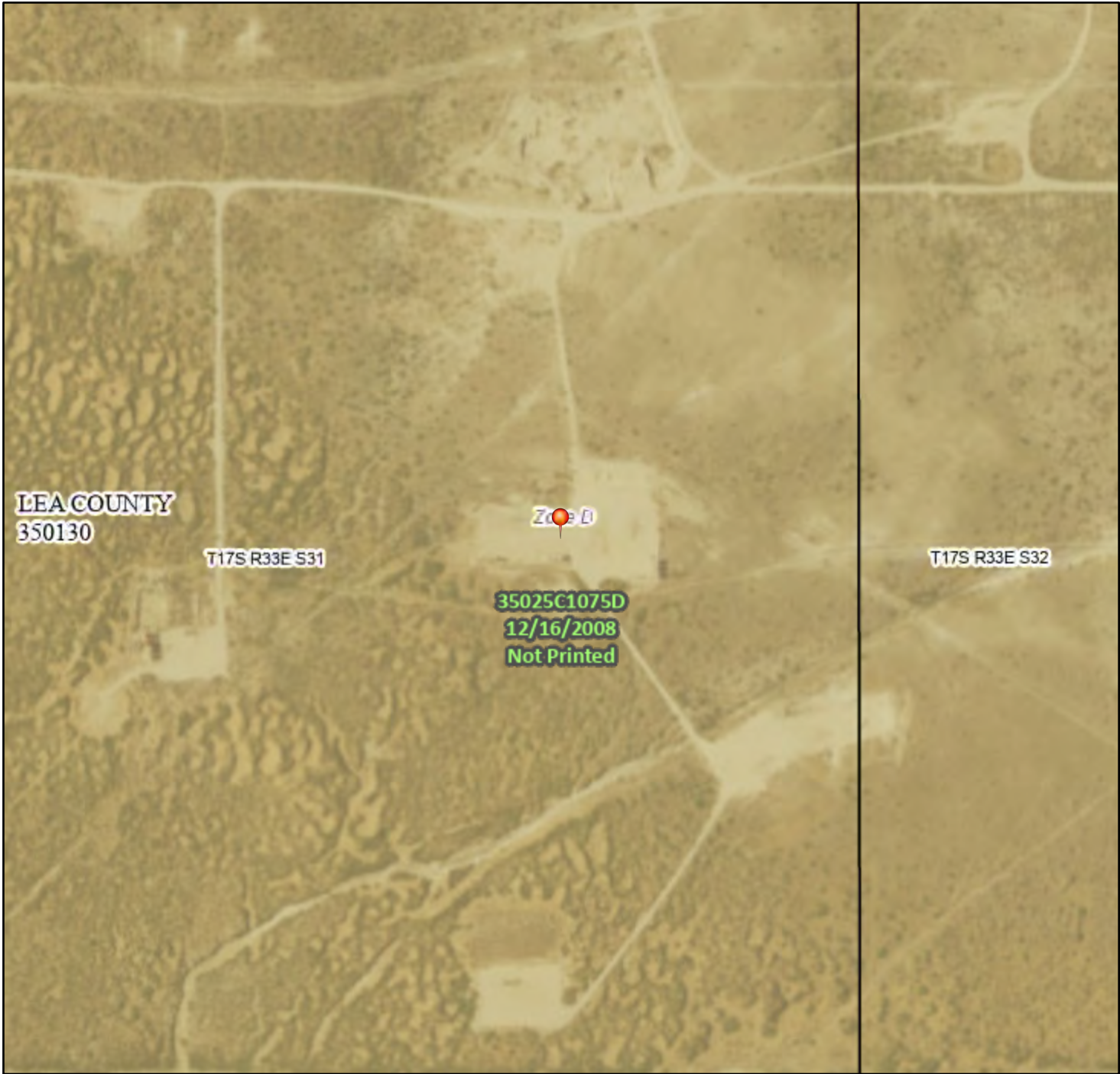
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CLP	Caliche pit	4.0	0.7%
JA	Jal association	34.9	6.2%
KM	Kermite soils and Dune land, 0 to 12 percent slopes	123.0	22.0%
MM	Ratliff loam, 0 to 3 percent slopes	58.7	10.5%
MN	Ratliff-Wink fine sandy loams	114.1	20.4%
PT	Pyote loamy fine sand	28.5	5.1%
PY	Pyote soils and Dune land	170.9	30.5%
SA	Sharvana loamy fine sand, dry	25.4	4.5%
Totals for Area of Interest		559.6	100.0%

National Flood Hazard Layer FIRMette



103°42'7"W 32°47'52"N



1:6,000

103°41'29"W 32°47'22"N

Legend

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

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



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

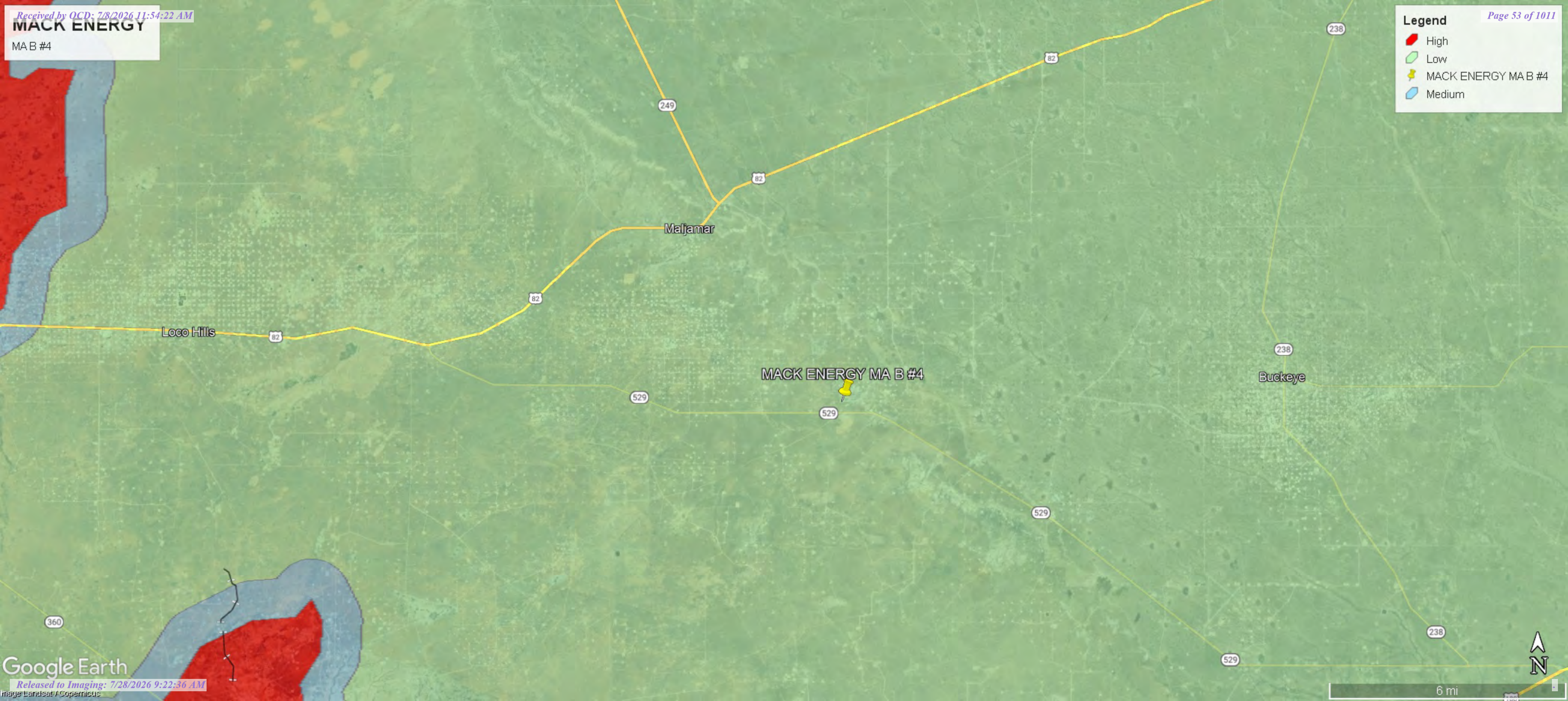
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/5/2024 at 10:52 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

Legend

- High
- Low
- MACK ENERGY MA B #4
- Medium







New Mexico Office of the State Engineer

Wells with Well Log Information

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

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

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

(NAD83 UTM in meters)

(in feet)

POD																			License	
POD Number	Sub-	basin	County	Source	q	q	q	Sec	Tws	Rng	X	Y	Distance	Start Date	Log File		Depth	Depth	Driller	License Number
	Code				6416	4	4								Date	Date	Well	Water		
L 13909 POD1	L	LE	Shallow	4	1	4	31	17S	33E	621735	3628514		712	07/09/2015	07/09/2015	08/17/2015	240	100	ALLAN EADES	1044

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 622039.66

Northing (Y): 3629158.78

Radius: 1000

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New Mexico Office of the State Engineer

Wells with Well Log Information

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD Number	POD Sub-Code	basin	County	Source	q 64	q 16	q 4	Sec	Tws	Rng	X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number
L 13909 POD1	L	LE	Shallow	4 1 4	31	17S	33E				621735	3628514	712	07/09/2015	07/09/2015	08/17/2015	240	100	ALLAN EADES	1044
L 14159 POD1	L	LE	Shallow	3 1 3	28	17S	33E				624030	3630169	2231	08/04/2016	08/09/2016	10/07/2016	298	165	NORRIS, JOHN	1755
L 13049 POD1	L	LE	Shallow	2 2 2	29	17S	33E				623782	3631207*	2689	07/22/1958	07/22/1958	06/06/1961	244	204	ABBOTT BROS.	
L 03713	L	LE		3 4 1	28	17S	33E				624391	3630617*	2766	10/21/1957	10/23/1957	12/30/1957	210		MERRELL ABBOTT	46
RA 11957 POD1	RA	LE	Shallow	3 4 1	19	17S	33E				621177	3632200	3161	06/11/2013	06/11/2013	06/21/2013	55		NORRIS, JOHN D. (LD)	1682
RA 11937 POD1	RA	LE	Shallow	1 4 1	19	17S	33E				621244	3632281	3222	06/11/2013	06/11/2013	06/21/2013	95		NORRIS, JOHN D. (LD)	1682
L 06131	L	LE	Shallow	3 1 2	08	18S	33E				623241	3626167*	3223	04/27/1967	04/29/1967	05/02/1967	194	100		99
CP 00758 POD1	CP	LE	Shallow	3 04	18S	33E					624345	3626886*	3237	05/08/1991	05/10/1991	05/16/1991	250		DUBOSE DRILLING, INC.	1107
RA 11936 POD1	RA	LE	Shallow	1 4 1	19	17S	33E				621246	3632321	3261	06/11/2013	06/11/2013	06/21/2013	92		NORRIS, JOHN D. (LD)	1682
L 12974 POD1	L	LE	Shallow	3 4 3	18	17S	33E				621233	3632940	3866	04/20/2012	04/27/2012	05/03/2012	140	130	NORRIS, JOHN D. (LD)	1682
L 02875	L	LE	Shallow	2 2 20	17S	33E					623662	3632717*	3910	05/18/1955	05/20/1955	05/26/1955	250	190	MURRELL ABBOTT	46
L 01391 POD6	L	LE	Shallow	3 1 1	21	17S	33E				623990	3632685	4030	01/18/2013	01/18/2013	10/03/2023	205		NORRIS, JOHN D.OTT R.L.L W.	1682
L 04649	L	LE	Shallow	1 1 3	03	18S	33E				625644	3627213*	4096	06/15/1961	06/16/1961	06/20/1961	100	45	MUSSELWHITE, O.R.	99
RA 11911 POD1	RA	LE	Shallow	1 3 1	24	17S	32E				619192	3632296	4237	06/11/2013	06/11/2013	06/21/2013	35		NORRIS, JOHN D. (LD)	1682
L 02770 S2	L	LE	Shallow	2 2 3	18	17S	33E				621338	3633583*	4479	06/01/1955	06/06/1955	07/11/1955	214	184	C.O. ALDREDGE	79
L 02770 S3	L	LE	Shallow	2 2 3	18	17S	33E				621338	3633583*	4479	07/14/1955	07/16/1955	10/06/1955	220	202	C.O. ALDREDGE	79

*UTM location was derived from PLSS - see Help

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

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

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

(NAD83 UTM in meters)

(in feet)

POD Number	POD			Source	q q q			X	Y	Distance	Start Date	Finish Date	Log File	Depth Well	Depth Water	Driller	License Number			
	Code	basin	County		6416	4	Sec											Tws	Rng	
L 03622	L	LE	Shallow			17	17S	33E	623053	3633703*		4655	07/22/1957	07/25/1957	08/01/1957	226	180	JACK CLAYTON	183	
L 02770	L	LE	Shallow	2	18	17S	33E	621836	3634093*		4938	06/06/1955	06/28/1955	07/28/1955	216	179	C.O. ALDREDGE	79		
CP 00546 POD1	CP	LE	Shallow	2	2	4	09	18S	33E	625464	3625597*		4940	06/01/1975	06/03/1975	10/02/1978	90	70	VAN NOY, W.L.	208

Record Count: 19

UTMNAD83 Radius Search (in meters):

Easting (X): 622039.66

Northing (Y): 3629158.78

Radius: 5000



New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
L 13909	POD1	4	1	4	31	17S	33E	621735	3628514

Driller License: 1044 **Driller Company:** EADES WELL DRILLING & PUMP SERVICE
Driller Name: ALLAN EADES

Drill Start Date: 07/09/2015 **Drill Finish Date:** 07/09/2015 **Plug Date:**
Log File Date: 08/17/2015 **PCW Rcv Date:** **Source:** Shallow
Pump Type: **Pipe Discharge Size:** **Estimated Yield:**
Casing Size: 5.14 **Depth Well:** 240 feet **Depth Water:** 100 feet

Water Bearing Stratifications:	Top	Bottom	Description
	100	119	Sandstone/Gravel/Conglomerate
	122	219	Sandstone/Gravel/Conglomerate
	219	240	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	200	240

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6/5/24 9:09 AM

Page 1 of 1

POD SUMMARY - L 13909 POD1



New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
L 14159	POD1	3	1	3	28	17S	33E	624030	3630169 

Driller License: 1755 **Driller Company:** HUNGRY HORSE, LLC.

Driller Name: NORRIS, JOHN

Drill Start Date: 08/04/2016

Drill Finish Date: 08/09/2016

Plug Date:

Log File Date: 10/07/2016

PCW Rcv Date:

Source: Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield: 0 GPM

Casing Size: 8.00

Depth Well: 298 feet

Depth Water: 165 feet

Water Bearing Stratifications:

Top Bottom Description

62	276	Sandstone/Gravel/Conglomerate
----	-----	-------------------------------

Casing Perforations:

Top Bottom

258	298
-----	-----

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Page 1 of 1

POD SUMMARY - L 14159 POD1



New Mexico Office of the State Engineer

Point of Diversion Summary

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
L	13049 POD1	2	2	2	29	17S	33E	623782	3631207*

Driller License:**Driller Company:****Driller Name:** ABBOTT BROS.**Drill Start Date:** 07/22/1958**Drill Finish Date:** 07/22/1958**Plug Date:****Log File Date:** 06/06/1961**PCW Rcv Date:****Source:** Shallow**Pump Type:****Pipe Discharge Size:****Estimated Yield:****Casing Size:** 6.63**Depth Well:** 244 feet**Depth Water:** 204 feet**Water Bearing Stratifications:****Top Bottom Description**

0 244 Sandstone/Gravel/Conglomerate

Casing Perforations:**Top Bottom**

168 244

Meter Number: 18026**Meter Make:** MASTERMETER**Meter Serial Number:** 8830956**Meter Multiplier:** 100.0000**Number of Dials:** 6**Meter Type:** Diversion**Unit of Measure:** Gallons**Return Flow Percent:****Usage Multiplier:****Reading Frequency:** Quarterly**Meter Readings (in Acre-Feet)**

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount Online
04/04/2019	2019	986000	A	RPT		0
10/02/2019	2019	986000	A	RPT		0
01/09/2020	2020	986000	A	dd		0
04/07/2020	2020	986000	A	dd		0
07/07/2020	2020	986000	A	dd		0
10/07/2020	2020	986000	A	dd		0
04/01/2021	2021	986000	A	WEB		0 X
07/02/2021	2021	986000	A	WEB		0 X
10/05/2021	2021	986000	A	WEB		0 X
01/06/2022	2021	986000	A	WEB		0 X
04/05/2022	2022	986000	A	dd		0
07/06/2022	2022	986000	A	dd		0
10/06/2022	2022	986000	A	dd		0
01/10/2023	2022	986000	A	dd	WELL IS NOT IN USE	0
04/03/2023	2023	986000	A	WEB		0 X

*UTM location was derived from PLSS - see Help

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount Online
07/03/2023	2023	986000	A	WEB		0 X

**YTD Meter Amounts:	Year	Amount
	2019	0
	2020	0
	2021	0
	2022	0
	2023	0

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6/5/24 9:15 AM

Page 2 of 2

POD SUMMARY - L 13049 POD1



New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
L 03713		3	4	1	28	17S	33E	624391	3630617*

Driller License: 46

Driller Company: ABBOTT BROTHERS COMPANY

Driller Name: MERRELL ABBOTT

Drill Start Date: 10/21/1957

Drill Finish Date: 10/23/1957

Plug Date: 10/27/1958

Log File Date: 12/30/1957

PCW Rcv Date:

Source:

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size:

Depth Well: 210 feet

Depth Water:

*UTM location was derived from PLSS - see Help

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6/5/24 9:17 AM

Page 1 of 1

POD SUMMARY - L 03713



New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
RA 11957	POD1	3	4	1	19	17S	33E	621177	3632200

Driller License: 1682 **Driller Company:** HUNGRY HORSE, LLC.

Driller Name: NORRIS, JOHN D. (LD)

Drill Start Date: 06/11/2013

Drill Finish Date: 06/11/2013

Plug Date:

Log File Date: 06/21/2013

PCW Rcv Date:

Source: Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size: 0.38

Depth Well: 55 feet

Depth Water:

Water Bearing Stratifications:

Top Bottom Description

12	55	Sandstone/Gravel/Conglomerate
----	----	-------------------------------

Casing Perforations:

Top Bottom

0	55
---	----

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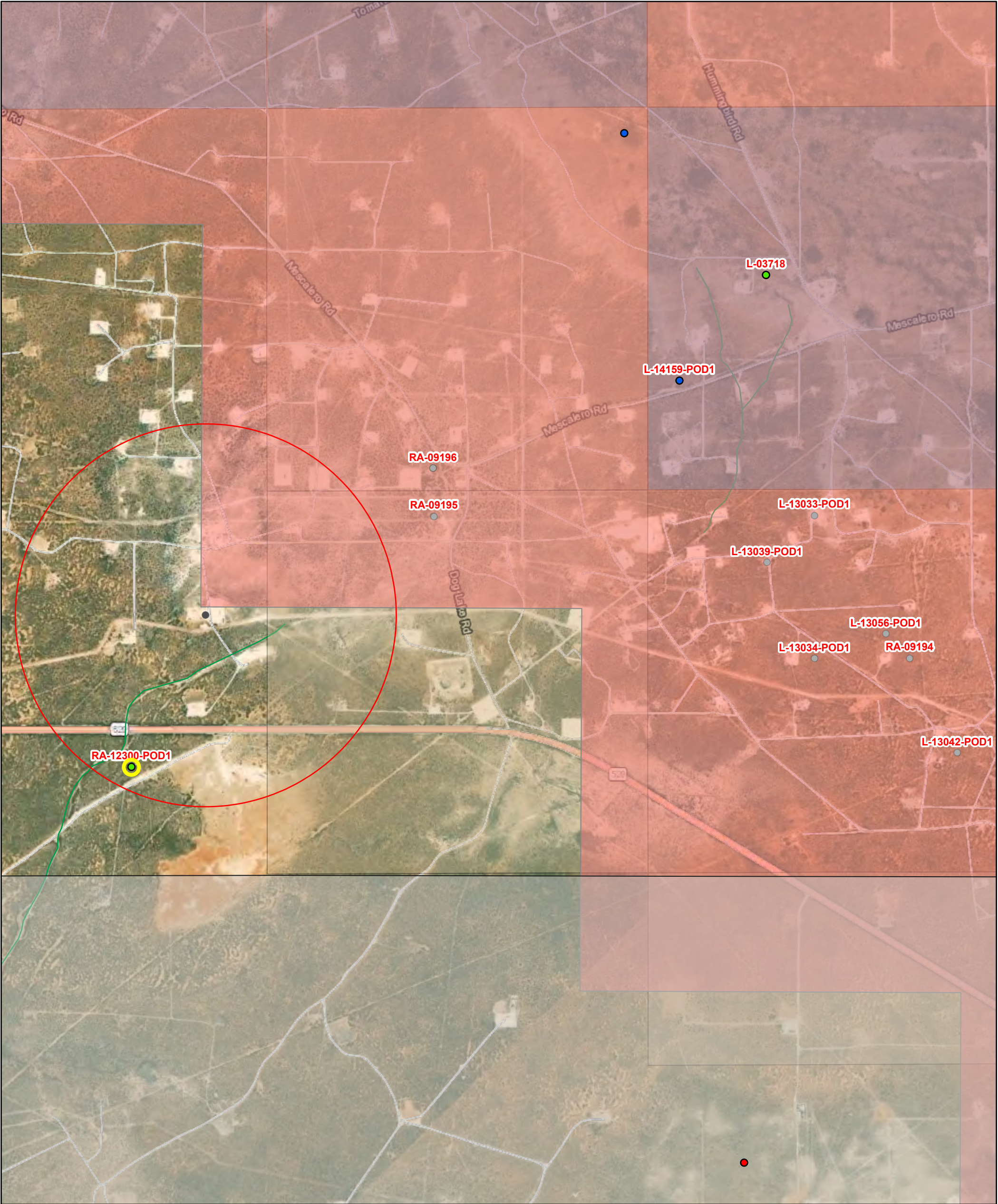
6/5/24 9:20 AM

Page 1 of 1

POD SUMMARY - RA 11957 POD1



OSE POD Location Map



6/11/2024, 1:49:41 PM

GIS WATERS PODs

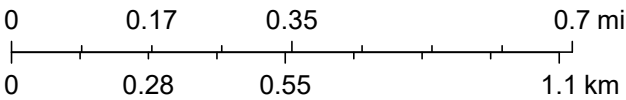
- Active
- Pending
- Plugged

OSE District Boundary

Water Right Regulations

- Critical Management Area - Guidelines
- Closure Area
- New Mexico State Trust Lands
- Subsurface Estate
- Both Estates
- NHD Flowlines
- Stream River

1:18,056



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

REVIEWED

By CHernandez at 8:51 am, Oct 22, 2018



REMEDIATION WORK PLAN

Property:

Mack Energy Corporation
MA B #4
Lea County, New Mexico
Unit Letter "H", Section 31, Township 17 South, Range 33 East
Latitude 32.7936, Longitude -103.6966
API Number: 30-025-36494
1RP-5115

September 2018

Prepared for:

Mack Energy Corporation
11344 Lovington Highway
Artesia, NM 88210
Attn: **Mr. Matt Buckles**

Prepared by:

Thomas Franklin
Environmental Manager

Ryan Reich
Environmental Project Manager

Table of Contents

1.0 INTRODUCTION	1
1.1 Site Description & Background	1
1.2 Project Objective	1
1.3 Standard of Care.....	1
1.4 Reliance.....	2
2.0 SITE RANKING & PROPOSED REMEDIAL ACTION GOALS	2
3.0 INITIAL RESPONSE & SAMPLING ACTIVITIES	3
3.1 Initial Response	3
3.2 Sampling Activities.....	3
3.3 Soil Sampling Analytical Results.....	3
4.0 LABORATORY ANALYTICAL METHODS	3
5.0 WORK PLAN	4

APPENDICES

Appendix A

Figure 1 - Site Vicinity Map
Figure 2 - Site Vicinity Map
Figure 3 - Site Plan
Figure 4 - Topographic Map

Appendix B

Table 1 - Soil Analytical Summary Table

Appendix C

Photo Page

Appendix D

Laboratory Analysis

Appendix E

Initial C-141

Appendix F

Groundwater Data

WORK PLAN

**Mack Energy Corporation
MA B #4
Lea County, New Mexico
Unit Letter "H", Section 31, Township 17 South, Range 33 East
Latitude 32.7936, Longitude -103.6966
API Number: 30-025-36494
1RP-5115**

September 2018
Page 1

1.0 INTRODUCTION

1.1 Site Description & Background

American Safety Services Inc. (ASSI) has prepared this Work Plan for the Mack Energy Corporation (Mack) MA B #4 (referred to hereinafter as the "Site" or "subject Site"). This Work Plan is based upon the interpretation of the data collected by ASSI.

The Site is located in Unit Letter "H", Section 31, Township 17 South, Range 33 East, Lea County, New Mexico (GPS 32.7936, -103.6966). Figures 1, 2, and 3 (Appendix A) show the Site location.

Remedial actions will be conducted in accordance with New Mexico Energy, Minerals, and Natural Resources Department (EMNRD), Oil Conservation Division (NMOCD) rules (*NMAC 19.15.29 Release Notification*).

1.2 Project Objective

The objective of the Work Plan is to present documentation of the activities that were performed to date and to request an effective means to remediate the Site.

1.3 Standard of Care

ASSI's services are performed in accordance with standards provided by a firm rendering the same or similar services in the area during the same time frame. ASSI makes no warranties, expressed or implied, as to the services performed hereunder. Additionally, ASSI does not warranty the work of third parties supplying information used in the report (e.g. laboratories, regulatory agencies, or other third parties). This scope of services will be performed in accordance with the scope of work agreed with the client.

1.4 Reliance

This report has been prepared for the exclusive use of Mack, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the express written authorization of Mack and ASSI. Any unauthorized distribution or reuse is at the sole risk of Mack. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the proposal, the report, and ASSI's Agreement. The limitation of liability defined in the agreement is the aggregate limit of ASSI's liability to the client.

2.0 SITE RANKING & PROPOSED REMEDIAL ACTION GOALS

The Site is subject to regulatory oversight by the Bureau of Land Management (BLM). To address activities related to releases, the NMOCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the NMOCD rules, specifically NMAC 19.15.29 *Release Notification*. These documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

In accordance with NMAC 19.15.29, ASSI utilized the general site characteristics to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the table below:

Ranking Criteria			Ranking Score
Depth to Groundwater	<50 feet	20	0
	50 to 99 feet	10	
	>100 feet	0	
Wellhead Protection Area, <1,000 feet from a water source, or; <200 feet from private domestic water source.	Yes	20	0
	No	0	
Distance to Surface Water Body	<200 feet	20	0
	200 to 1,000 feet	10	
	>1,000 feet	0	
Total Ranking Score			20

Based on ASSI's evaluation of the scoring criteria, the Site would have a Total Ranking Score of 0. This ranking is based on the following:

- The depth to the initial groundwater-bearing zone is greater than 100 feet at the Site.
- The impacted area is greater than 200 feet from a private domestic water source.
- Distance to the nearest surface water body is greater than 1,000 ft.

Based on a Total Ranking Score of 0, cleanup goals for soils remaining in place include: 10 milligrams per kilogram (mg/Kg) for Benzene, 50 mg/Kg for Total Benzene, Toluene, Ethylbenzene and Xylene (BTEX) and 2,500 mg/Kg for Total Petroleum Hydrocarbons (TPH).

Figure 4 shows the location of the Site in Lea Co, New Mexico and surrounding topography.

3.0 INITIAL RESPONSE & SAMPLING ACTIVITIES

3.1 Initial Response

On June 25, 2018, Mack personnel performed a site inspection in response to a release of produced water and crude oil at the Site. The site inspection was in response to a release (1RP-5115) directly to the ground of forty (40) barrels (bbls) of combined fluids. Ten (10) bbls of fluid were recovered. The release impacted approximately three-thousand (3,000) square feet of production pad and adjacent pasture area.

3.2 Sampling Activities

Sampling activities were conducted on July 10, 2018 by ASSI personnel, using a stainless-steel hand auger. Five (5) auger holes were installed, using a stainless-steel hand auger to a depth of three (3) feet below ground surface (bgs). Table 1 (Appendix B) presents analytical results and Figure 3 (Appendix A) shows the sample point locations. Soil was field screened for Chloride utilizing electro conductivity during sampling activities.

3.3 Soil Sampling Analytical Results

Twelve (12) soil samples were collected from Auger Hole-1 through Auger Hole -5 July 10, 2018 by ASSI personnel for laboratory analysis. The samples were analyzed for BTEX, TPH, and Chloride (Table 1). Analytical results were compared to *Table 1 of NMAC 19.15.29.12* and show TPH, BTEX and Chloride concentration do not exist above guidance clean-up goals at all auger hole locations. Vertical and horizontal delineation has been achieved at the Site.

4.0 LABORATORY ANALYTICAL METHODS

The samples were analyzed for TPH utilizing EPA method SW-846 8015, BTEX using EPA method SW-846 8021B, and Chloride utilizing EPA method SW-846 300.1. Laboratory analysis is provided in Appendix D. Table 1 in Appendix B shows analytical results.

Soil was collected, in laboratory prepared glassware, placed on ice, and packed in a cooler. The sample coolers and completed chain-of-custody forms were relinquished to Xenco Laboratories in Midland, Texas for normal turn-around time.

Figure 3 (Appendix A) indicates the approximate location of the auger holes previously installed in relation to pertinent land features and general Site boundaries and anticipated excavation depth during the proposed removal action.

5.0 WORK PLAN

Based upon the data collected and the work completed by ASSI, the constituent of concern (COC) has been vertically and horizontally delineated.

Based on the analytical data presented in Table I, Mack Energy and ASSI propose to perform a surficial tilling action in the area adjacent and around Auger Hole-1, to address visual staining. All actions conducted during remediation will be conducted according to NMAC 19.15.29 and the Site will be returned to original conditions.



APPENDIX A

Figures

Mack Energy- MA B #4

Figure 1

Legend

-  Mack Energy- MA B #4
-  Maljamar



Mack Energy- MA B #4

Figure 2

Legend



Mack Energy- MA B #4



400 ft

Mack Energy- MA B #4

Figure 3

Legend

-  Mack Energy- MA B #4
-  Release Footprint
-  Sample Point



 Mack Energy- MA B #4

AH-1

AH-5

AH-2

AH-4

AH-3



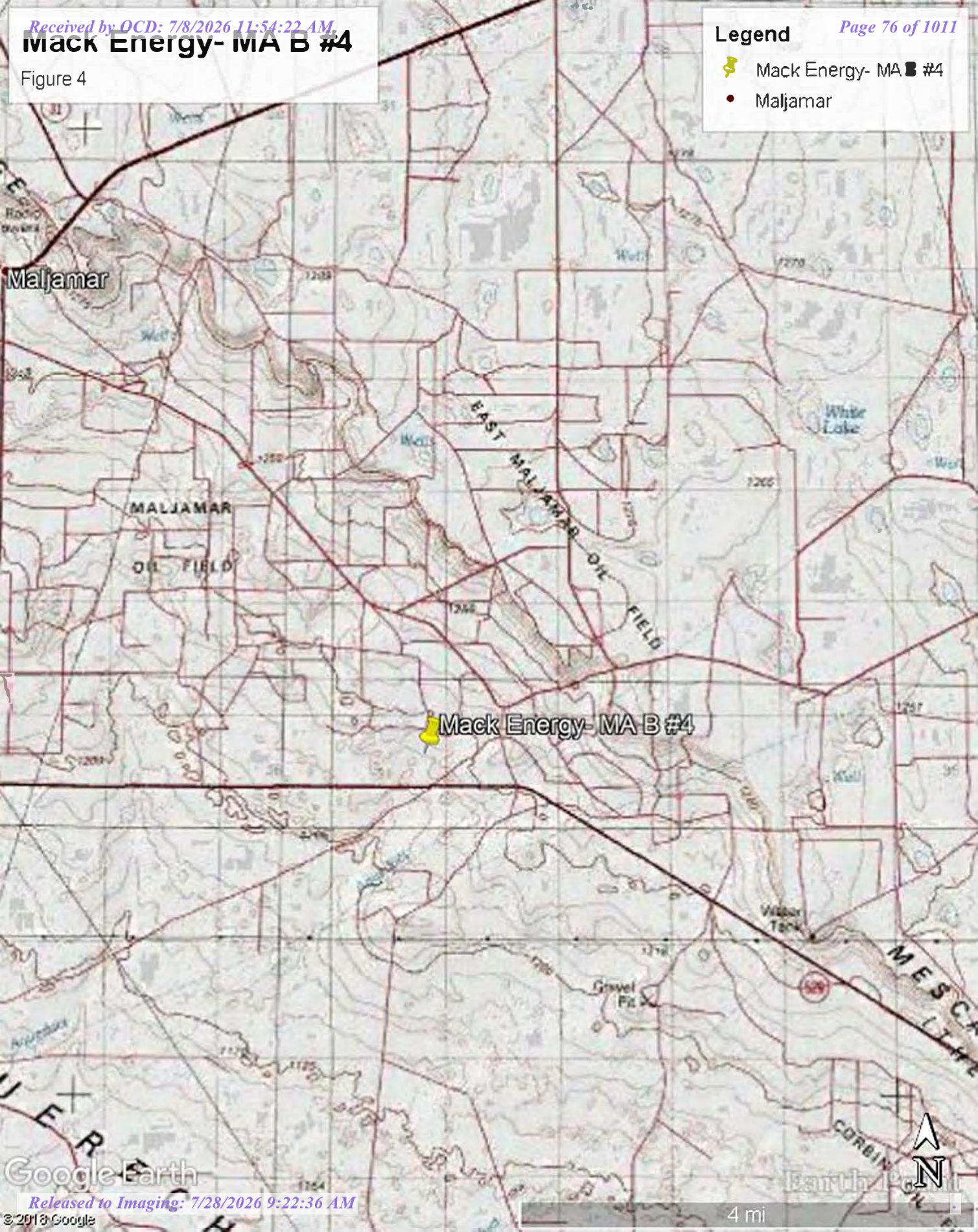
100 ft

Mack Energy- MA B #4

Figure 4

Legend

-  Mack Energy- MA B #4
-  Maljamar





APPENDIX B

Table 1

TABLE 1 Summary of Delineation Sampling Analytical Results Concentrations of Benzene, BTEX, TPH & Chloride in Soil													
Mack Energy MA B #4 Lea County, New Mexico 1RP-5115													
SAMPLE LOCATION	SAMPLE DEPTH (bgs)	SAMPLE DATE	SOIL STATUS	8021B					8015M			300.0	
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYLBENZENE (mg/Kg)	XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO (mg/Kg)	DRO (mg/Kg)	MRO (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)
NMOCD - Guidelines for Remediation of Leaks, Spills and Releases				10	NE	NE	NE	50	NE	NE	NE	2,500	20,000
Vertical Delineation Sampling													
Auger Hole-1	0-0.5'	7/10/2018	In-Situ	ND	ND	ND	ND	ND	ND	273	64.4	338	7,680
Auger Hole-1	0.5'-1'	7/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	2,750
Auger Hole-1	1'-1.5'	7/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	409
Auger Hole-1	1.5'-2'	7/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	703
Auger Hole-1	2'-2.5'	7/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	371
Auger Hole-1	2.5'-3'	7/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	234
Auger Hole-2	0-0.5'	7/10/2018	In-Situ	ND	ND	ND	ND	ND	ND	220	71.4	292	ND
Auger Hole-2	1.5'-1'	7/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	ND
Auger Hole-3	0-0.5'	7/10/2018	In-Situ	ND	ND	ND	ND	ND	ND	376	123	498	5.48
Auger Hole-3	1.5'-1'	7/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	ND
Auger Hole-4	0-0.5'	7/9/2018	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Auger Hole-5	0-0.5'	7/9/2018	In-Situ	ND	ND	ND	ND	ND	ND	77.9	32.6	110	ND

In-situ = sample collected in place

mg/Kg - milligrams per Kilogram

— = Not Established

Concentrations in **BOLD** exceed the NMOCD Guidelines



APPENDIX C

Photo Page



View Northeast– Origin of spill. Release caused by failed gasket on a heater treater.



View Northeast– A portion of the spill flow path caused by the fluid release. Note the hydrocarbon staining (dark brown).



M AB Release Auger Hole 1
Jul 10, 2018 12:36:41

View North – Area of Auger Hole-1 (flagged in middle of photograph).



M AB Release Auger Hole 2
Jul 10, 2018 12:38:58

View South – Area of Auger Hole-2 (flagged in middle of photograph).



View North – Area of Auger Hole-3 (flagged in middle of photograph).



View Northwest – Area of Auger Hole-4 (flagged in middle of photograph).



M AB Release Auger Hole 5
Jul 10, 2018 12:40:52

View Northeast – Area of Auger Hole-5 (flagged
in middle of photograph).





APPENDIX D

Laboratory Analysis

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



Analytical Report

Prepared for:

Thomas Franklin
American Safety Services, Inc
8715 Andrews Hwy
Odessa, TEXAS 79765

Project: Mack energy - MA B #4

Project Number: [none]

Location: Lea Co. NM

Lab Order Number: 8G12007



NELAP/TCEQ # T104704516-17-8

Report Date: 07/31/18

American Safety Services, Inc
8715 Andrews Hwy
Odessa TEXAS, 79765

Project: Mack energy - MA B #4
Project Number: [none]
Project Manager: Thomas Franklin

Fax: (432) 363-0198

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Auger Hole 1 (0.0'-0.5')	8G12007-01	Soil	07/10/18 12:30	07-12-2018 08:50
Auger Hole 1 (0.5'-1.0')	8G12007-02	Soil	07/10/18 12:32	07-12-2018 08:50
Auger Hole 1 (1.0'-1.5')	8G12007-03	Soil	07/10/18 12:34	07-12-2018 08:50
Auger Hole 1 (1.5'-2.0')	8G12007-04	Soil	07/10/18 12:36	07-12-2018 08:50
Auger Hole 1 (2.0'-2.5')	8G12007-05	Soil	07/10/18 12:38	07-12-2018 08:50
Auger Hole 1 (2.5'-3.0')	8G12007-06	Soil	07/10/18 12:40	07-12-2018 08:50
Auger Hole 2 (0.0'-0.5')	8G12007-09	Soil	07/10/18 12:49	07-12-2018 08:50
Auger Hole 2 (0.5'-1.0')	8G12007-10	Soil	07/10/18 12:51	07-12-2018 08:50
Auger Hole 3 (0.0'-0.5')	8G12007-11	Soil	07/10/18 12:56	07-12-2018 08:50
Auger Hole 3 (0.5'-1.0')	8G12007-12	Soil	07/10/18 12:58	07-12-2018 08:50
Auger Hole 4 (0.0'-0.5')	8G12007-13	Soil	07/10/18 13:03	07-12-2018 08:50
Auger Hole 5 (0.0'-0.5')	8G12007-14	Soil	07/10/18 13:08	07-12-2018 08:50

American Safety Services, Inc
8715 Andrews Hwy
Odessa TEXAS, 79765

Project: Mack energy - MA B #4
Project Number: [none]
Project Manager: Thomas Franklin

Fax: (432) 363-0198

Auger Hole 1 (0.0'-0.5')

8G12007-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00115	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B
Toluene	ND	0.0115	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B
Ethylbenzene	ND	0.00575	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B
Xylene (p/m)	ND	0.0230	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B
Xylene (o)	ND	0.0115	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B
Surrogate: 4-Bromofluorobenzene		102 %	75-125		P8G1702	07/17/18	07/19/18	EPA 8021B
Surrogate: 1,4-Difluorobenzene		99.6 %	75-125		P8G1702	07/17/18	07/19/18	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

Chloride	7680	28.7	mg/kg dry	25	P8G1608	07/16/18	07/17/18	EPA 300.0
% Moisture	13.0	0.1	%	1	P8G1604	07/16/18	07/16/18	ASTM D2216

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	28.7	mg/kg dry	1	P8G1306	07/13/18	07/13/18	TPH 8015M
>C12-C28	273	28.7	mg/kg dry	1	P8G1306	07/13/18	07/13/18	TPH 8015M
>C28-C35	64.4	28.7	mg/kg dry	1	P8G1306	07/13/18	07/13/18	TPH 8015M
Surrogate: 1-Chlorooctane		98.6 %	70-130		P8G1306	07/13/18	07/13/18	TPH 8015M
Surrogate: o-Terphenyl		109 %	70-130		P8G1306	07/13/18	07/13/18	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	338	28.7	mg/kg dry	1	[CALC]	07/13/18	07/13/18	calc

BTEX by 8021B

Xylenes (total)	ND	0.0300	mg/kg	1	[CALC]	07/17/18	07/19/18	EPA 8021B
Total BTEX	ND	0.0460	mg/kg	1	[CALC]	07/17/18	07/19/18	EPA 8021B

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc	Project: Mack energy - MA B #4	Fax: (432) 363-0198
8715 Andrews Hwy	Project Number: [none]	
Odessa TEXAS, 79765	Project Manager: Thomas Franklin	

Auger Hole 1 (0.5'-1.0')
8G12007-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	2750	11.2	mg/kg dry	10	P8G2502	07/25/18	07/26/18	EPA 300.0	
% Moisture	11.0	0.1	%	1	P8G1604	07/16/18	07/16/18	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc	Project: Mack energy - MA B #4	Fax: (432) 363-0198
8715 Andrews Hwy	Project Number: [none]	
Odessa TEXAS, 79765	Project Manager: Thomas Franklin	

Auger Hole 1 (1.0'-1.5')
8G12007-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	409	1.20	mg/kg dry	1	P8G2502	07/25/18	07/26/18	EPA 300.0	
% Moisture	17.0	0.1	%	1	P8G1604	07/16/18	07/16/18	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc	Project: Mack energy - MA B #4	Fax: (432) 363-0198
8715 Andrews Hwy	Project Number: [none]	
Odessa TEXAS, 79765	Project Manager: Thomas Franklin	

Auger Hole 1 (1.5'-2.0')
8G12007-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	703	1.18	mg/kg dry	1	P8G2502	07/25/18	07/26/18	EPA 300.0	
% Moisture	15.0	0.1	%	1	P8G1604	07/16/18	07/16/18	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc	Project: Mack energy - MA B #4	Fax: (432) 363-0198
8715 Andrews Hwy	Project Number: [none]	
Odessa TEXAS, 79765	Project Manager: Thomas Franklin	

Auger Hole 1 (2.0'-2.5')
8G12007-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	371	1.12	mg/kg dry	1	P8G1608	07/16/18	07/17/18	EPA 300.0	
% Moisture	11.0	0.1	%	1	P8G1604	07/16/18	07/16/18	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc	Project: Mack energy - MA B #4	Fax: (432) 363-0198
8715 Andrews Hwy	Project Number: [none]	
Odessa TEXAS, 79765	Project Manager: Thomas Franklin	

Auger Hole 1 (2.5'-3.0')
8G12007-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	234	1.14	mg/kg dry	1	P8G2502	07/25/18	07/26/18	EPA 300.0	
% Moisture	12.0	0.1	%	1	P8G1604	07/16/18	07/16/18	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc
8715 Andrews Hwy
Odessa TEXAS, 79765

Project: Mack energy - MA B #4
Project Number: [none]
Project Manager: Thomas Franklin

Fax: (432) 363-0198

Auger Hole 2 (0.0'-0.5')

8G12007-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00104	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Toluene	ND	0.0104	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Ethylbenzene	ND	0.00521	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Xylene (p/m)	ND	0.0208	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Xylene (o)	ND	0.0104	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		84.6 %	75-125		P8G1702	07/17/18	07/19/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		90.0 %	75-125		P8G1702	07/17/18	07/19/18	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	ND	1.04	mg/kg dry	1	P8G1608	07/16/18	07/17/18	EPA 300.0	
% Moisture	4.0	0.1	%	1	P8G1604	07/16/18	07/16/18	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P8G1306	07/13/18	07/13/18	TPH 8015M	
>C12-C28	220	26.0	mg/kg dry	1	P8G1306	07/13/18	07/13/18	TPH 8015M	
>C28-C35	71.4	26.0	mg/kg dry	1	P8G1306	07/13/18	07/13/18	TPH 8015M	
Surrogate: 1-Chlorooctane		104 %	70-130		P8G1306	07/13/18	07/13/18	TPH 8015M	
Surrogate: o-Terphenyl		115 %	70-130		P8G1306	07/13/18	07/13/18	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	292	26.0	mg/kg dry	1	[CALC]	07/13/18	07/13/18	calc	

BTEX by 8021B

Total BTEX	ND	0.0460	mg/kg	1	[CALC]	07/17/18	07/19/18	EPA 8021B	
Xylenes (total)	ND	0.0300	mg/kg	1	[CALC]	07/17/18	07/19/18	EPA 8021B	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc	Project: Mack energy - MA B #4	Fax: (432) 363-0198
8715 Andrews Hwy	Project Number: [none]	
Odessa TEXAS, 79765	Project Manager: Thomas Franklin	

Auger Hole 2 (0.5'-1.0')
8G12007-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	ND	1.04	mg/kg dry	1	P8G1608	07/16/18	07/17/18	EPA 300.0	
% Moisture	4.0	0.1	%	1	P8G1604	07/16/18	07/16/18	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc
8715 Andrews Hwy
Odessa TEXAS, 79765

Project: Mack energy - MA B #4
Project Number: [none]
Project Manager: Thomas Franklin

Fax: (432) 363-0198

Auger Hole 3 (0.0'-0.5')

8G12007-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00104	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Toluene	ND	0.0104	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Ethylbenzene	ND	0.00521	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Xylene (p/m)	ND	0.0208	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Xylene (o)	ND	0.0104	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		89.9 %	75-125		P8G1702	07/17/18	07/19/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.0 %	75-125		P8G1702	07/17/18	07/19/18	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	5.48	1.04	mg/kg dry	1	P8G1608	07/16/18	07/17/18	EPA 300.0	
% Moisture	4.0	0.1	%	1	P8G1604	07/16/18	07/16/18	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P8G1306	07/13/18	07/13/18	TPH 8015M	
>C12-C28	376	26.0	mg/kg dry	1	P8G1306	07/13/18	07/13/18	TPH 8015M	
>C28-C35	123	26.0	mg/kg dry	1	P8G1306	07/13/18	07/13/18	TPH 8015M	
Surrogate: 1-Chlorooctane		102 %	70-130		P8G1306	07/13/18	07/13/18	TPH 8015M	
Surrogate: o-Terphenyl		113 %	70-130		P8G1306	07/13/18	07/13/18	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	498	26.0	mg/kg dry	1	[CALC]	07/13/18	07/13/18	calc	

BTEX by 8021B

Xylenes (total)	ND	0.0300	mg/kg	1	[CALC]	07/17/18	07/19/18	EPA 8021B	
Total BTEX	ND	0.0460	mg/kg	1	[CALC]	07/17/18	07/19/18	EPA 8021B	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc	Project: Mack energy - MA B #4	Fax: (432) 363-0198
8715 Andrews Hwy	Project Number: [none]	
Odessa TEXAS, 79765	Project Manager: Thomas Franklin	

Auger Hole 3 (0.5'-1.0')
8G12007-12 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods									
Chloride	ND	1.04	mg/kg dry	1	P8G1706	07/17/18	07/18/18	EPA 300.0	
% Moisture	4.0	0.1	%	1	P8G1604	07/16/18	07/16/18	ASTM D2216	

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc
8715 Andrews Hwy
Odessa TEXAS, 79765

Project: Mack energy - MA B #4
Project Number: [none]
Project Manager: Thomas Franklin

Fax: (432) 363-0198

Auger Hole 4 (0.0'-0.5')
8G12007-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00101	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Toluene	ND	0.0101	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Ethylbenzene	ND	0.00505	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Xylene (p/m)	ND	0.0202	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Xylene (o)	ND	0.0101	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		88.6 %	75-125		P8G1702	07/17/18	07/19/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		107 %	75-125		P8G1702	07/17/18	07/19/18	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	ND	1.01	mg/kg dry	1	P8G1706	07/17/18	07/18/18	EPA 300.0	
% Moisture	1.0	0.1	%	1	P8G1604	07/16/18	07/16/18	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.3	mg/kg dry	1	P8G1306	07/13/18	07/13/18	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P8G1306	07/13/18	07/13/18	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P8G1306	07/13/18	07/13/18	TPH 8015M	
Surrogate: 1-Chlorooctane		101 %	70-130		P8G1306	07/13/18	07/13/18	TPH 8015M	
Surrogate: o-Terphenyl		112 %	70-130		P8G1306	07/13/18	07/13/18	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	07/13/18	07/13/18	calc	

BTEX by 8021B

Xylenes (total)	ND	0.0300	mg/kg	1	[CALC]	07/17/18	07/19/18	EPA 8021B	
Total BTEX	ND	0.0460	mg/kg	1	[CALC]	07/17/18	07/19/18	EPA 8021B	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc
8715 Andrews Hwy
Odessa TEXAS, 79765

Project: Mack energy - MA B #4
Project Number: [none]
Project Manager: Thomas Franklin

Fax: (432) 363-0198

Auger Hole 5 (0.0'-0.5')

8G12007-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00102	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Toluene	ND	0.0102	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Ethylbenzene	ND	0.00510	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Xylene (p/m)	ND	0.0204	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Xylene (o)	ND	0.0102	mg/kg dry	1	P8G1702	07/17/18	07/19/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		108 %	75-125		P8G1702	07/17/18	07/19/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		91.5 %	75-125		P8G1702	07/17/18	07/19/18	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	ND	1.02	mg/kg dry	1	P8G1706	07/17/18	07/18/18	EPA 300.0	
% Moisture	2.0	0.1	%	1	P8G1604	07/16/18	07/16/18	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.5	mg/kg dry	1	P8G1306	07/13/18	07/13/18	TPH 8015M	
>C12-C28	77.9	25.5	mg/kg dry	1	P8G1306	07/13/18	07/13/18	TPH 8015M	
>C28-C35	32.6	25.5	mg/kg dry	1	P8G1306	07/13/18	07/13/18	TPH 8015M	
Surrogate: 1-Chlorooctane		108 %	70-130		P8G1306	07/13/18	07/13/18	TPH 8015M	
Surrogate: o-Terphenyl		118 %	70-130		P8G1306	07/13/18	07/13/18	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	110	25.5	mg/kg dry	1	[CALC]	07/13/18	07/13/18	calc	

BTEX by 8021B

Total BTEX	ND	0.0460	mg/kg	1	[CALC]	07/17/18	07/19/18	EPA 8021B	
Xylenes (total)	ND	0.0300	mg/kg	1	[CALC]	07/17/18	07/19/18	EPA 8021B	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc
8715 Andrews Hwy
Odessa TEXAS, 79765

Project: Mack energy - MA B #4
Project Number: [none]
Project Manager: Thomas Franklin

Fax: (432) 363-0198

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P8G1702 - General Preparation (GC)

Blank (P8G1702-BLK1)

Prepared: 07/17/18 Analyzed: 07/18/18

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.0100	"							
Ethylbenzene	ND	0.00500	"							
Xylene (p/m)	ND	0.0200	"							
Xylene (o)	ND	0.0100	"							
Surrogate: 1,4-Difluorobenzene	0.0458		"	0.0600		76.4	75-125			
Surrogate: 4-Bromofluorobenzene	0.0577		"	0.0600		96.2	75-125			

LCS (P8G1702-BS1)

Prepared: 07/17/18 Analyzed: 07/18/18

Benzene	0.0953	0.00100	mg/kg wet	0.100		95.3	70-130			
Toluene	0.0948	0.0100	"	0.100		94.8	70-130			
Ethylbenzene	0.110	0.00500	"	0.100		110	70-130			
Xylene (p/m)	0.193	0.0200	"				70-130			
Xylene (o)	0.103	0.0100	"				70-130			
Surrogate: 4-Bromofluorobenzene	0.0583		"	0.0600		97.2	75-125			
Surrogate: 1,4-Difluorobenzene	0.0605		"	0.0600		101	75-125			

LCS Dup (P8G1702-BSD1)

Prepared: 07/17/18 Analyzed: 07/18/18

Benzene	0.102	0.00100	mg/kg wet	0.100		102	70-130	6.40	20	
Toluene	0.105	0.0100	"	0.100		105	70-130	10.4	20	
Ethylbenzene	0.121	0.00500	"	0.100		121	70-130	9.54	20	
Xylene (p/m)	0.206	0.0200	"				70-130		20	
Xylene (o)	0.104	0.0100	"				70-130		20	
Surrogate: 4-Bromofluorobenzene	0.0649		"	0.0600		108	75-125			
Surrogate: 1,4-Difluorobenzene	0.0627		"	0.0600		104	75-125			

Matrix Spike (P8G1702-MS1)

Source: 8G12006-38

Prepared: 07/17/18 Analyzed: 07/19/18

Benzene	0.0663	0.00102	mg/kg dry	0.102	ND	65.0	80-120			QM-05
Toluene	0.0648	0.0102	"	0.102	ND	63.5	80-120			QM-05
Ethylbenzene	0.0766	0.00510	"	0.102	ND	75.1	80-120			QM-05
Xylene (p/m)	0.130	0.0204	"		ND		80-120			
Xylene (o)	0.0655	0.0102	"		ND		80-120			
Surrogate: 4-Bromofluorobenzene	0.0688		"	0.0612		112	75-125			
Surrogate: 1,4-Difluorobenzene	0.0671		"	0.0612		110	75-125			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc	Project: Mack energy - MA B #4	Fax: (432) 363-0198
8715 Andrews Hwy	Project Number: [none]	
Odessa TEXAS, 79765	Project Manager: Thomas Franklin	

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P8G1702 - General Preparation (GC)

Matrix Spike Dup (P8G1702-MSD1)	Source: 8G12006-38			Prepared: 07/17/18		Analyzed: 07/19/18				
Benzene	0.0915	0.00102	mg/kg dry	0.102	ND	89.7	80-120	31.9	20	QM-05
Toluene	0.0847	0.0102	"	0.102	ND	83.0	80-120	26.6	20	QM-05
Ethylbenzene	0.100	0.00510	"	0.102	ND	98.0	80-120	26.5	20	QM-05
Xylene (p/m)	0.167	0.0204	"		ND		80-120		20	
Xylene (o)	0.0896	0.0102	"		ND		80-120		20	
Surrogate: 4-Bromofluorobenzene	0.0628		"	0.0612		103	75-125			
Surrogate: 1,4-Difluorobenzene	0.0642		"	0.0612		105	75-125			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc
8715 Andrews Hwy
Odessa TEXAS, 79765

Project: Mack energy - MA B #4
Project Number: [none]
Project Manager: Thomas Franklin

Fax: (432) 363-0198

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P8G1604 - * DEFAULT PREP *****

Blank (P8G1604-BLK1)		Prepared & Analyzed: 07/16/18								
% Moisture	ND	0.1	%							
Duplicate (P8G1604-DUP1)		Source: 8G12006-13		Prepared & Analyzed: 07/16/18						
% Moisture	3.0	0.1	%		3.0			0.00	20	
Duplicate (P8G1604-DUP2)		Source: 8G12006-40		Prepared & Analyzed: 07/16/18						
% Moisture	4.0	0.1	%		2.0			66.7	20	
Duplicate (P8G1604-DUP3)		Source: 8G13002-13		Prepared & Analyzed: 07/16/18						
% Moisture	6.0	0.1	%		6.0			0.00	20	
Duplicate (P8G1604-DUP4)		Source: 8G13004-04		Prepared & Analyzed: 07/16/18						
% Moisture	3.0	0.1	%		3.0			0.00	20	
Duplicate (P8G1604-DUP5)		Source: 8G12022-02		Prepared & Analyzed: 07/16/18						
% Moisture	10.0	0.1	%		10.0			0.00	20	
Duplicate (P8G1604-DUP6)		Source: 8G12022-08		Prepared & Analyzed: 07/16/18						
% Moisture	14.0	0.1	%		13.0			7.41	20	
Duplicate (P8G1604-DUP7)		Source: 8G13001-13		Prepared & Analyzed: 07/16/18						
% Moisture	3.0	0.1	%		3.0			0.00	20	
Duplicate (P8G1604-DUP8)		Source: 8G12006-40		Prepared & Analyzed: 07/16/18						
% Moisture	4.0	0.1	%		2.0			66.7	20	

Batch P8G1608 - * DEFAULT PREP *****

Blank (P8G1608-BLK1)		Prepared: 07/16/18 Analyzed: 07/17/18								
Chloride	ND	1.00	mg/kg wet							

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc
8715 Andrews Hwy
Odessa TEXAS, 79765

Project: Mack energy - MA B #4
Project Number: [none]
Project Manager: Thomas Franklin

Fax: (432) 363-0198

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P8G1608 - * DEFAULT PREP *****

LCS (P8G1608-BS1)				Prepared: 07/16/18 Analyzed: 07/17/18						
Chloride	399	1.00	mg/kg wet	400		99.7	80-120			
LCS Dup (P8G1608-BSD1)				Prepared: 07/16/18 Analyzed: 07/17/18						
Chloride	404	1.00	mg/kg wet	400		101	80-120	1.36	20	
Duplicate (P8G1608-DUP1)				Source: 8G12023-18		Prepared: 07/16/18 Analyzed: 07/17/18				
Chloride	9120	28.1	mg/kg dry		9120			0.0154	20	
Duplicate (P8G1608-DUP2)				Source: 8G12023-25		Prepared: 07/16/18 Analyzed: 07/17/18				
Chloride	18700	54.3	mg/kg dry		18800			0.396	20	
Matrix Spike (P8G1608-MS1)				Source: 8G12023-18		Prepared: 07/16/18 Analyzed: 07/17/18				
Chloride	11600	28.1	mg/kg dry	2250	9120	109	80-120			

Batch P8G1706 - * DEFAULT PREP *****

Blank (P8G1706-BLK1)				Prepared: 07/17/18 Analyzed: 07/18/18						
Chloride	ND	1.00	mg/kg wet							
LCS (P8G1706-BS1)				Prepared: 07/17/18 Analyzed: 07/18/18						
Chloride	378	1.00	mg/kg wet	400		94.6	80-120			
LCS Dup (P8G1706-BSD1)				Prepared: 07/17/18 Analyzed: 07/18/18						
Chloride	380	1.00	mg/kg wet	400		95.1	80-120	0.525	20	
Duplicate (P8G1706-DUP1)				Source: 8G12007-12		Prepared: 07/17/18 Analyzed: 07/18/18				
Chloride	ND	1.04	mg/kg dry		ND				20	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc
8715 Andrews Hwy
Odessa TEXAS, 79765

Project: Mack energy - MA B #4
Project Number: [none]
Project Manager: Thomas Franklin

Fax: (432) 363-0198

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P8G1706 - *** DEFAULT PREP ***										
Duplicate (P8G1706-DUP2)	Source: 8G13001-08			Prepared: 07/17/18 Analyzed: 07/18/18						
Chloride	397	1.06	mg/kg dry		398			0.0963	20	
Matrix Spike (P8G1706-MS1)	Source: 8G12007-12			Prepared: 07/17/18 Analyzed: 07/18/18						
Chloride	1040	1.04	mg/kg dry	1040	ND	99.8	80-120			
Batch P8G2502 - *** DEFAULT PREP ***										
Blank (P8G2502-BLK1)				Prepared: 07/25/18 Analyzed: 07/26/18						
Chloride	ND	1.00	mg/kg wet							
LCS (P8G2502-BS1)				Prepared: 07/25/18 Analyzed: 07/26/18						
Chloride	377	1.00	mg/kg wet	400		94.2	80-120			
LCS Dup (P8G2502-BSD1)				Prepared: 07/25/18 Analyzed: 07/26/18						
Chloride	375	1.00	mg/kg wet	400		93.8	80-120	0.407	20	
Duplicate (P8G2502-DUP1)	Source: 8G12007-02			Prepared: 07/25/18 Analyzed: 07/26/18						
Chloride	2760	11.2	mg/kg dry		2750			0.420	20	
Duplicate (P8G2502-DUP2)	Source: 8G19002-09			Prepared: 07/25/18 Analyzed: 07/26/18						
Chloride	2.74	1.05	mg/kg dry		3.82			33.1	20	
Matrix Spike (P8G2502-MS1)	Source: 8G12007-02			Prepared: 07/25/18 Analyzed: 07/26/18						
Chloride	3870	11.2	mg/kg dry	1120	2750	100	80-120			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc
8715 Andrews Hwy
Odessa TEXAS, 79765

Project: Mack energy - MA B #4
Project Number: [none]
Project Manager: Thomas Franklin

Fax: (432) 363-0198

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P8G1306 - General Preparation (GC)

Blank (P8G1306-BLK1)

Prepared & Analyzed: 07/13/18

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	109		"	100		109	70-130			
Surrogate: o-Terphenyl	60.7		"	50.0		121	70-130			

LCS (P8G1306-BS1)

Prepared & Analyzed: 07/13/18

C6-C12	1020	25.0	mg/kg wet	1000		102	75-125			
>C12-C28	1090	25.0	"	1000		109	75-125			
Surrogate: 1-Chlorooctane	103		"	100		103	70-130			
Surrogate: o-Terphenyl	50.1		"	50.0		100	70-130			

LCS Dup (P8G1306-BSD1)

Prepared & Analyzed: 07/13/18

C6-C12	1020	25.0	mg/kg wet	1000		102	75-125	0.495	20	
>C12-C28	1100	25.0	"	1000		110	75-125	0.832	20	
Surrogate: 1-Chlorooctane	102		"	100		102	70-130			
Surrogate: o-Terphenyl	50.0		"	50.0		99.9	70-130			

Matrix Spike (P8G1306-MS1)

Source: 8G12006-39

Prepared: 07/13/18 Analyzed: 07/14/18

C6-C12	1040	25.5	mg/kg dry	1020	22.7	100	75-125			
>C12-C28	1070	25.5	"	1020	13.9	104	75-125			
Surrogate: 1-Chlorooctane	115		"	102		112	70-130			
Surrogate: o-Terphenyl	57.5		"	51.0		113	70-130			

Matrix Spike Dup (P8G1306-MSD1)

Source: 8G12006-39

Prepared: 07/13/18 Analyzed: 07/14/18

C6-C12	1090	25.5	mg/kg dry	1020	22.7	105	75-125	4.97	20	
>C12-C28	1130	25.5	"	1020	13.9	109	75-125	4.92	20	
Surrogate: 1-Chlorooctane	119		"	102		116	70-130			
Surrogate: o-Terphenyl	56.7		"	51.0		111	70-130			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

American Safety Services, Inc
8715 Andrews Hwy
Odessa TEXAS, 79765

Project: Mack energy - MA B #4
Project Number: [none]
Project Manager: Thomas Franklin

Fax: (432) 363-0198

Notes and Definitions

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date: 7/31/2018

Brent Barron, Laboratory Director/Technical Director

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

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

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

PBBLAB

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PG 1 of 1

Phone: 432-686-7235

Permian Basin Environmental Lab, LP
10014 S. County Road 1213
Midland, Texas 79706

Project Manager: Jay Latta

Company Name: American Safety Services Inc.

Company Address: 8715 Andrews Hwy.

City/State/Zip: Odessa, TX 79765

Telephone No: 432-557-9868/432-552-7625

Fax No:

Sampler Signature: *Mack*

e-mail:

(lab use only)
ORDER #: 8612007

432-686-7235
latta@americansafety.net
reich@americansafety.net
midia@americansafety.net

Preservation & # of Containers

Matrix

Report Format:

☐ Standard☐ TRRP☐ NPDES

Project Name: Mack Energy- MA B #4

Project #:

Project Loc: Lea Co. *N/M*

PO #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO ₃	HCl	H ₂ SO ₄	NaOH	Na ₂ S ₂ O ₃	Ndne	Other (Specify)	DW=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Calibns (Ca, Mg, Na, K)	Anions (Cl, SO ₄ , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B 5030 or BTEX 8260	RCI	N.O.R.M.	Chloride EPA-300	Hold	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	Auger Hole 1	0.0'	0.5'	7/10/2018	1230	N	1	X												X													
02	Auger Hole 1	0.5'	1.0'	7/10/2018	1232	N	1	X																									
03	Auger Hole 1	1.0'	1.5'	7/10/2018	1234	N	1	X																									
04	Auger Hole 1	1.5'	2.0'	7/10/2018	1236	N	1	X																									
05	Auger Hole 1	2.0'	2.5'	7/10/2018	1238	N	1	X																									
06	Auger Hole 1	2.5'	3.0'	7/10/2018	1240	N	1	X																									
07	Auger Hole 1	3.0'	3.5'	7/10/2018	1242	N	1	X																									
08	Auger Hole 1	3.5'	4.0'	7/10/2018	1444	N	1	X																									
09	Auger Hole 2	0.0'	0.5'	7/10/2018	1249	N	1	X																									
10	Auger Hole 2	0.5'	1.0'	7/10/2018	1251	N	1	X																									

Special Instructions: *EC Borehole exceeds 10 mg/L or total BTEX exceeds 50 mg/L run deeper sample.*
EC TPA Exceeds 2,500 mg/L run deeper sample.

Relinquished by: *Mack* Date: *7/10/18* Time: *0650* Received by: Date: Time:

Relinquished by: Date: Time: Received by: Date: Time:

Relinquished by: Date: Time: Received by: Date: Time:

Relinquished by: Date: Time: Received by: Date: Time:

Laboratory Comments:
Sample Containers intact?
VOCs Free of Headspace?
Labels on container(s)
Custody seals on container(s)
Sample Hand Delivered
by Sampler/Client Rep.?
Temperature, Upon Receipt:
Adjusted: *-0.6* °C Factor: *0.4*

Received by: *Mack* Date: *7/12/18* Time: *8:50*
Received by: *Mack* Date: *7/12/18* Time: *8:50*
Received by: *Mack* Date: *7/12/18* Time: *8:50*
Received by: *Mack* Date: *7/12/18* Time: *8:50*

PBMLAB

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PG 1 of 1

Phone: 432-686-7235

Permian Basin Environmental Lab, LP
10014 S. County Road 1213
Midland, Texas 79706

Project Manager: Jay Latta

Company Name: American Safety Services Inc.

Company Address: 8715 Andrews Hwy.

City/State/Zip: Odessa, TX 79765

Telephone No: 432-557-9868/432-552-7625

Fax No:

Sampler Signature: *Mark Holt*

e-mail:

(lab use only)

ORDER #:

8612007

jlatta@americansafety.net
zimmmerman@americansafety.net
treich@americansafety.net
mdial@americansafety.net

Preservation & # of Containers

Matrix

Analyze For:

TCLP:

TOTAL:

BTEX 8021

5030 or BTEX 8260

RCI

N.O.R.M.

Chloride 300

Hold

RUSH TAT (Pre-Schedule) 24, 48, 72 hrs

Standard TAT

LAB # (lab use only)

FIELD CODE

Beginning Depth

Ending Depth

Date Sampled

Time Sampled

Field Filtered

Total #. of Containers

Ice

HNO₃

HCl

H₂SO₄

NaOH

Na₂S₂O₃

None

Other (Specify)

DW=Drinking Water SL=Sludge

GW = Groundwater S=Soil/Solid

NP=Non-Potable Specify Other

TPH: 418.1 8015M 8015B

TPH: TX 1005 TX 1006

Cations (Ca, Mg, Na, K)

Anions (Cl, SO₄, Alkalinity)

SAR / ESP / CEC

Metals: As Ag Ba Cd Cr Pb Hg Se

Volatiles

Semivolatiles

BTEX 8021

RCI

N.O.R.M.

Chloride 300

Hold

RUSH TAT (Pre-Schedule) 24, 48, 72 hrs

Standard TAT

Special Instructions:

Relinquished by:

Relinquished by:

Relinquished by:

Date

Date

Date

Time

Time

Time

Received by:

Received by:

Received by:

Date

Date

Date

Time

Time

Time

Laboratory Comments:

Sample Containers Intact?

VOCs Free of HeadSpace?

Labels on container(s)?

Custody seals on container(s)?

Sample Hand Delivered?

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: °C

Adjusted: -0.6 °C Factor 1.4



APPENDIX E

Initial C-141

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

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

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Mack Energy Corporation	Contact Matt Buckles
Address 11344 Lovington Highway	Telephone No. 575-748-1288
Facility Name MA B #4	Facility Type Tank Battery
Surface Owner Concho Land LLC	Mineral Owner Private
API No. 30-025-36494	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	31	17S	33E	1650	North	990	East	Lea

Latitude 32.79361111 Longitude -103.69666667 NAD83

NATURE OF RELEASE

Type of Release Oil/PW	Volume of Release 40 bbls	Volume Recovered 10 Bbls
Source of Release Heater Treater	Date and Hour of Occurrence 6/25/2018 6:00 am	Date and Hour of Discovery 6/25/2018 10:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Olivia Yu	
By Whom? Matt Buckles	Date and Hour 6/26/18 7:53 am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RECEIVED

By Olivia Yu at 10:43 am, Jul 05, 2018

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A gasket on an 8'x20' heater treater developed a leak on the top side of the clean out plate. Immediately upon discovery we removed any standing fluid and hauled any saturated oily dirt to an approved disposal site to prevent further leaching.

Describe Area Affected and Cleanup Action Taken.*

The area affected is directly south of the TB. The release is approximately 100 feet south and 50 feet wide. We will fully delineate and discuss remediation plans.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Matt Buckles		OIL CONSERVATION DIVISION Approved by Environmental Specialist: 	
Printed Name: Matt Buckles			
Title: Environmental	Approval Date: 7/5/2018	Expiration Date:	
E-mail Address: mattbuckles@mec.com	Conditions of Approval: see attached directive	Attached ☒	
Date: 7/3/2017	Phone: 575-748-1288		

1RP-5115

nOY1818639026

pOY1818639485



APPENDIX F

Groundwater Data



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 13909 POD1	L	LE		4	1	4	31	17S	33E	621735	3628514	240	240	0

Average Depth to Water: **240 feet**

Minimum Depth: **240 feet**

Maximum Depth: **240 feet**

Record Count: 1

PLSS Search:

Section(s): 31

Township: 17S

Range: 33E

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.



December 20, 2019

Vertex Project #: 19E-04217-001

Spill Closure Report: MA B #4 (Unit H, Section 31, Township 17 South, Range 33 East)
API: 30-025-36494
County: Lea
Incident Report: 1RP-5115

Prepared For: Mack Energy Corporation
11344 Lovington Highway
Artesia, New Mexico 88210

New Mexico Oil Conservation Division – District 1 – Hobbs

1625 North French Drive
Hobbs, New Mexico 88240

Mack Energy Corporation (Mack) retained Vertex Resource Services Inc. (Vertex) to conduct a site assessment and remediation for an oil release that occurred at MA B #4, API 30-025-36494 (hereafter referred to as “site”). Mack provided immediate notification of the spill to New Mexico Oil Conservation Division (NM OCD) District 1 on June 26, 2018, followed by submission of an initial C-141 Release Notification (Attachment 1) on July 3, 2018. Incident report number 1RP-5115 was assigned to the incident.

This letter provides a description of the initial release and site characterization, remediation activities, and closure efforts at the site. It also demonstrates that closure criteria established in Table 1 of 19.15.29.12 *New Mexico Administrative Code* (NMAC) have been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NM OCD for closure of this release, with the understanding that restoration of the release site will be deferred until all oil and gas activities are terminated and the site is reclaimed per 19.15.29.13 NMAC.

Incident Description

On June 25, 2018, a release occurred at Mack’s MA B #4 site when a gasket on an 8-foot x 20-foot heater treater developed a leak on the top side of the clean out plate. The incident resulted in the release of approximately 40 barrels (bbls) of oil and produced water into the earthen berm containment around the tank battery and production equipment. A portion of the earthen berm failed and released oil and produced water off the pad and into an undisturbed area immediately south of the tank battery. Upon discovery of the release, the gasket was repaired and a hydrovac truck was used to recover approximately 10 bbls of standing fluid. Visibly saturated and oily soil were immediately removed for disposal at an approved waste site to prevent further leaching. The area affected by the release extended approximately 100 feet south of the tank battery and was approximately 50 feet wide.

Site Characterization

The release at MA B #4 occurred on privately-owned land at N 32.79361111, W 103.69666667, approximately 40 miles northeast of Carlsbad, New Mexico. The legal description for the site is Unit H, Section 31, Township 17 South, Range
vertex.ca

201 S Mesa Street, Carlsbad, New Mexico 88220, USA | P 575.725.5001

33 East in Lea County, New Mexico. This location is within the Permian Basin in southeast New Mexico and has historically been used for oil and gas exploration and production, and farmland. An aerial photograph and site schematic are included in Attachment 2.

MA B #4 is typical of oil and gas exploration and production sites in the western portion of the Permian Basin, and is currently used for oil and gas production and storage. The following sections specifically describe the release area on the southwest portion of the constructed pad where the heater treaters are located.

The surrounding landscape has historically been grassland, with shrubs sparsely but evenly distributed, and a semiarid climate and average annual precipitation ranging between 10 and 15 inches. The dominant grass species is principally black grama, with some blue grama, dropseed and tobosa grasses as subdominant species. The abundance of forbs is distributed relative to precipitation levels. Due to heavy grazing and increased fire suppression activities in recent decades, there has been a decrease in grass species and an increase in shrubs, including Shinnery oak, sand sage and honey mesquite, which is evident at the site (United States Department of Agriculture, 2019). Limited to no vegetation is allowed to grow on the compacted well pad.

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2014 – 2017) indicates the surface geology at MA B #4 is comprised primarily of Qep—Eolian and piedmont deposits from the Holocene to middle Pleistocene, consisting of interlayered eolian sands and piedmont-slope deposits. The United States Department of Agriculture (USDA) Web Soil Survey characterizes the soil at the site as Ratliff-Wink fine sandy loam, predominantly found on plains. The soil is typically a shallow fine sandy loam over deep clay loam and tends to be well-drained with low runoff and moderate to high moisture levels in the soil profile (United States Department of Agriculture, 2019). There is no karst geology present near the site (United States Department of the Interior – Bureau of Land Management, 2019).

No surface water is located on-site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is an intermittent stream located approximately 600 feet southeast of the site (New Mexico Office of the State Engineer, 2019). There are no continuously flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

A United States Geological Survey (USGS) well located approximately 0.7 miles northeast of the site shows depth to groundwater at 60.6 feet below ground surface (bgs) (United States Geological Survey, 2019). Further information pertaining to the depth to groundwater determination is included in Attachment 3.

Closure Criteria Determination

Using site characterization information, a closure criteria determination worksheet was completed to determine if the release was subject to any of the special case scenarios outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Based on the data included in Table 1 below, the release at MA B #4 is not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC and the closure criteria for the site were initially determined to be associated with the following constituent concentration limits.

Mack Energy Corporation
MA B #4, 1RP-5115

2019 Spill Assessment and Closure
December 2019

Table 1. Closure Criteria for Soils Impacted by a Release		
Depth to Groundwater	Constituent	Limit
51 ≤ 100 feet	Chloride	10,000 mg/kg
	TPH (GRO + DRO + MRO)	2,500 mg/kg
	GRO + DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

Remedial Actions

An initial site inspection and delineation of the release area was completed in 2018 prior to Vertex's involvement with the project. Excavation of suspected contaminated soil was completed around the heater treater equipment and in an area immediately adjacent the well pad, south of the heater treaters (Excavation Area 1). An environmental consulting company was contracted to conduct confirmation sampling in early 2019; however, confirmatory laboratory results showed a significant presence of total petroleum hydrocarbons (TPHs) remaining at the site. Additional release characterization and delineation activities were conducted in July 2019 to determine the level of additional remediation activity required. Sample locations and field screening data from those delineation activities are included in Attachment 4.

In October 2019, the original excavation footprint of the release location was expanded to remove remaining hydrocarbon contamination south of the well pad. A new excavation was completed on a small area west of the heater treaters, adjacent the well pad, where a previously unnoticed breach in the heater treater secondary containment berm had resulted in the migration of hydrocarbons off pad (Excavation Area 2).

Once the additional excavation was completed, Mack retained Vertex to complete confirmation sampling and obtain closure for the release. On November 18, 2019, Vertex provided 48-hour notification of confirmation sampling to NM OCD, as required by Subparagraph (a) of Paragraph (1) of Subsection D 19.15.29.12 NMAC (Attachment 5). On November 20, 2019, Vertex collected five-point confirmatory samples from the base and walls of the two excavation areas, such that no composite sample was representative of more than 200 square feet per the alternative sampling method outlined in Subparagraph (c) of Paragraph (1) of Subsection D 19.15.29.12 NMAC. A total of 38 composite soil samples were collected and placed in laboratory-provided containers, preserved on ice, and submitted to a National Environmental Laboratory Accreditation Program (NELAP)-approved laboratory for chemical analysis. The Daily Field Report (DFR) is included in Attachment 6.

Confirmatory soil sample laboratory analyses included Method 300.0 for chlorides, Method 8021B for volatile organics, including benzene, toluene, ethylbenzene and xylene (BTEX), and EPA Method 8015 for TPH, including motor oil range organics (MRO), diesel range organics (DRO), and gasoline range organics (GRO). Final confirmatory sample analytical data are summarized in Table 2 (Attachment 7). Laboratory data reports and chain of custody forms are included in Attachment 8.

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Mack Energy Corporation
MA B #4, 1RP-5115

2019 Spill Assessment and Closure
December 2019

A GeoExplorer 7000 Series Trimble global positioning system (GPS) unit was used to map the approximate center of each five-point composite sample. These confirmation sampling locations are presented on Figure 1 (Attachment 2). Relevant equipment and prominent features/reference points at the site were mapped as well.

Closure Request

Vertex recommends no additional remediation action to address the release at MA B #4. Laboratory analyses for all 38 confirmation samples showed constituent of concern concentration levels below NM OCD Closure Criteria for areas where depth to groundwater is greater than 50 feet and less than 100 feet bgs as shown in Table 1 above. There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

All excavations will be backfilled with clean material, and the site restored to achieve erosion control and site stability according to the guidelines presented in Subsection A of 19.15.29.13 NMAC. Reclamation of the off-pad portion of the release will be achieved using a standard Bureau of Land Management (BLM) seed-mix suitable for the ecosystem in this region, atop 4 feet of clean material and topsoil as required by Paragraph (1) Subsection D 19.15.29.13 NMAC.

As a portion of the release occurred on an active well pad and inside the heater treater secondary containment, Vertex requests that restoration and reclamation of those sections of the release area on-pad and underneath production equipment be deferred until such time as the tank battery is removed and the pad is reclaimed per 19.15.29.13 NMAC.

Vertex requests that Incident 1RP-5115 be closed as all closure requirements set forth in Subsection E of 19.15.29.12 and Subsections A to D of 19.15.29.13 NMAC have been met. Mack certifies that all information in this report and the attachments is correct, and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NM OCD requirements to obtain closure on the June 25, 2018 release at MA B #4.

Should you have any questions or concerns, please do not hesitate to contact me at 505.506.0040 or ngordon@vertex.ca.

Sincerely,



Natalie Gordon
PROJECT MANAGER

vertex.ca

201 S Mesa Street, Carlsbad, New Mexico 88220, USA | P 575.725.5001

Mack Energy Corporation
MA B #4, 1RP-5115

2019 Spill Assessment and Closure
December 2019

Attachments

- Attachment 1. NM OCD C-141 Report
- Attachment 2. Site Schematic and Confirmatory Sample Locations
- Attachment 3. Closure Criteria for Soils Impacted by a Release Research Determination Documentation
- Attachment 4. Additional Site Characterization Figure and Field Screening Data Table
- Attachment 5. Required 48-hr Notification of Confirmation Sampling to Regulatory Agencies
- Attachment 6. Daily Field Report with Photographs
- Attachment 7. Confirmatory Sample Results
- Attachment 8. Laboratory Data Reports/COCs

References

Google Earth Pro. (2019). *Measured Distance from the Subject Site to Municipal Boundaries*. Retrieved from <https://earth.google.com>.

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New Mexico Mining and Minerals Division. (2019). *Coal Mine Resources in New Mexico*. Retrieved from <http://www.emnrd.state.nm.us/MMD/gismapminedata.html>.

New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System. (2019). *Well Log/Meter Information Report*. Retrieved from <http://nmwrrs.ose.state.nm.us/nmwrrs/meterReport.html>.

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Limitations

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Mack Energy Corporation
MA B #4, 1RP-5115

2019 Spill Assessment and Closure
December 2019

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

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

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ATTACHMENT 1

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

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

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Mack Energy Corporation	Contact Matt Buckles
Address 11344 Lovington Highway	Telephone No. 575-748-1288
Facility Name MA B #4	Facility Type Tank Battery
Surface Owner Concho Land LLC	Mineral Owner Private
API No. 30-025-36494	

LOCATION OF RELEASE

Unit Letter H	Section 31	Township 17S	Range 33E	Feet from the 1650	North/South Line North	Feet from the 990	East/West Line East	County Lea
------------------	---------------	-----------------	--------------	-----------------------	---------------------------	----------------------	------------------------	---------------

Latitude 32.79361111 Longitude -103.69666667 NAD83

NATURE OF RELEASE

Type of Release Oil/PW	Volume of Release 40 bbls	Volume Recovered 10 Bbls
Source of Release Heater Treater	Date and Hour of Occurrence 6/25/2018 6:00 am	Date and Hour of Discovery 6/25/2018 10:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Olivia Yu	
By Whom? Matt Buckles	Date and Hour 6/26/18 7:53 am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RECEIVED

By Olivia Yu at 10:43 am, Jul 05, 2018

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A gasket on an 8'x20' heater treater developed a leak on the top side of the clean out plate. Immediately upon discovery we removed any standing fluid and hauled any saturated oily dirt to an approved disposal site to prevent further leaching.

Describe Area Affected and Cleanup Action Taken.*

The area affected is directly south of the TB. The release is approximately 100 feet south and 50 feet wide. We will fully delineate and discuss remediation plans.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Matt Buckles		OIL CONSERVATION DIVISION	
Printed Name: Matt Buckles		Approved by Environmental Specialist: 	
Title: Environmental	Approval Date: 7/5/2018	Expiration Date:	
E-mail Address: mattbuckles@mec.com	Conditions of Approval: see attached directive	Attached ☒	
Date: 7/3/2017	Phone: 575-748-1288		

1RP-5115

nOY1818639026

pOY1818639485

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _07/03/2018_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number _1RP-5115_ has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs__ on or before _8/5/2018_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold

OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

From: Matt Buckles
To: [Yu, Olivia, EMNRD](#)
Subject: Fee MA B Battery 30-025-36494 Release Notification
Date: Tuesday, June 26, 2018 7:52:57 AM

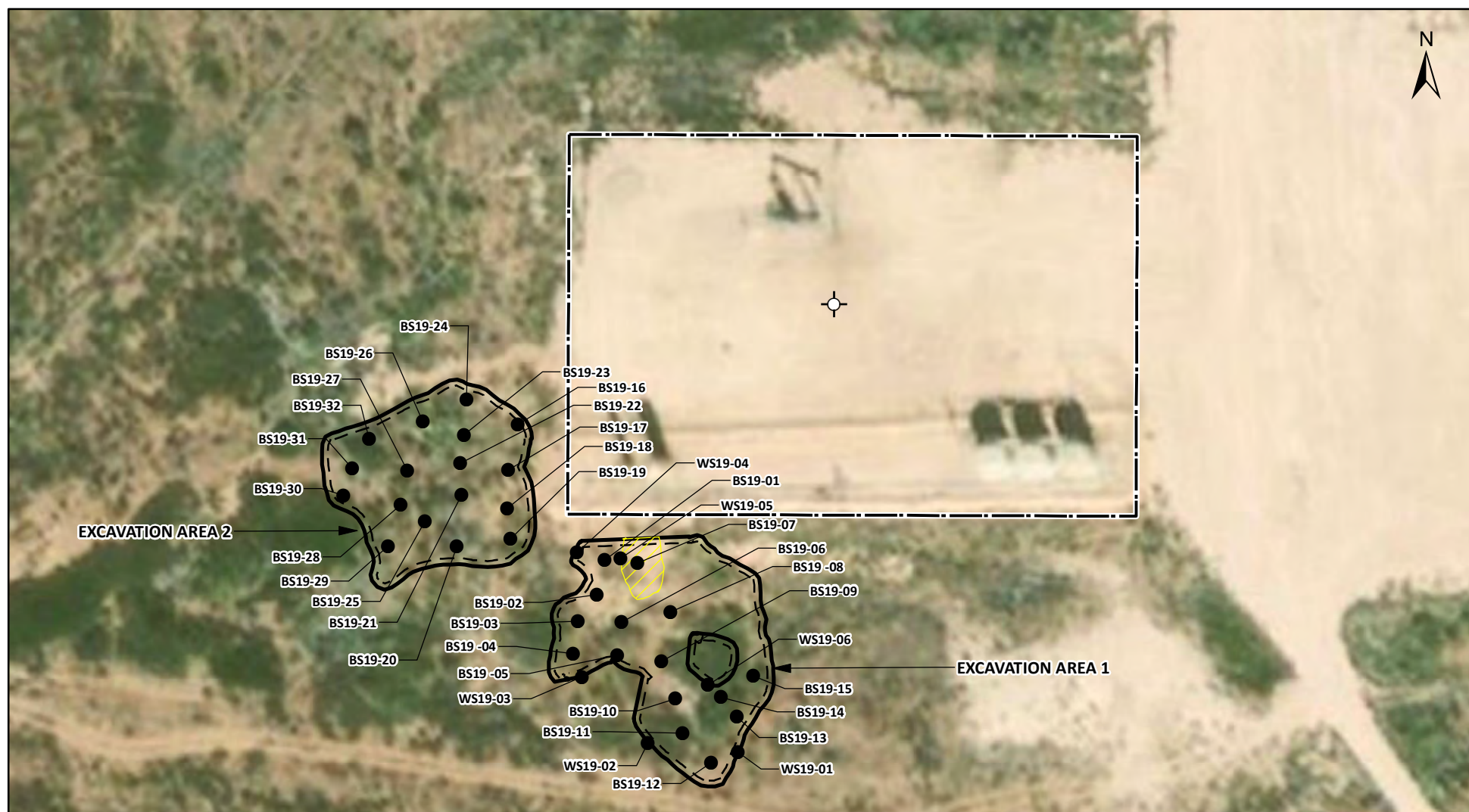
Olivia,

We had a gasket on the treater blow out and released oil into the battery containment and to the south of the battery yesterday morning. Aprox 40 bbls of oil. We will begin emergency recovery to keep oil from leaching deeper and recovering any surface oil with vac truck. I will follow up with more details in the C -141.

Thanks,

Matt Buckles
Mack Energy
575-703-1958

ATTACHMENT 2



LEGEND



WELLHEAD



WELL PAD



SOIL SAMPLE



EXCAVATION AREA



6.0' EXCAVATED AREA

BS BASE SAMPLE
WS WALL SAMPLE

0 25 50 100 Ft

SCALE 1:800

Notes: Aerial Image from ESRI Digital Globe 2018



**Site Schematic and
Confirmatory Sample Locations
MA B #4**



DRAWN:	NM
APPROVED:	DW
DATE:	NOV 25/19

FIGURE:

1

VERSATILITY. EXPERTISE.

ATTACHMENT 3

MA B #4 Groundwater Wells

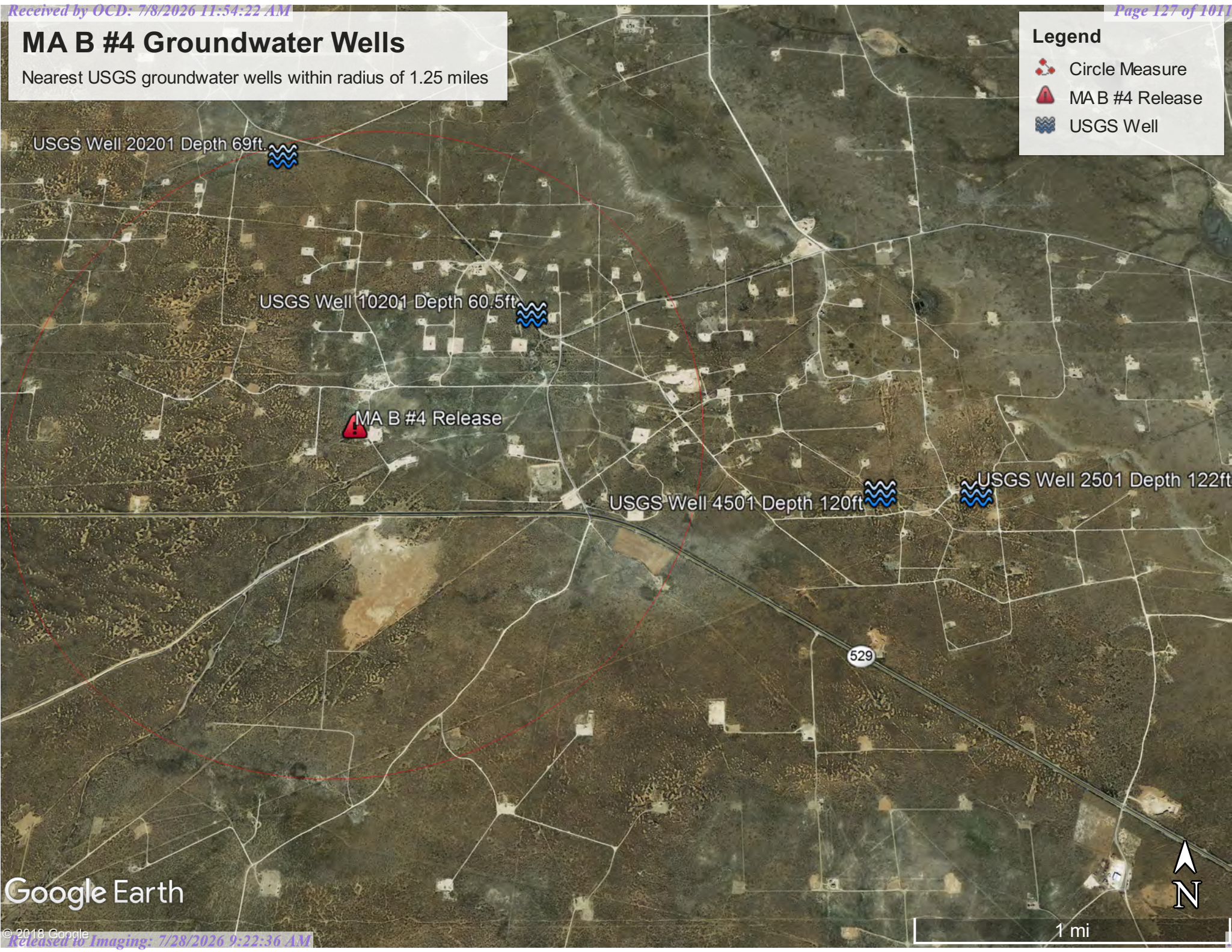
Nearest USGS groundwater wells within radius of 1.25 miles

Legend

 Circle Measure

 MA B #4 Release

 USGS Well



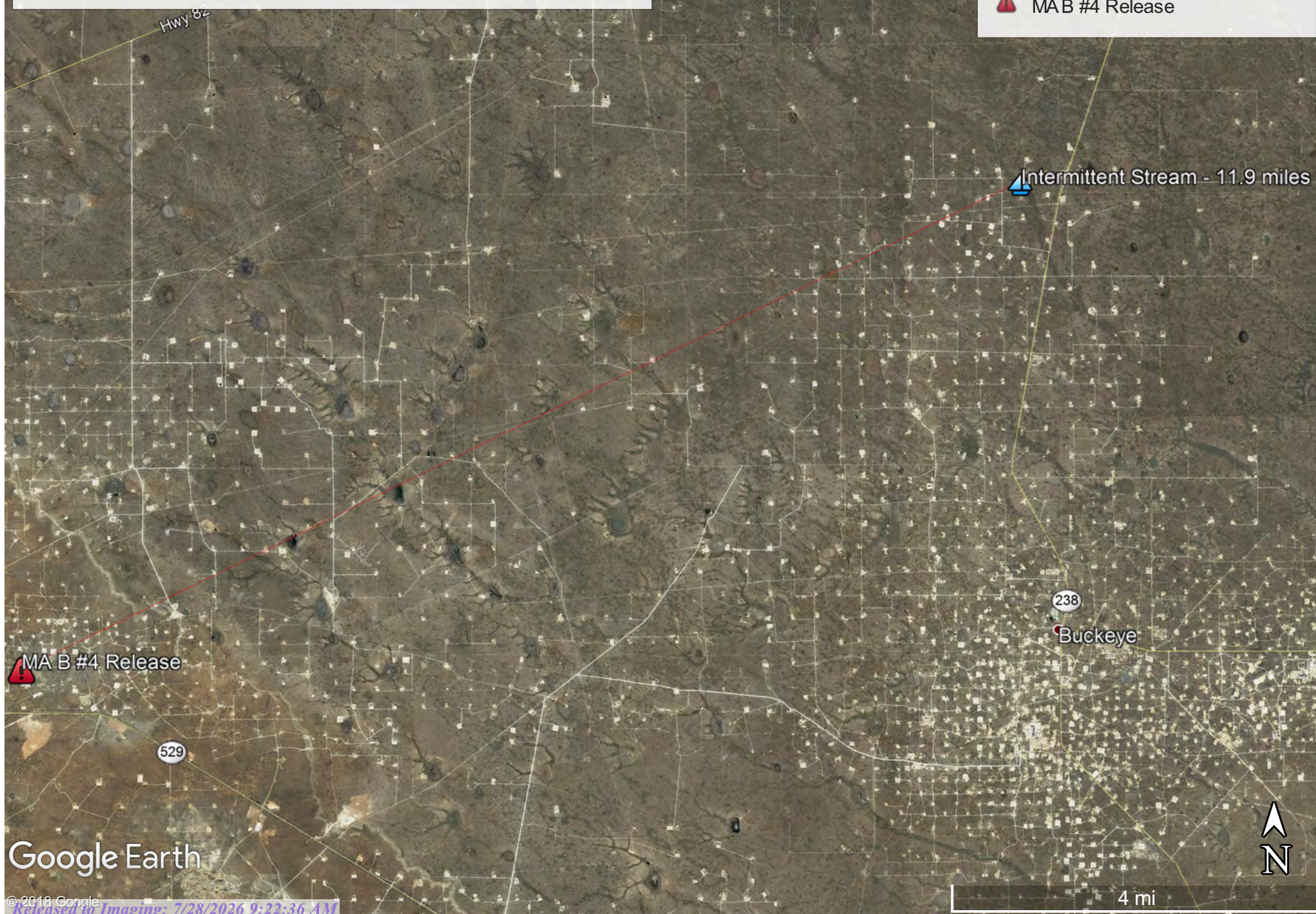
Google Earth

MA B #4 Nearest Significant Watercourse

Nearest USGS surface water feature - intermittent stream (11.9 miles).

Legend

-  Intermittent Stream - 11.9 miles
-  MA B #4 Release





New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec 31	Tws 17S	Rng 33E	X 621735	Y 3628514	Distance 712	DepthWell 240	DepthWater 240	Water Column 0	
L 13909 POD1		L	LE	4	1	4	31	17S	33E	621735	3628514		712	240	240	0
													Average Depth to Water:	240 feet		
													Minimum Depth:	240 feet		
													Maximum Depth:	240 feet		

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 622039 Northing (Y): 3629158.89 Radius: 2000

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New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 13909 POD1		L	LE	4	1	4	31	17S	33E	621735	3628514	712	240	240	0
L 14159 POD1		L	LE	3	1	3	28	17S	33E	624030	3630169	2232	298	165	133
L 13049 POD1		L	LE	2	2	2	29	17S	33E	623782	3631207*	2689	244	204	40
L 03713		L	LE	3	4	1	28	17S	33E	624391	3630617*	2767	210		
RA 11957 POD1		RA	LE	3	4	1	19	17S	33E	621177	3632200	3161	55		
RA 11937 POD1		RA	LE	1	4	1	19	17S	33E	621244	3632281	3222	95		
L 06131		L	LE	3	1	2	08	18S	33E	623241	3626167*	3224	194	100	94
CP 00758 POD1		CP	LE			3	04	18S	33E	624345	3626886*	3237	250		
RA 11936 POD1		RA	LE	1	4	1	19	17S	33E	621246	3632321	3260	92		
L 12974 POD1		L	LE	3	4	3	18	17S	33E	621233	3632940	3866	140	130	10
L 02875		L	LE		2	2	20	17S	33E	623662	3632717*	3910	250	190	60
L 04649		L	LE	1	1	3	03	18S	33E	625644	3627213*	4096	100	45	55
RA 11911 POD1		RA	LE	1	3	1	24	17S	32E	619192	3632296	4237	35		
L 02770 S2		L	LE	2	2	3	18	17S	33E	621338	3633583*	4479	214	184	30
L 02770 S3		L	LE	2	2	3	18	17S	33E	621338	3633583*	4479	220	202	18
L 03622		L	LE				17	17S	33E	623053	3633703*	4655	226	180	46
L 02770		L	LE			2	18	17S	33E	621836	3634093*	4938	216	179	37
CP 00546 POD1		CP	LE	2	2	4	09	18S	33E	625464	3625597*	4941	90	70	20

Average Depth to Water: **157 feet**

Minimum Depth: **45 feet**

Maximum Depth: **240 feet**

Record Count: 18

UTM NAD83 Radius Search (in meters):

Easting (X): 622039

Northing (Y): 3629158.89

Radius: 5000

*UTM location was derived from PLSS - see Help

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WATER COLUMN/ AVERAGE DEPTH TO WATER



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
L 13909 POD1		L	LE	4	1	4	31	17S	33E	621735	3628514	712	240	240	0
L 14159 POD1		L	LE	3	1	3	28	17S	33E	624030	3630169	2232	298	165	133
L 13049 POD1		L	LE	2	2	2	29	17S	33E	623782	3631207*	2689	244	204	40
L 03713		L	LE	3	4	1	28	17S	33E	624391	3630617*	2767	210		
RA 11957 POD1		RA	LE	3	4	1	19	17S	33E	621177	3632200	3161	55		
RA 11937 POD1		RA	LE	1	4	1	19	17S	33E	621244	3632281	3222	95		
L 06131		L	LE	3	1	2	08	18S	33E	623241	3626167*	3224	194	100	94
CP 00758 POD1		CP	LE			3	04	18S	33E	624345	3626886*	3237	250		
RA 11936 POD1		RA	LE	1	4	1	19	17S	33E	621246	3632321	3260	92		
L 12974 POD1		L	LE	3	4	3	18	17S	33E	621233	3632940	3866	140	130	10
L 02875		L	LE		2	2	20	17S	33E	623662	3632717*	3910	250	190	60
L 04649		L	LE	1	1	3	03	18S	33E	625644	3627213*	4096	100	45	55
RA 11911 POD1		RA	LE	1	3	1	24	17S	32E	619192	3632296	4237	35		
L 02770 S2		L	LE	2	2	3	18	17S	33E	621338	3633583*	4479	214	184	30
L 02770 S3		L	LE	2	2	3	18	17S	33E	621338	3633583*	4479	220	202	18
L 03622		L	LE				17	17S	33E	623053	3633703*	4655	226	180	46
L 02770		L	LE		2		18	17S	33E	621836	3634093*	4938	216	179	37
CP 00546 POD1		CP	LE	2	2	4	09	18S	33E	625464	3625597*	4941	90	70	20
L 09891		L	LE		4	4	16	17S	33E	625264	3633144*	5126	190		
L 03726		L	LE	1	2	2	18	17S	33E	621930	3634400*	5242	208	188	20
L 04363		L	LE	1	2	3	35	17S	33E	627634	3628855*	5603	226	160	66
L 02770 S		L	LE		4	07		17S	33E	621825	3634898*	5743	227	182	45
CP 00072 POD4		CP	LE	1	4	2	10	18S	33E	626865	3626028*	5752	70		
L 03133		L	LE	3	1	3	23	17S	33E	627188	3631868*	5818	230		
L 03749		L	LE		3	3	09	17S	33E	624036	3634734*	5921	230	160	70
L 03528 S2		L	LE	1	3	3	09	17S	33E	623935	3634833*	5982	262	180	82
L 04122		L	LE		2	3	07	17S	33E	621216	3635093*	5990	249	214	35
CP 01417 POD1		CP	LE				11	18S	33E	627036	3625738	6056	120	54	66
L 05055		L	LE	3	3	4	35	17S	33E	628042	3628259*	6070	233	150	83
L 05096		L	LE	3	3	4	35	17S	33E	628042	3628259*	6070	233	150	83
L 04038		L	LE		1	4	08	17S	33E	623226	3635124*	6082	245	173	72
CP 00072 POD3		CP	LE	2	4	4	10	18S	33E	627076	3625223*	6392	70		
CP 00701		CP	LE		1	3	11	18S	33E	627373	3625534*	6449	100		

CP 00701 POD2	CP	LE	4	1	3	11	18S	33E	627472	3625433*		6587	100			
RA 12721 POD3	RA	LE	2	3	4	28	17S	32E	615417	3629979		6672	115			
RA 11684 POD5	RA	LE	3	1	4	11	17S	32E	618353	3635047		6946	275			
RA 12721 POD4	RA	LE	1	1	2	33	17S	32E	615055	3629589		6997	140			
L 01391 POD8	L	LE	2	2	1	08	17S	33E	622915	3636122		7018	274	145	129	
L 01391 POD7	L	LE	2	2	2	08	17S	33E	623670	3636047		7079	280	172	108	
RA 11684 POD1	RA	LE	1	1	4	11	17S	32E	618216	3635124		7085	275			
RA 12721 POD2	RA	LE	1	1	4	28	17S	32E	615059	3630404		7090	124	75	49	
RA 12020 POD3	RA	LE	2	1	2	28	17S	32E	615152	3631019		7134	112	83	29	
RA 11684 POD2	RA	LE	1	1	4	11	17S	32E	618313	3635248		7138	275			
CP 00072 POD5	CP	LE	2	1	4	11	18S	33E	628219	3625573		7144	100	64	36	
L 13047 POD1	L	LE				11	17S	32E	618187	3635254*		7210	140			
RA 12521 POD1	RA	LE	3	3	4	21	17S	32E	615127	3631271		7227	105	92	13	
RA 11684 POD3	RA	LE	3	3	1	11	17S	32E	618262	3635371		7270	275			
RA 12522 POD3	RA	LE	4	4	3	28	17S	32E	614980	3631093		7318	100			
CP 00566 POD1	CP	LE	4	4	1	04	18S	32E	614960	3627280*		7324	133	65	68	
RA 12522 POD2	RA	LE	2	2	1	28	17S	32E	614949	3631098		7350	100			
RA 11684 POD4	RA	LE	1	3	2	11	17S	32E	618334	3635521		7362	275			
RA 12522 POD1	RA	LE	3	3	4	21	17S	32E	614941	3631122		7364	100			
CP 00072 POD1	CP	LE	2	3	4	11	18S	33E	628284	3625242*		7371	85			
CP 00072 POD2	CP	LE		4		11	18S	33E	628386	3625344		7405	90			
RA 12042 POD1	RA	LE	2	2	1	28	17S	32E	614891	3631181		7428	400			
RA 12020 POD1	RA	LE	2	2	1	28	17S	32E	614828	3630954		7431	120	81	39	
RA 10175	RA	LE		2	1	28	17S	32E	614814	3631005*		7457	158			
RA 12721 POD1	RA	LE	3	2	3	28	17S	32E	614645	3630141		7459	125			
CP 00072 POD6	CP	LE	2	4	4	11	18S	33E	628603	3625179		7675	100	61	39	
L 03980 S	L	LE	4	4	4	02	17S	32E	618870	3636170*		7694	255	179	76	
L 03454	L	LE		2	2	30	18S	33E	622200	3621422*		7738	100	35	65	
L 03528	L	LE	3	4	4	04	17S	33E	625120	3636261*		7741	265	158	107	
L 04524	L	LE				06	17S	33E	621387	3636896*		7764	100	90	10	
L 04021	R	L	LE	3	4	4	02	17S	32E	618670	3636170*		7778	190		
L 01881	L	LE	3	3	3	13	17S	33E	628778	3633100*		7806	242			
L 03980 S2	L	LE	3	2	3	01	17S	32E	619470	3636581*		7854	225	175	50	
L 04019	L	LE	4	3	4	02	17S	32E	618468	3636166*		7864	182			
L 04020	L	LE	3	3	4	02	17S	32E	618268	3636166*		7957	200			
L 08288	L	LE	3	3	3	12	18S	33E	628890	3625054*		7986	79	60	19	
CP 00623 POD1	CP	LE	1	1	1	13	18S	33E	628895	3624852*		8096	82	60	22	
L 02687	L	LE		2	2	36	17S	33E	630137	3629598*		8109				
L 01880	L	LE	3	4	3	13	17S	33E	629181	3633106*		8160	245			
L 01884	L	LE	1	4	3	13	17S	33E	629181	3633306*		8258	250			
L 01880 S2	L	LE	2	1	3	13	17S	33E	628972	3633702*		8288	235	151	84	
L 01695	R	L	ED	4	4	2	25	17S	33E	630220	3630704*	8325	230	137	93	



Average Depth to Water:	146 feet
Minimum Depth:	35 feet
Maximum Depth:	240 feet

UTMNAD83 Radius Search (in meters):

Northing (Y): 3629158.89

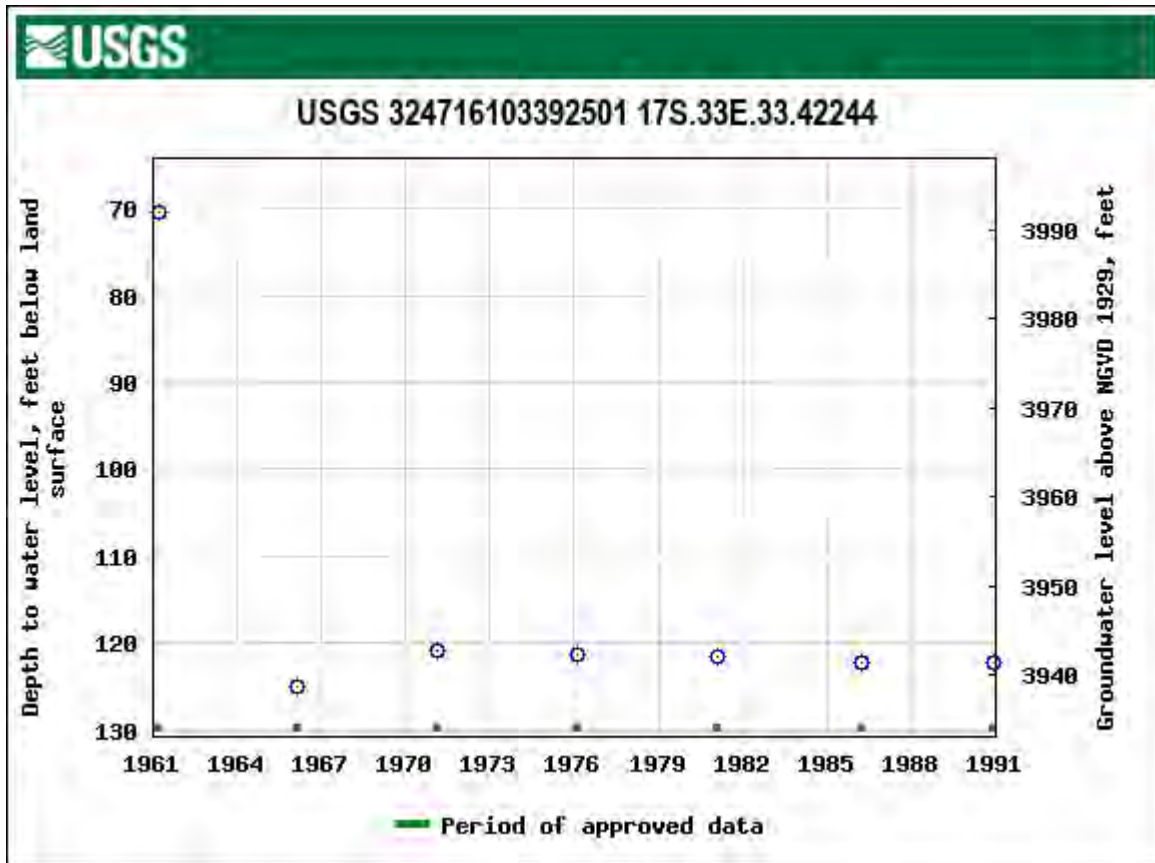
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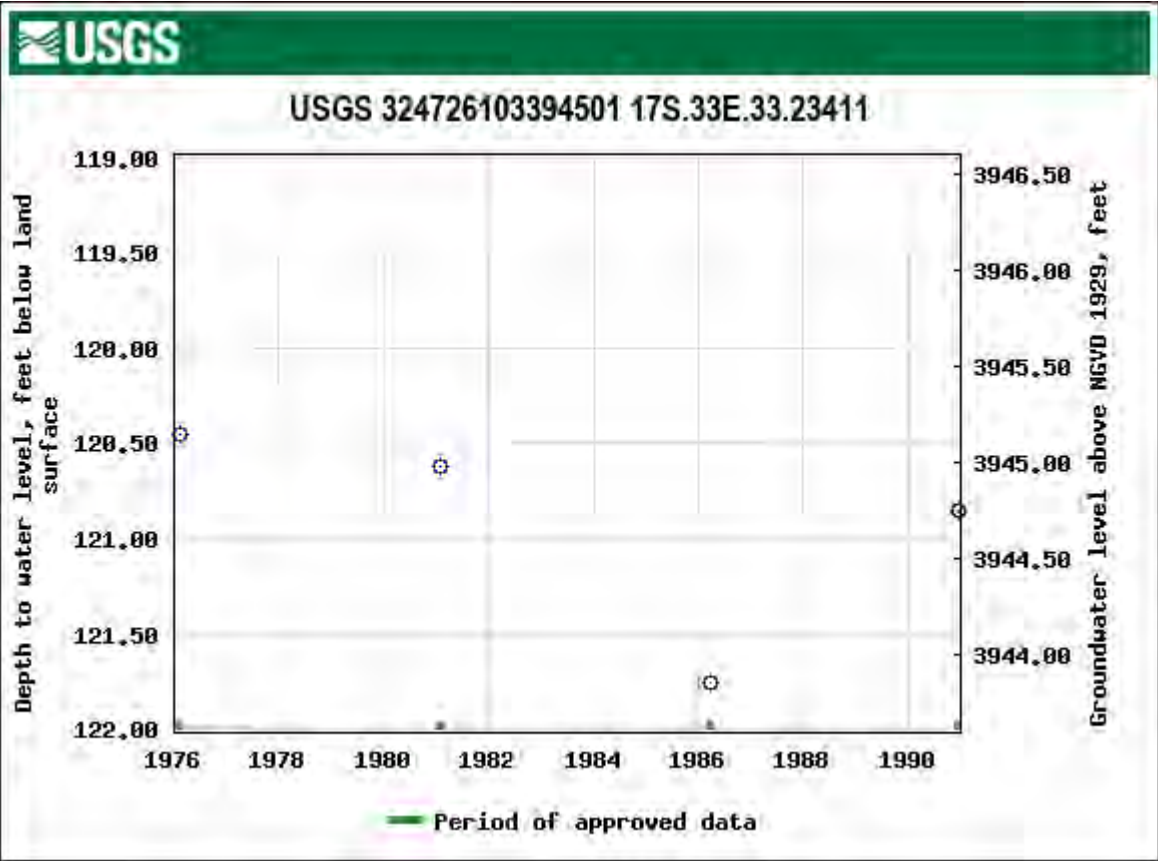
***UTM location was derived from PLSS - see Help**

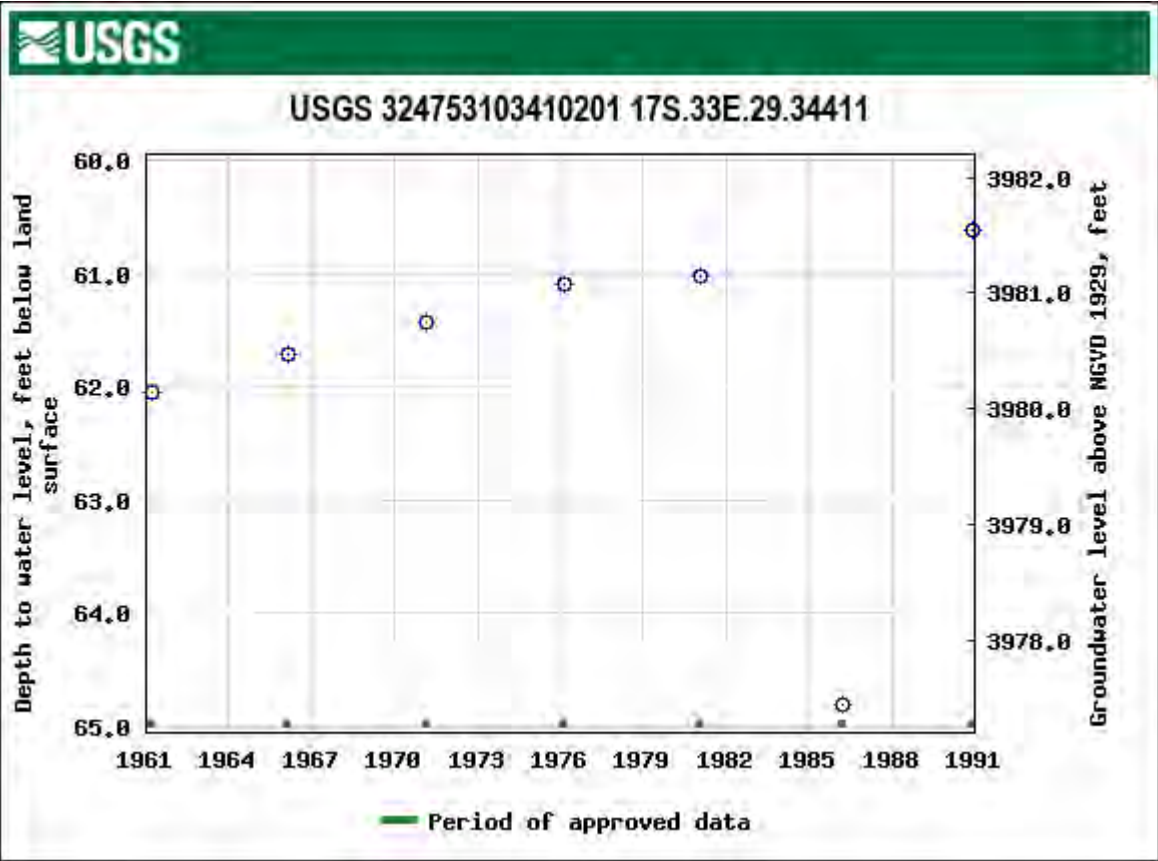
The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

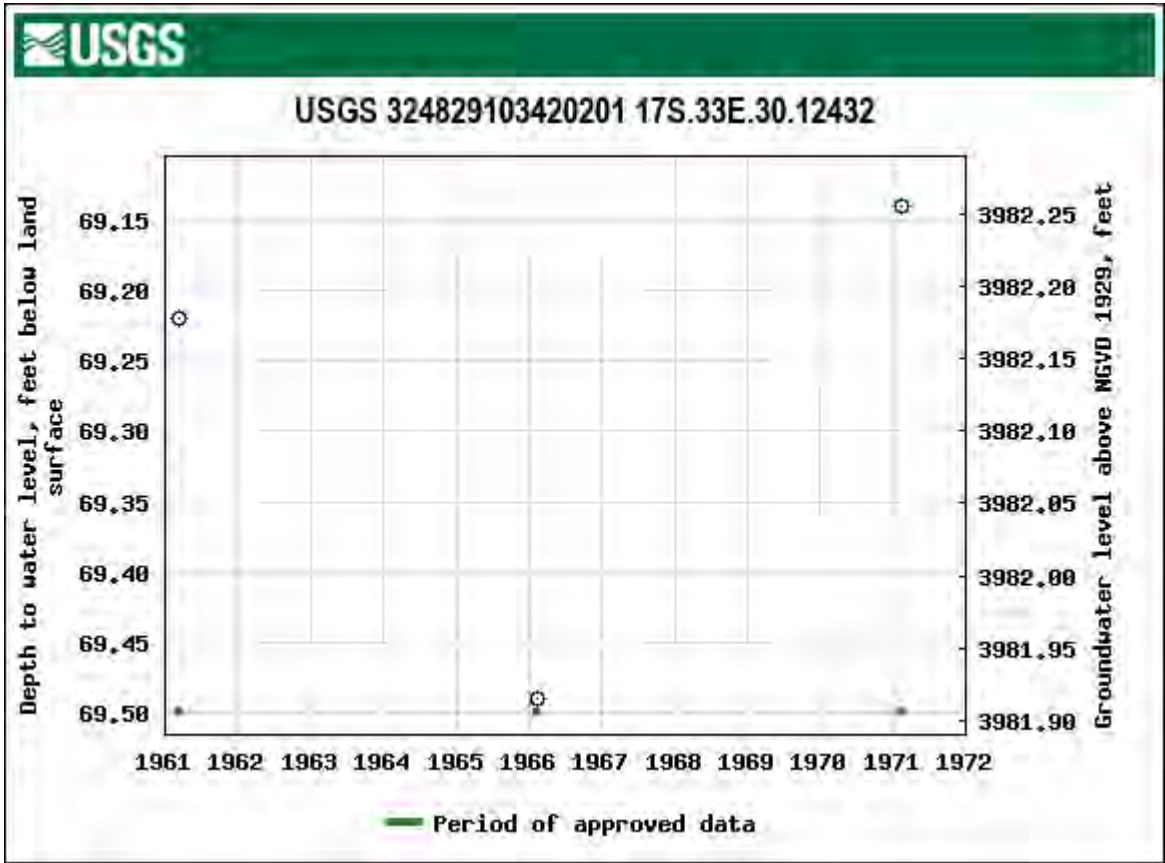
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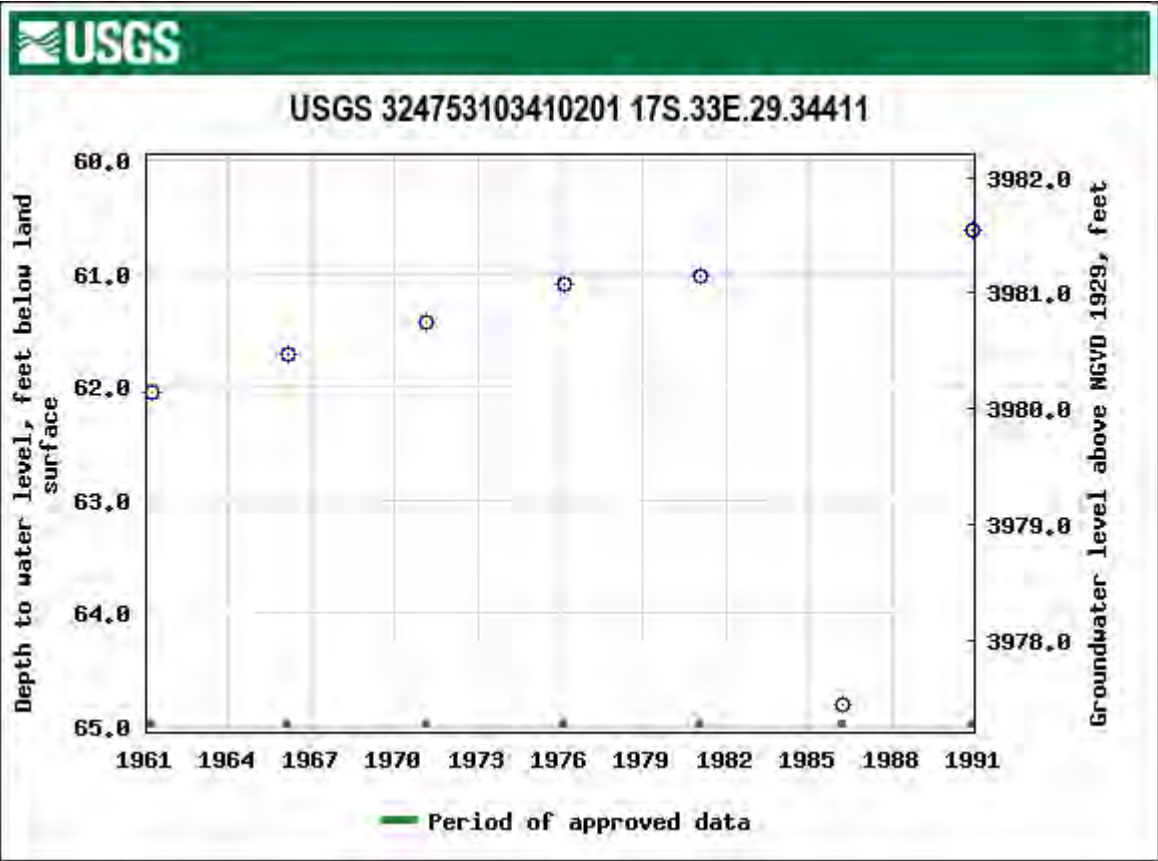
WATER COLUMN/ AVERAGE DEPTH TO WATER











Lea County, New Mexico

MN—Ratliff-Wink fine sandy loams

Map Unit Setting

National map unit symbol: dmqf

Elevation: 3,000 to 3,900 feet

Mean annual precipitation: 10 to 15 inches

Mean annual air temperature: 60 to 62 degrees F

Frost-free period: 190 to 205 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Ratliff and similar soils: 45 percent

Wink and similar soils: 40 percent

Minor components: 15 percent

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

Description of Ratliff

Setting

Landform: Plains

Landform position (three-dimensional): Dip

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Calcareous alluvium and/or calcareous eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 4 inches: fine sandy loam

Bw - 4 to 22 inches: clay loam

Bk - 22 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Low

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

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

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 50 percent

Gypsum, maximum in profile: 1 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 2.0

Available water storage in profile: Moderate (about 8.1 inches)

Map Unit Description: Ratliff-Wink fine sandy loams---Lea County, New Mexico

MA B #4 Soil Survey

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: B
Ecological site: Loamy (R042XC007NM)
Hydric soil rating: No

Description of Wink**Setting**

Landform: Plains
Landform position (three-dimensional): Dip
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous sandy alluvium and/or calcareous sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 12 inches: fine sandy loam
Bk - 12 to 23 inches: sandy loam
B_{Ck} - 23 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (K_{sat}): High
(2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Sandy (R042XC004NM)
Hydric soil rating: No

Minor Components**Kermit**

Percent of map unit: 6 percent
Ecological site: Sandhills (R042XC022NM)
Hydric soil rating: No

Map Unit Description: Ratliff-Wink fine sandy loams---Lea County, New Mexico

MA B #4 Soil Survey

Maljamar

Percent of map unit: 5 percent

Ecological site: Loamy Sand (R042XC003NM)

Hydric soil rating: No

Palomas

Percent of map unit: 4 percent

Ecological site: Loamy Sand (R042XC003NM)

Hydric soil rating: No

Data Source Information

Soil Survey Area: Lea County, New Mexico

Survey Area Data: Version 15, Sep 12, 2018



R042XC004NM — Sandy Ecological Site

Plant Community Photos

Plant Communities Photo Display & descriptive Diagnosis

MLRA 42; SD-3; Sandy

Grassland



- Black grama following mesquite removal
- Small mesquite plants reestablishing
- Mesquite seedlings occurring in low-medium densities

Grass/Shrub



- Mesquite is small and arborescent
- Mesquite and sand sage seedlings

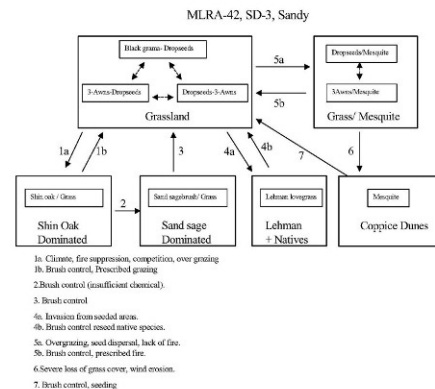
Shrub-Dominated



- Sand sagebrush community with seedlings
- Sandy surface texture with forbs

Historic Climax Plant Community

Plant Communities and Transitional Pathways (diagram)



State Transition Diagram for R042XC004NM — Sandy Ecological Site

Ecological Dynamics Description

Overview

The Sandy site often intergrades with the Loamy Sand and Deep Sand sites (SD-3). Sandy sites occur on plains, fans, or terraces between drainages. Slopes average less than five percent. Surface textures are usually sandy loams. The historic plant community of the Sandy site is dominated by black grama (*Bouteloua eriopoda*) and dropseeds (*Sporobolus flexuosus*, *S. contractus*, *S. cryptandrus*). Blue grama (*B. gracilis*) also occurs as a subdominant species. Perennial and annual forb abundance is distributed relative to precipitation occurrence. Litter and to a lesser extent, bare ground, compose a significant proportion of the ground cover while grasses compose the remainder. Decreases in black grama and other grass species' cover indicate a transition to states with an increased shrub component. Shinnery oak (*Quercus havardii*), sand sage (*Artemisia filifolia*), and honey mesquite (*Prosopis glandulosa*) can all increase in composition. Lehmann lovegrass (*Eragrostis lehmanniana*) also may occur as a result of invasion and competition among grass species. Heavy grazing intensity and/or drought are influential in decreasing grass cover and subsequently increasing shrub cover. Fire suppression further supports shrub cover increase and an advantage over grass species. However, brush and grazing management may restore grass species and reverse shrub or grass/shrub dominated states back toward the historic plant community.

R042XC007NM — Loamy Ecological Site

Plant Community Photos

Plant Communities Photo Display & Descriptive Diagnosis

MLRA 42; SD-3; Loamy

Grassland



- Tobosa-black grama, some yucca and prickly pear
- Grass cover moderate, distributed fairly uniform
- Few large bare patches

Grassland



- Tobosa-burrograss, with some black grama and scattered prickly pear
- Grass cover moderate
- Few large bare patches
- Russler silt loam

Transition towards shrub Dominated



- Tarbush / burrograss, with some tobosa
- Fine textured calcareous soils
- Bare patches evident
- Soil surface sealing
- Reagan silt loam

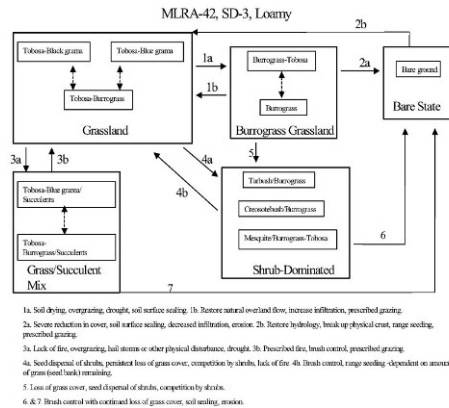
Shrub-Dominated



- Mesquite / burrograss, with scattered patches of tobosa
- Sandy surface over finer textured soils
- Grass cover moderate to low
- Bare patches evident

Historic Climax Plant Community

Plant Communities and Transitional Pathways (diagram)

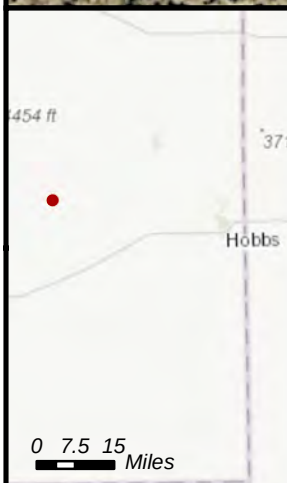
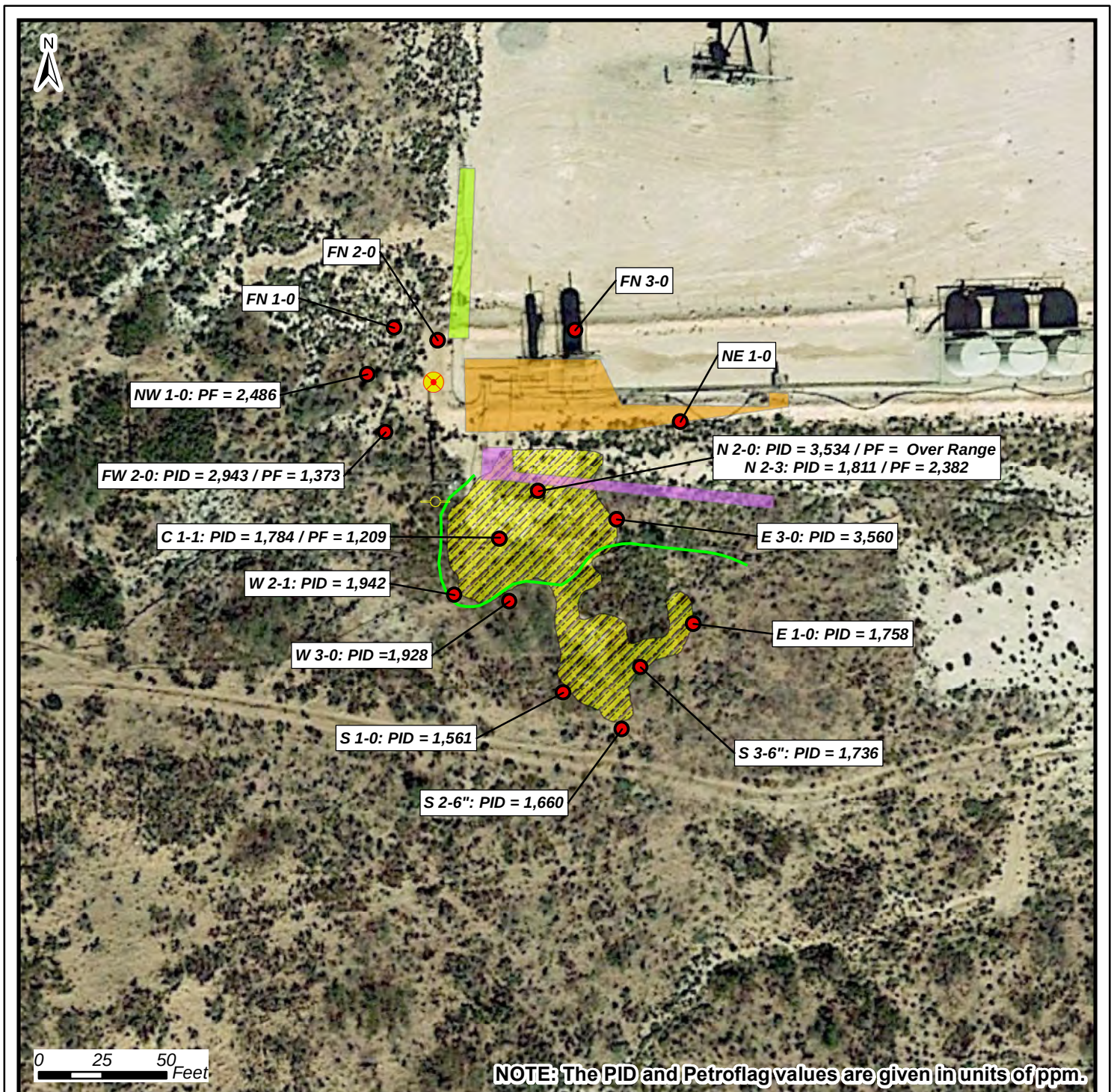


State Transition Diagram for R042XC007NM — Loamy Ecological Site

Ecological Dynamics Description

Overview: The Loamy site is associated with the Gyp Upland ecological site with which it intergrades. There is a pronounced increase in alkali sacaton along this interface. The loamy site is also associated with the Gravelly and Shallow ecological sites from which it receives run-on water. The Draw site often dissects Loamy sites and is distinguished from the Loamy site by increased production or greater densities of woody species. The historic plant community has a grassland aspect, dominated by grasses with shrubs and half-shrubs sparse and evenly distributed. Tobosa, black grama and blue grama are the dominant species. Retrogression within this state is characterized by a decrease in black and blue grama and an increase in burrograss. Continuous overgrazing and drought can initiate a transition to a Burrograss- Grassland state. Continued reduction in grass cover and resulting infiltration problems may eventually effect a change to a Bare State, with very little or no remaining grass cover. Alternatively, creosotebush, tarbush or mesquite may expand or invade. Transitions back to a Grassland State from a Bare or Shrub-Dominated state are costly and may not be economically feasible. Decreased fire frequency may play a part in the transition to the Grass/Succulent Mix state with increased amounts of cholla and prickly pear.

ATTACHMENT 4



Site Characterization Field Screen Data - MA B #4					
Sampling Date: 7/10/2019					
Sample ID	Sample Depth	EC	PID	Petroflag	Estimated TPH
		S	ppm	ppm	ppm
NW 1-0	Surface	43	770	2,486	3,256
FN 1-0	Surface	46	748	318	1,066
FN 2-0	Surface	48	867	219	1,086
FN 3-0	Surface	-	709	480	1,189
NE 1-0	Surface	-	469	109	578
W 2-1	1'	26	1,942	187	2,129
W 3-0	Surface	-	1,928	254	2,182
N 2-0	Surface	32	3,534	Over Range	> 3,534
N 2-3	3'	146	1,811	2,382	4,193
E 1-0	Surface	21	1,758	436	2,194
E 3-0	Surface	22	3,560	142	3,702
S 1-0	Surface	-	1,561	29	1,590
S 2-6"	6"	18	1,660	67	1,727
S 3-6"	6"	34	1,736	67	1,803
FW 2-0	Surface	210	2,943	1,373	4,316
C 1-1	1'	36	1,784	1,209	2,993

Above NM OCD Closure Criteria



Site Characterization Map

MA B #4

32.793218099 -103.697322790
Section 31, Township 17 South, Range 33 East

Mapped Features

- Containment Breach
- Sample Location
- Electric Pole
- Surface Flowline
- Spill Area
- Equipment Inside Containment
- On-Pad Surface Flowlines
- Adjacent-to-Pad Surface Flowlines

DISCLAIMER: This representation and the Geographic Information System (GIS) used to create it are designed as a source of reference and not intended to replace official records and/or legal surveys. HRL assumes no responsibility for any risks, dangers, or liabilities that may result from its use and makes no guarantees as to the quality or accuracy of the underlying data.



Author: A. Asay
Revision: 0
Date: 7/15/2019

Site Characterization Field Screen Data - MA B # 4					
Sampling Date: 7/10/2019					
Sample ID	Sample Depth	EC	PID	Petroflag	Estimated TPH
		μS	ppm	ppm	ppm
NW 1-0	Surface	43	770	2,486	3,256
FN 1-0	Surface	46	748	318	1,066
FN 2-0	Surface	48	867	219	1,086
FN 3-0	Surface	-	709	480	1,189
NE 1-0	Surface	-	469	109	578
W 2-1	1'	26	1,942	187	2,129
W 3-0	Surface	-	1,928	254	2,182
N 2-0	Surface	32	3,534	*Over Range	> 3,534

Above NM OCD Closure Criteria

Site Characterization Field Screen Data - MA B # 4					
Sampling Date: 7/10/2019					
Sample ID	Sample Depth	EC	PID	Petroflag	Estimated TPH
		μS	ppm	ppm	ppm
N 2-3	3'	146	1,811	2,382	4,193
E 1-0	Surface	21	1,758	436	2,194
E 3-0	Surface	22	3,560	142	3,702
S 1-0	Surface	-	1,561	29	1,590
S 2-6"	6"	18	1,660	67	1,727
S 3-6"	6"	34	1,736	67	1,803
FW 2-0	Surface	210	2,943	1,373	4,316
C 1-1	1'	36	1,784	1,209	2,993

Above NM OCD Closure Criteria

ATTACHMENT 5

Natalie Gordon

From: Natalie Gordon
Sent: Monday, November 18, 2019 5:34 PM
To: emnrd-ocd-district1spills@state.nm.us; Bradford.Billings@state.nm.us
Cc: Dennis Williams (DWilliams@vertex.ca); mattbuckles@mec.com
Subject: 1RP-5115: MA B #4 48-hr Sampling Notification - Mack Energy

All,

Please accept this email as 48-hr notification that Vertex Resource Services Inc. has scheduled confirmation sampling to be conducted at MA B #4 for Incident 1RP-5115, DOR: 6/25/2018.

Vertex personnel will be on site to collect confirmation samples on November 20, 2019 beginning at 2:00 p.m.

If you need assistance with directions to the site, or have any questions or concerns, please do not hesitate to contact me.

Thank you,
Natalie

ATTACHMENT 6



Daily Site Visit Report

Client:	Mack Energy Corporation	Inspection Date:	11/20/2019
Site Location Name:	MA B #4	Report Run Date:	12/2/2019 3:50 PM
Project Owner:	Matt Buckles	File (Project) #:	19E-XXXXXX
Project Manager:	Natalie Gordon	API #:	30-025-36494
Client Contact Name:	Matt Buckles	Reference	Spill 1RP-5115
Client Contact Phone #:	575-748-1288		

Summary of Times

Left Office	11/20/2019 7:40 AM
Arrived at Site	11/20/2019 8:57 AM
Departed Site	11/20/2019 4:50 PM
Returned to Office	

Summary of Daily Operations

8:57 GPS excavation area; conduct confirmation samples.

Next Steps & Recommendations

1

Daily Site Visit Report



Site Photos

Viewing Direction: West



Excavation area #2.

Viewing Direction: South



Excavation area 1.

Viewing Direction: Southwest



Excavation area 1.

Viewing Direction: West



6 ft excavation area 1.



Daily Site Visit Report

Viewing Direction: South



Excavation area 1.

Viewing Direction: West



Excavation area 2.

Viewing Direction: Northwest



Excavation area 2.

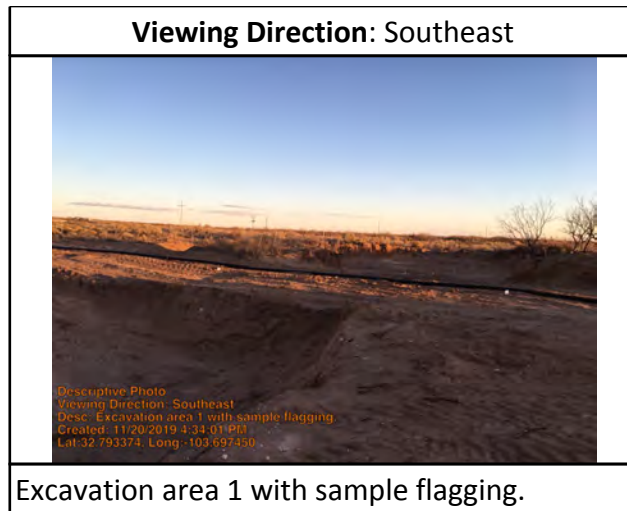
Viewing Direction: Southwest



Excavation area 2 with sample flags.



Daily Site Visit Report



Daily Site Visit Report



Daily Site Visit Signature

Inspector: Sharlene Harvester

Signature:

ATTACHMENT 7

Client Name: Mack Energy Corporation
 Site Name: MA B # 4
 Project #: 19E-04217-001
 Lab Report: 1911A92

Table 2. Confirmatory Soil Samples - Depth to Groundwater 51 ft < 100 ft													
Sample Description			Petroleum Hydrocarbons										Inorganic

Bold and shaded indicates exceedance outside of applied action level

ATTACHMENT 8



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 03, 2019

Natalie Gordon
Vertex Resource Group Ltd.
213 S. Mesa St
Carlsbad, NM 88220
TEL:
FAX

RE: FEEMA B 4

OrderNo.: 1911A92

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 38 sample(s) on 11/22/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-01 4'

Project: FEEMA B 4

Collection Date: 11/20/2019 11:00:00 AM

Lab ID: 1911A92-001

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	27	9.9		mg/Kg	1	12/2/2019 11:50:46 AM
Motor Oil Range Organics (MRO)	58	49		mg/Kg	1	12/2/2019 11:50:46 AM
Surr: DNOP	83.7	70-130		%Rec	1	12/2/2019 11:50:46 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/25/2019 5:19:25 PM
Surr: BFB	111	77.4-118		%Rec	1	11/25/2019 5:19:25 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/25/2019 5:19:25 PM
Toluene	ND	0.048		mg/Kg	1	11/25/2019 5:19:25 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/25/2019 5:19:25 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/25/2019 5:19:25 PM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	11/25/2019 5:19:25 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	81	60		mg/Kg	20	11/27/2019 11:13:58 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-02 4'

Project: FEEMA B 4

Collection Date: 11/20/2019 11:15:00 AM

Lab ID: 1911A92-002

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	18	9.7		mg/Kg	1	12/2/2019 11:59:53 AM
Motor Oil Range Organics (MRO)	69	49		mg/Kg	1	12/2/2019 11:59:53 AM
Surr: DNOP	115	70-130		%Rec	1	12/2/2019 11:59:53 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/25/2019 5:42:47 PM
Surr: BFB	111	77.4-118		%Rec	1	11/25/2019 5:42:47 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/25/2019 5:42:47 PM
Toluene	ND	0.049		mg/Kg	1	11/25/2019 5:42:47 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/25/2019 5:42:47 PM
Xylenes, Total	ND	0.098		mg/Kg	1	11/25/2019 5:42:47 PM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	11/25/2019 5:42:47 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/27/2019 11:26:19 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-03 4'

Project: FEEMA B 4

Collection Date: 11/20/2019 11:30:00 AM

Lab ID: 1911A92-003

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	150	9.7		mg/Kg	1	12/2/2019 12:09:00 PM
Motor Oil Range Organics (MRO)	260	49		mg/Kg	1	12/2/2019 12:09:00 PM
Surr: DNOP	93.7	70-130		%Rec	1	12/2/2019 12:09:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/25/2019 6:06:12 PM
Surr: BFB	106	77.4-118		%Rec	1	11/25/2019 6:06:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/25/2019 6:06:12 PM
Toluene	ND	0.048		mg/Kg	1	11/25/2019 6:06:12 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/25/2019 6:06:12 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/25/2019 6:06:12 PM
Surr: 4-Bromofluorobenzene	99.4	80-120		%Rec	1	11/25/2019 6:06:12 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/27/2019 11:38:40 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-04 4'

Project: FEEMA B 4

Collection Date: 11/20/2019 11:45:00 AM

Lab ID: 1911A92-004

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	88	9.9		mg/Kg	1	12/2/2019 12:18:21 PM
Motor Oil Range Organics (MRO)	170	50		mg/Kg	1	12/2/2019 12:18:21 PM
Surr: DNOP	89.5	70-130		%Rec	1	12/2/2019 12:18:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/25/2019 6:29:53 PM
Surr: BFB	104	77.4-118		%Rec	1	11/25/2019 6:29:53 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	11/25/2019 6:29:53 PM
Toluene	ND	0.050		mg/Kg	1	11/25/2019 6:29:53 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/25/2019 6:29:53 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/25/2019 6:29:53 PM
Surr: 4-Bromofluorobenzene	97.4	80-120		%Rec	1	11/25/2019 6:29:53 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/27/2019 12:15:42 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-05 4'

Project: FEEMA B 4

Collection Date: 11/20/2019 12:00:00 PM

Lab ID: 1911A92-005

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	11/26/2019 9:11:53 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/26/2019 9:11:53 AM
Surr: DNOP	109	70-130		%Rec	1	11/26/2019 9:11:53 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/25/2019 6:53:26 PM
Surr: BFB	104	77.4-118		%Rec	1	11/25/2019 6:53:26 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/25/2019 6:53:26 PM
Toluene	ND	0.048		mg/Kg	1	11/25/2019 6:53:26 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/25/2019 6:53:26 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/25/2019 6:53:26 PM
Surr: 4-Bromofluorobenzene	99.3	80-120		%Rec	1	11/25/2019 6:53:26 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/27/2019 1:17:26 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-06 4'

Project: FEEMA B 4

Collection Date: 11/20/2019 12:15:00 PM

Lab ID: 1911A92-006

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	280	50		mg/Kg	5	12/2/2019 12:27:34 PM
Motor Oil Range Organics (MRO)	570	250		mg/Kg	5	12/2/2019 12:27:34 PM
Surr: DNOP	91.6	70-130		%Rec	5	12/2/2019 12:27:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/25/2019 7:16:53 PM
Surr: BFB	103	77.4-118		%Rec	1	11/25/2019 7:16:53 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	11/25/2019 7:16:53 PM
Toluene	ND	0.049		mg/Kg	1	11/25/2019 7:16:53 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/25/2019 7:16:53 PM
Xylenes, Total	ND	0.098		mg/Kg	1	11/25/2019 7:16:53 PM
Surr: 4-Bromofluorobenzene	95.3	80-120		%Rec	1	11/25/2019 7:16:53 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	160	60		mg/Kg	20	11/27/2019 1:29:47 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-07 6'

Project: FEEMA B 4

Collection Date: 11/20/2019 12:30:00 PM

Lab ID: 1911A92-007

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	300	50		mg/Kg	5	12/2/2019 12:36:48 PM
Motor Oil Range Organics (MRO)	590	250		mg/Kg	5	12/2/2019 12:36:48 PM
Surr: DNOP	76.8	70-130		%Rec	5	12/2/2019 12:36:48 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/25/2019 7:40:20 PM
Surr: BFB	112	77.4-118		%Rec	1	11/25/2019 7:40:20 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/25/2019 7:40:20 PM
Toluene	ND	0.048		mg/Kg	1	11/25/2019 7:40:20 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/25/2019 7:40:20 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/25/2019 7:40:20 PM
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	11/25/2019 7:40:20 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	510	60		mg/Kg	20	11/27/2019 1:42:08 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-08 4'

Project: FEEMA B 4

Collection Date: 11/20/2019 1:00:00 PM

Lab ID: 1911A92-008

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	40	9.8		mg/Kg	1	12/2/2019 12:46:00 PM
Motor Oil Range Organics (MRO)	90	49		mg/Kg	1	12/2/2019 12:46:00 PM
Surr: DNOP	81.6	70-130		%Rec	1	12/2/2019 12:46:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/25/2019 8:03:55 PM
Surr: BFB	106	77.4-118		%Rec	1	11/25/2019 8:03:55 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	11/25/2019 8:03:55 PM
Toluene	ND	0.049		mg/Kg	1	11/25/2019 8:03:55 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/25/2019 8:03:55 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/25/2019 8:03:55 PM
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	11/25/2019 8:03:55 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/27/2019 1:54:29 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-09 4'

Project: FEEMA B 4

Collection Date: 11/20/2019 1:15:00 PM

Lab ID: 1911A92-009

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	36	9.5		mg/Kg	1	11/26/2019 9:48:43 AM
Motor Oil Range Organics (MRO)	70	47		mg/Kg	1	11/26/2019 9:48:43 AM
Surr: DNOP	82.9	70-130		%Rec	1	11/26/2019 9:48:43 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/25/2019 8:27:26 PM
Surr: BFB	105	77.4-118		%Rec	1	11/25/2019 8:27:26 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	11/25/2019 8:27:26 PM
Toluene	ND	0.046		mg/Kg	1	11/25/2019 8:27:26 PM
Ethylbenzene	ND	0.046		mg/Kg	1	11/25/2019 8:27:26 PM
Xylenes, Total	ND	0.093		mg/Kg	1	11/25/2019 8:27:26 PM
Surr: 4-Bromofluorobenzene	99.4	80-120		%Rec	1	11/25/2019 8:27:26 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/27/2019 2:06:49 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-10 4'

Project: FEEMA B 4

Collection Date: 11/20/2019 1:20:00 PM

Lab ID: 1911A92-010

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	11/26/2019 9:57:55 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/26/2019 9:57:55 AM
Surr: DNOP	102	70-130		%Rec	1	11/26/2019 9:57:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/25/2019 8:51:05 PM
Surr: BFB	110	77.4-118		%Rec	1	11/25/2019 8:51:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	11/25/2019 8:51:05 PM
Toluene	ND	0.049		mg/Kg	1	11/25/2019 8:51:05 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/25/2019 8:51:05 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/25/2019 8:51:05 PM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	11/25/2019 8:51:05 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/27/2019 2:19:11 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-11 4'

Project: FEEMA B 4

Collection Date: 11/20/2019 1:25:00 PM

Lab ID: 1911A92-011

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	11/26/2019 10:07:07 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/26/2019 10:07:07 AM
Surr: DNOP	97.8	70-130		%Rec	1	11/26/2019 10:07:07 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/25/2019 10:25:07 PM
Surr: BFB	107	77.4-118		%Rec	1	11/25/2019 10:25:07 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/25/2019 10:25:07 PM
Toluene	ND	0.048		mg/Kg	1	11/25/2019 10:25:07 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/25/2019 10:25:07 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/25/2019 10:25:07 PM
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/25/2019 10:25:07 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/27/2019 2:31:33 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-12 4'

Project: FEEMA B 4

Collection Date: 11/20/2019 1:30:00 PM

Lab ID: 1911A92-012

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	55	9.4		mg/Kg	1	11/26/2019 10:19:10 AM
Motor Oil Range Organics (MRO)	73	47		mg/Kg	1	11/26/2019 10:19:10 AM
Surr: DNOP	102	70-130		%Rec	1	11/26/2019 10:19:10 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/25/2019 10:48:35 PM
Surr: BFB	106	77.4-118		%Rec	1	11/25/2019 10:48:35 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/25/2019 10:48:35 PM
Toluene	ND	0.049		mg/Kg	1	11/25/2019 10:48:35 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/25/2019 10:48:35 PM
Xylenes, Total	ND	0.098		mg/Kg	1	11/25/2019 10:48:35 PM
Surr: 4-Bromofluorobenzene	98.4	80-120		%Rec	1	11/25/2019 10:48:35 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/27/2019 2:43:53 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-13 4'

Project: FEEMA B 4

Collection Date: 11/20/2019 1:35:00 PM

Lab ID: 1911A92-013

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	85	10		mg/Kg	1	11/27/2019 8:08:15 AM
Motor Oil Range Organics (MRO)	99	50		mg/Kg	1	11/27/2019 8:08:15 AM
Surr: DNOP	96.4	70-130		%Rec	1	11/27/2019 8:08:15 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/26/2019 9:47:21 AM
Surr: BFB	110	77.4-118		%Rec	1	11/26/2019 9:47:21 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 9:47:21 AM
Toluene	ND	0.048		mg/Kg	1	11/26/2019 9:47:21 AM
Ethylbenzene	ND	0.048		mg/Kg	1	11/26/2019 9:47:21 AM
Xylenes, Total	ND	0.096		mg/Kg	1	11/26/2019 9:47:21 AM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	11/26/2019 9:47:21 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/27/2019 2:56:14 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-14 4'

Project: FEEMA B 4

Collection Date: 11/20/2019 1:40:00 PM

Lab ID: 1911A92-014

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	11/27/2019 8:35:37 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/27/2019 8:35:37 AM
Surr: DNOP	80.0	70-130		%Rec	1	11/27/2019 8:35:37 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/26/2019 10:58:33 AM
Surr: BFB	115	77.4-118		%Rec	1	11/26/2019 10:58:33 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 10:58:33 AM
Toluene	ND	0.047		mg/Kg	1	11/26/2019 10:58:33 AM
Ethylbenzene	ND	0.047		mg/Kg	1	11/26/2019 10:58:33 AM
Xylenes, Total	ND	0.095		mg/Kg	1	11/26/2019 10:58:33 AM
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	11/26/2019 10:58:33 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/27/2019 3:08:33 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-15 4'

Project: FEEMA B 4

Collection Date: 11/20/2019 1:45:00 PM

Lab ID: 1911A92-015

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	17	9.3		mg/Kg	1	11/27/2019 8:44:40 AM
Motor Oil Range Organics (MRO)	51	46		mg/Kg	1	11/27/2019 8:44:40 AM
Surr: DNOP	112	70-130		%Rec	1	11/27/2019 8:44:40 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/26/2019 12:09:16 PM
Surr: BFB	111	77.4-118		%Rec	1	11/26/2019 12:09:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	11/26/2019 12:09:16 PM
Toluene	ND	0.049		mg/Kg	1	11/26/2019 12:09:16 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/26/2019 12:09:16 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/26/2019 12:09:16 PM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	11/26/2019 12:09:16 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/27/2019 3:45:37 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: WS19-01 0-4'

Project: FEEMA B 4

Collection Date: 11/20/2019 1:50:00 PM

Lab ID: 1911A92-016

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	11/27/2019 8:53:49 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/27/2019 8:53:49 AM
Surr: DNOP	87.2	70-130		%Rec	1	11/27/2019 8:53:49 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/26/2019 12:32:42 PM
Surr: BFB	103	77.4-118		%Rec	1	11/26/2019 12:32:42 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 12:32:42 PM
Toluene	ND	0.049		mg/Kg	1	11/26/2019 12:32:42 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/26/2019 12:32:42 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/26/2019 12:32:42 PM
Surr: 4-Bromofluorobenzene	97.1	80-120		%Rec	1	11/26/2019 12:32:42 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/27/2019 3:57:57 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: WS19-02 0-4'

Project: FEEMA B 4

Collection Date: 11/20/2019 1:55:00 PM

Lab ID: 1911A92-017

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	11/27/2019 9:02:54 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	11/27/2019 9:02:54 AM
Surr: DNOP	86.7	70-130		%Rec	1	11/27/2019 9:02:54 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/26/2019 12:56:18 PM
Surr: BFB	107	77.4-118		%Rec	1	11/26/2019 12:56:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 12:56:18 PM
Toluene	ND	0.048		mg/Kg	1	11/26/2019 12:56:18 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/26/2019 12:56:18 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/26/2019 12:56:18 PM
Surr: 4-Bromofluorobenzene	99.6	80-120		%Rec	1	11/26/2019 12:56:18 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/27/2019 4:10:18 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: WS19-03 0-4'

Project: FEEMA B 4

Collection Date: 11/20/2019 2:00:00 PM

Lab ID: 1911A92-018

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	12	9.7		mg/Kg	1	11/27/2019 9:12:02 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/27/2019 9:12:02 AM
Surr: DNOP	125	70-130		%Rec	1	11/27/2019 9:12:02 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/26/2019 1:19:39 PM
Surr: BFB	103	77.4-118		%Rec	1	11/26/2019 1:19:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	11/26/2019 1:19:39 PM
Toluene	ND	0.049		mg/Kg	1	11/26/2019 1:19:39 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/26/2019 1:19:39 PM
Xylenes, Total	ND	0.098		mg/Kg	1	11/26/2019 1:19:39 PM
Surr: 4-Bromofluorobenzene	97.3	80-120		%Rec	1	11/26/2019 1:19:39 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	11/27/2019 4:22:39 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: WS19-04 0-4'

Project: FEEMA B 4

Collection Date: 11/20/2019 2:05:00 PM

Lab ID: 1911A92-019

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	550	91		mg/Kg	10	11/27/2019 9:21:08 AM
Motor Oil Range Organics (MRO)	910	450		mg/Kg	10	11/27/2019 9:21:08 AM
Surr: DNOP	0	70-130	S	%Rec	10	11/27/2019 9:21:08 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/26/2019 1:43:13 PM
Surr: BFB	104	77.4-118		%Rec	1	11/26/2019 1:43:13 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	11/26/2019 1:43:13 PM
Toluene	ND	0.049		mg/Kg	1	11/26/2019 1:43:13 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/26/2019 1:43:13 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/26/2019 1:43:13 PM
Surr: 4-Bromofluorobenzene	97.7	80-120		%Rec	1	11/26/2019 1:43:13 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	930	60		mg/Kg	20	11/27/2019 4:35:01 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: WS19-05 0-6'

Project: FEEMA B 4

Collection Date: 11/20/2019 2:10:00 PM

Lab ID: 1911A92-020

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	27	9.1		mg/Kg	1	11/27/2019 9:33:39 AM
Motor Oil Range Organics (MRO)	51	46		mg/Kg	1	11/27/2019 9:33:39 AM
Surr: DNOP	91.3	70-130		%Rec	1	11/27/2019 9:33:39 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/26/2019 2:06:43 PM
Surr: BFB	103	77.4-118		%Rec	1	11/26/2019 2:06:43 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 2:06:43 PM
Toluene	ND	0.049		mg/Kg	1	11/26/2019 2:06:43 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/26/2019 2:06:43 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/26/2019 2:06:43 PM
Surr: 4-Bromofluorobenzene	95.3	80-120		%Rec	1	11/26/2019 2:06:43 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	270	60		mg/Kg	20	11/27/2019 4:47:22 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: WS19-06 0-4'

Project: FEEMA B 4

Collection Date: 11/20/2019 2:15:00 PM

Lab ID: 1911A92-021

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/27/2019 9:42:43 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/27/2019 9:42:43 AM
Surr: DNOP	96.7	70-130		%Rec	1	11/27/2019 9:42:43 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/26/2019 2:30:11 PM
Surr: BFB	108	77.4-118		%Rec	1	11/26/2019 2:30:11 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 2:30:11 PM
Toluene	ND	0.049		mg/Kg	1	11/26/2019 2:30:11 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/26/2019 2:30:11 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/26/2019 2:30:11 PM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	11/26/2019 2:30:11 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 12:43:33 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-16 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 3:00:00 PM

Lab ID: 1911A92-022

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	16	9.1		mg/Kg	1	12/2/2019 11:17:18 AM
Motor Oil Range Organics (MRO)	73	45		mg/Kg	1	12/2/2019 11:17:18 AM
Surr: DNOP	121	70-130		%Rec	1	12/2/2019 11:17:18 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/26/2019 4:04:09 PM
Surr: BFB	107	77.4-118		%Rec	1	11/26/2019 4:04:09 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	11/26/2019 4:04:09 PM
Toluene	ND	0.049		mg/Kg	1	11/26/2019 4:04:09 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/26/2019 4:04:09 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/26/2019 4:04:09 PM
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/26/2019 4:04:09 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 1:20:37 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-17 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 3:05:00 PM

Lab ID: 1911A92-023

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	14	9.1		mg/Kg	1	11/27/2019 10:00:55 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	11/27/2019 10:00:55 AM
Surr: DNOP	107	70-130		%Rec	1	11/27/2019 10:00:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/26/2019 4:27:41 PM
Surr: BFB	106	77.4-118		%Rec	1	11/26/2019 4:27:41 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 4:27:41 PM
Toluene	ND	0.048		mg/Kg	1	11/26/2019 4:27:41 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/26/2019 4:27:41 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/26/2019 4:27:41 PM
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	11/26/2019 4:27:41 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 1:57:39 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-18 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 3:10:00 PM

Lab ID: 1911A92-024

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	17	9.5		mg/Kg	1	11/27/2019 10:10:04 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/27/2019 10:10:04 AM
Surr: DNOP	84.2	70-130		%Rec	1	11/27/2019 10:10:04 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/26/2019 4:51:11 PM
Surr: BFB	106	77.4-118		%Rec	1	11/26/2019 4:51:11 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	11/26/2019 4:51:11 PM
Toluene	ND	0.050		mg/Kg	1	11/26/2019 4:51:11 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/26/2019 4:51:11 PM
Xylenes, Total	ND	0.10		mg/Kg	1	11/26/2019 4:51:11 PM
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/26/2019 4:51:11 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 2:09:59 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-19 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 3:15:00 PM

Lab ID: 1911A92-025

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	11/27/2019 10:19:13 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/27/2019 10:19:13 AM
Surr: DNOP	85.5	70-130		%Rec	1	11/27/2019 10:19:13 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/26/2019 5:14:43 PM
Surr: BFB	105	77.4-118		%Rec	1	11/26/2019 5:14:43 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 5:14:43 PM
Toluene	ND	0.048		mg/Kg	1	11/26/2019 5:14:43 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/26/2019 5:14:43 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/26/2019 5:14:43 PM
Surr: 4-Bromofluorobenzene	98.7	80-120		%Rec	1	11/26/2019 5:14:43 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 2:22:20 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-20 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 3:20:00 PM

Lab ID: 1911A92-026

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/27/2019 10:28:19 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/27/2019 10:28:19 AM
Surr: DNOP	89.1	70-130		%Rec	1	11/27/2019 10:28:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/26/2019 5:38:08 PM
Surr: BFB	101	77.4-118		%Rec	1	11/26/2019 5:38:08 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 5:38:08 PM
Toluene	ND	0.047		mg/Kg	1	11/26/2019 5:38:08 PM
Ethylbenzene	ND	0.047		mg/Kg	1	11/26/2019 5:38:08 PM
Xylenes, Total	ND	0.094		mg/Kg	1	11/26/2019 5:38:08 PM
Surr: 4-Bromofluorobenzene	95.1	80-120		%Rec	1	11/26/2019 5:38:08 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 2:34:41 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-21 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 3:25:00 PM

Lab ID: 1911A92-027

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	11/27/2019 10:37:27 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/27/2019 10:37:27 AM
Surr: DNOP	96.5	70-130		%Rec	1	11/27/2019 10:37:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/26/2019 6:01:35 PM
Surr: BFB	103	77.4-118		%Rec	1	11/26/2019 6:01:35 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	11/26/2019 6:01:35 PM
Toluene	ND	0.050		mg/Kg	1	11/26/2019 6:01:35 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/26/2019 6:01:35 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/26/2019 6:01:35 PM
Surr: 4-Bromofluorobenzene	98.7	80-120		%Rec	1	11/26/2019 6:01:35 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 2:47:03 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-22 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 3:30:00 PM

Lab ID: 1911A92-028

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	17	9.3		mg/Kg	1	12/2/2019 11:39:13 AM
Motor Oil Range Organics (MRO)	80	46		mg/Kg	1	12/2/2019 11:39:13 AM
Surr: DNOP	107	70-130		%Rec	1	12/2/2019 11:39:13 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/26/2019 6:25:01 PM
Surr: BFB	103	77.4-118		%Rec	1	11/26/2019 6:25:01 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 6:25:01 PM
Toluene	ND	0.049		mg/Kg	1	11/26/2019 6:25:01 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/26/2019 6:25:01 PM
Xylenes, Total	ND	0.098		mg/Kg	1	11/26/2019 6:25:01 PM
Surr: 4-Bromofluorobenzene	97.4	80-120		%Rec	1	11/26/2019 6:25:01 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 2:59:24 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-23 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 3:35:00 PM

Lab ID: 1911A92-029

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	11/27/2019 10:55:56 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	11/27/2019 10:55:56 AM
Surr: DNOP	106	70-130		%Rec	1	11/27/2019 10:55:56 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/26/2019 6:48:23 PM
Surr: BFB	107	77.4-118		%Rec	1	11/26/2019 6:48:23 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 6:48:23 PM
Toluene	ND	0.049		mg/Kg	1	11/26/2019 6:48:23 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/26/2019 6:48:23 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/26/2019 6:48:23 PM
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/26/2019 6:48:23 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 3:11:45 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-24 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 3:40:00 PM

Lab ID: 1911A92-030

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	570	97		mg/Kg	10	11/27/2019 11:05:14 AM
Motor Oil Range Organics (MRO)	750	490		mg/Kg	10	11/27/2019 11:05:14 AM
Surr: DNOP	0	70-130	S	%Rec	10	11/27/2019 11:05:14 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/26/2019 7:11:48 PM
Surr: BFB	104	77.4-118		%Rec	1	11/26/2019 7:11:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	11/26/2019 7:11:48 PM
Toluene	ND	0.047		mg/Kg	1	11/26/2019 7:11:48 PM
Ethylbenzene	ND	0.047		mg/Kg	1	11/26/2019 7:11:48 PM
Xylenes, Total	ND	0.094		mg/Kg	1	11/26/2019 7:11:48 PM
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	11/26/2019 7:11:48 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 3:24:06 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-25 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 3:45:00 PM

Lab ID: 1911A92-031

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	11/27/2019 11:14:28 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	11/27/2019 11:14:28 AM
Surr: DNOP	93.9	70-130		%Rec	1	11/27/2019 11:14:28 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/26/2019 7:35:12 PM
Surr: BFB	104	77.4-118		%Rec	1	11/26/2019 7:35:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 7:35:12 PM
Toluene	ND	0.049		mg/Kg	1	11/26/2019 7:35:12 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/26/2019 7:35:12 PM
Xylenes, Total	ND	0.098		mg/Kg	1	11/26/2019 7:35:12 PM
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	11/26/2019 7:35:12 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 3:36:29 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-26 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 3:50:00 PM

Lab ID: 1911A92-032

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	100	47		mg/Kg	5	12/2/2019 12:01:05 PM
Motor Oil Range Organics (MRO)	450	230		mg/Kg	5	12/2/2019 12:01:05 PM
Surr: DNOP	103	70-130		%Rec	5	12/2/2019 12:01:05 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/26/2019 3:28:14 PM
Surr: BFB	106	77.4-118		%Rec	1	11/26/2019 3:28:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	11/26/2019 3:28:14 PM
Toluene	ND	0.046		mg/Kg	1	11/26/2019 3:28:14 PM
Ethylbenzene	ND	0.046		mg/Kg	1	11/26/2019 3:28:14 PM
Xylenes, Total	ND	0.093		mg/Kg	1	11/26/2019 3:28:14 PM
Surr: 4-Bromofluorobenzene	91.7	80-120		%Rec	1	11/26/2019 3:28:14 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 3:48:50 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-27 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 3:55:00 PM

Lab ID: 1911A92-033

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	13	9.1		mg/Kg	1	11/27/2019 12:00:26 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/27/2019 12:00:26 PM
Surr: DNOP	96.6	70-130		%Rec	1	11/27/2019 12:00:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/26/2019 4:59:54 PM
Surr: BFB	105	77.4-118		%Rec	1	11/26/2019 4:59:54 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 4:59:54 PM
Toluene	ND	0.047		mg/Kg	1	11/26/2019 4:59:54 PM
Ethylbenzene	ND	0.047		mg/Kg	1	11/26/2019 4:59:54 PM
Xylenes, Total	ND	0.095		mg/Kg	1	11/26/2019 4:59:54 PM
Surr: 4-Bromofluorobenzene	92.2	80-120		%Rec	1	11/26/2019 4:59:54 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 4:25:53 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-28 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 4:00:00 PM

Lab ID: 1911A92-034

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	11/27/2019 12:27:50 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/27/2019 12:27:50 PM
Surr: DNOP	93.7	70-130		%Rec	1	11/27/2019 12:27:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/26/2019 6:08:31 PM
Surr: BFB	106	77.4-118		%Rec	1	11/26/2019 6:08:31 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 6:08:31 PM
Toluene	ND	0.049		mg/Kg	1	11/26/2019 6:08:31 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/26/2019 6:08:31 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/26/2019 6:08:31 PM
Surr: 4-Bromofluorobenzene	91.4	80-120		%Rec	1	11/26/2019 6:08:31 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 4:38:13 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-29 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 4:05:00 PM

Lab ID: 1911A92-035

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	11/27/2019 12:36:55 PM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	11/27/2019 12:36:55 PM
Surr: DNOP	97.1	70-130		%Rec	1	11/27/2019 12:36:55 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/26/2019 6:31:23 PM
Surr: BFB	107	77.4-118		%Rec	1	11/26/2019 6:31:23 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 6:31:23 PM
Toluene	ND	0.047		mg/Kg	1	11/26/2019 6:31:23 PM
Ethylbenzene	ND	0.047		mg/Kg	1	11/26/2019 6:31:23 PM
Xylenes, Total	ND	0.094		mg/Kg	1	11/26/2019 6:31:23 PM
Surr: 4-Bromofluorobenzene	91.9	80-120		%Rec	1	11/26/2019 6:31:23 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 4:50:33 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-30 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 4:10:00 PM

Lab ID: 1911A92-036

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	11/27/2019 12:46:02 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	11/27/2019 12:46:02 PM
Surr: DNOP	94.0	70-130		%Rec	1	11/27/2019 12:46:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/26/2019 6:54:15 PM
Surr: BFB	108	77.4-118		%Rec	1	11/26/2019 6:54:15 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 6:54:15 PM
Toluene	ND	0.048		mg/Kg	1	11/26/2019 6:54:15 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/26/2019 6:54:15 PM
Xylenes, Total	ND	0.095		mg/Kg	1	11/26/2019 6:54:15 PM
Surr: 4-Bromofluorobenzene	93.2	80-120		%Rec	1	11/26/2019 6:54:15 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 5:02:55 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-31 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 4:15:00 PM

Lab ID: 1911A92-037

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/27/2019 12:55:13 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/27/2019 12:55:13 PM
Surr: DNOP	93.5	70-130		%Rec	1	11/27/2019 12:55:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/26/2019 7:17:01 PM
Surr: BFB	107	77.4-118		%Rec	1	11/26/2019 7:17:01 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/26/2019 7:17:01 PM
Toluene	ND	0.048		mg/Kg	1	11/26/2019 7:17:01 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/26/2019 7:17:01 PM
Xylenes, Total	ND	0.095		mg/Kg	1	11/26/2019 7:17:01 PM
Surr: 4-Bromofluorobenzene	92.1	80-120		%Rec	1	11/26/2019 7:17:01 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 5:15:16 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1911A92

Date Reported: 12/3/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resource Group Ltd.

Client Sample ID: BS19-32 2'

Project: FEEMA B 4

Collection Date: 11/20/2019 4:20:00 PM

Lab ID: 1911A92-038

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	12/2/2019 10:11:54 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/2/2019 10:11:54 AM
Surr: DNOP	101	70-130		%Rec	1	12/2/2019 10:11:54 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/26/2019 7:39:49 PM
Surr: BFB	105	77.4-118		%Rec	1	11/26/2019 7:39:49 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	11/26/2019 7:39:49 PM
Toluene	ND	0.050		mg/Kg	1	11/26/2019 7:39:49 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/26/2019 7:39:49 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/26/2019 7:39:49 PM
Surr: 4-Bromofluorobenzene	90.5	80-120		%Rec	1	11/26/2019 7:39:49 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	12/2/2019 5:27:37 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1911A92

03-Dec-19

Client: Vertex Resource Group Ltd.**Project:** FEEMA B 4

Sample ID: MB-49057	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 49057	RunNo: 64849								
Prep Date: 11/27/2019	Analysis Date: 11/27/2019	SeqNo: 2223368	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-49057	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 49057	RunNo: 64849								
Prep Date: 11/27/2019	Analysis Date: 11/27/2019	SeqNo: 2223369	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.7	90	110			

Sample ID: MB-49085	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 49085	RunNo: 64879								
Prep Date: 12/2/2019	Analysis Date: 12/2/2019	SeqNo: 2224632	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-49085	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 49085	RunNo: 64879								
Prep Date: 12/2/2019	Analysis Date: 12/2/2019	SeqNo: 2224633	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.6	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1911A92

03-Dec-19

Client: Vertex Resource Group Ltd.**Project:** FEEMA B 4

Sample ID: LCS-49011	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 49011	RunNo: 64772								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2219747			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	103	63.9	124			
Surr: DNOP	4.4		5.000		88.0	70	130			

Sample ID: MB-49011	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 49011	RunNo: 64772								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2219748			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	13		10.00		126	70	130			

Sample ID: 1911A92-013AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BS19-13 4'	Batch ID: 49024	RunNo: 64812								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221484			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	120	9.9	49.55	85.46	69.9	57	142			
Surr: DNOP	4.1		4.955		83.2	70	130			

Sample ID: 1911A92-013AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BS19-13 4'	Batch ID: 49024	RunNo: 64812								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221487			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	140	9.4	47.21	85.46	112	57	142	14.0	20	
Surr: DNOP	4.5		4.721		95.7	70	130	0	0	

Sample ID: LCS-49024	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 49024	RunNo: 64812								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221518			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.6	63.9	124			
Surr: DNOP	4.1		5.000		81.5	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1911A92

03-Dec-19

Client: Vertex Resource Group Ltd.**Project:** FEEMA B 4

Sample ID: MB-49024	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 49024	RunNo: 64812								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221519 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.5		10.00		84.7	70	130			

Sample ID: 1911A92-033AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BS19-27 2'	Batch ID: 49025	RunNo: 64812								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221961 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	130	9.5	47.35	13.11	255	57	142			S
Surr: DNOP	4.1		4.735		86.6	70	130			

Sample ID: 1911A92-033AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BS19-27 2'	Batch ID: 49025	RunNo: 64812								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221962 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	8.5	42.52	13.11	75.6	57	142	98.8	20	R
Surr: DNOP	4.1		4.252		95.8	70	130	0	0	

Sample ID: LCS-49025	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 49025	RunNo: 64812								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221965 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.3	63.9	124			
Surr: DNOP	4.3		5.000		85.8	70	130			

Sample ID: MB-49025	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 49025	RunNo: 64812								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221966 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.3		10.00		93.5	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1911A92

03-Dec-19

Client: Vertex Resource Group Ltd.**Project:** FEEMA B 4

Sample ID: LCS-49026	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 49026		RunNo: 64812							
Prep Date: 11/26/2019	Analysis Date: 11/27/2019		SeqNo: 2222660		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		85.4	70	130			

Sample ID: MB-49026	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 49026		RunNo: 64812							
Prep Date: 11/26/2019	Analysis Date: 11/27/2019		SeqNo: 2222661		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.1		10.00		91.1	70	130			

Sample ID: LCS-49056	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 49056		RunNo: 64856							
Prep Date: 11/27/2019	Analysis Date: 12/2/2019		SeqNo: 2223563		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	103	63.9	124			
Surr: DNOP	5.1		5.000		102	70	130			

Sample ID: MB-49056	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 49056		RunNo: 64856							
Prep Date: 11/27/2019	Analysis Date: 12/2/2019		SeqNo: 2223565		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.0		10.00		79.9	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1911A92

03-Dec-19

Client: Vertex Resource Group Ltd.**Project:** FEEMA B 4

Sample ID: MB-48981	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 48981			RunNo: 64748						
Prep Date: 11/22/2019	Analysis Date: 11/25/2019			SeqNo: 2219154		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	77.4	118			

Sample ID: LCS-48981	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 48981			RunNo: 64748						
Prep Date: 11/22/2019	Analysis Date: 11/25/2019			SeqNo: 2219155		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	80	120			
Surr: BFB	1200		1000		115	77.4	118			

Sample ID: MB-49020	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 49020			RunNo: 64783						
Prep Date: 11/25/2019	Analysis Date: 11/26/2019			SeqNo: 2220681		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		108	77.4	118			

Sample ID: LCS-49020	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 49020			RunNo: 64783						
Prep Date: 11/25/2019	Analysis Date: 11/26/2019			SeqNo: 2220682		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	106	80	120			
Surr: BFB	1200		1000		120	77.4	118			S

Sample ID: 1911A92-032AMS	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: BS19-26 2'	Batch ID: 49020			RunNo: 64783						
Prep Date: 11/25/2019	Analysis Date: 11/26/2019			SeqNo: 2220684		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.9	24.65	0	112	69.1	142			
Surr: BFB	1200		986.2		120	77.4	118			S

Sample ID: 1911A92-032AMSD	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: BS19-26 2'	Batch ID: 49020			RunNo: 64783						
Prep Date: 11/25/2019	Analysis Date: 11/26/2019			SeqNo: 2220685		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1911A92

03-Dec-19

Client: Vertex Resource Group Ltd.**Project:** FEEMA B 4

Sample ID: 1911A92-032AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: BS19-26 2'	Batch ID: 49020	RunNo: 64783								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220685 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.9	24.27	0	111	69.1	142	1.82	20	
Surr: BFB	1200		970.9		120	77.4	118	0	0	S

Sample ID: MB-49012	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 49012	RunNo: 64782								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220741 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		107	77.4	118			

Sample ID: LCS-49012	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 49012	RunNo: 64782								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220742 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	106	80	120			
Surr: BFB	1300		1000		126	77.4	118			S

Sample ID: 1911A92-013AMS	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: BS19-13 4'	Batch ID: 49012	RunNo: 64782								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220744 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	4.9	24.65	0	125	69.1	142			
Surr: BFB	1200		986.2		122	77.4	118			S

Sample ID: 1911A92-013AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: BS19-13 4'	Batch ID: 49012	RunNo: 64782								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220745 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	24.80	0	113	69.1	142	9.32	20	
Surr: BFB	1200		992.1		121	77.4	118	0	0	S

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1911A92

03-Dec-19

Client: Vertex Resource Group Ltd.**Project:** FEEMA B 4

Sample ID: MB-48981	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 48981	RunNo: 64748								
Prep Date: 11/22/2019	Analysis Date: 11/25/2019	SeqNo: 2219184 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		98.8	80	120			

Sample ID: LCS-48981	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 48981	RunNo: 64748								
Prep Date: 11/22/2019	Analysis Date: 11/25/2019	SeqNo: 2219185 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	108	80	120			
Toluene	1.1	0.050	1.000	0	108	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Xylenes, Total	3.2	0.10	3.000	0	106	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID: MB-49020	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 49020	RunNo: 64783								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220713 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.94		1.000		94.0	80	120			

Sample ID: LCS-49020	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 49020	RunNo: 64783								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220714 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.1	80	120			
Toluene	0.87	0.050	1.000	0	87.5	80	120			
Ethylbenzene	0.87	0.050	1.000	0	87.0	80	120			
Xylenes, Total	2.6	0.10	3.000	0	86.7	80	120			
Surr: 4-Bromofluorobenzene	0.93		1.000		92.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1911A92

03-Dec-19

Client: Vertex Resource Group Ltd.**Project:** FEEMA B 4

Sample ID: 1911A92-033AMS	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: BS19-27 2'	Batch ID: 49020	RunNo: 64783								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220717 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.024	0.9775	0	98.6	76	123			
Toluene	0.93	0.049	0.9775	0.007936	94.6	80.3	127			
Ethylbenzene	0.93	0.049	0.9775	0.01041	94.4	80.2	131			
Xylenes, Total	2.8	0.098	2.933	0.02657	94.4	78	133			
Surr: 4-Bromofluorobenzene	0.91		0.9775		92.9	80	120			

Sample ID: 1911A92-033AMSD	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: BS19-27 2'	Batch ID: 49020	RunNo: 64783								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220718 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.024	0.9533	0	98.4	76	123	2.68	20	
Toluene	0.90	0.048	0.9533	0.007936	93.9	80.3	127	3.22	20	
Ethylbenzene	0.89	0.048	0.9533	0.01041	92.8	80.2	131	4.21	20	
Xylenes, Total	2.7	0.095	2.860	0.02657	93.8	78	133	3.09	20	
Surr: 4-Bromofluorobenzene	0.88		0.9533		92.5	80	120	0	0	

Sample ID: MB-49012	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 49012	RunNo: 64782								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220768 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

Sample ID: LCS-49012	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 49012	RunNo: 64782								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220769 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	94.9	80	120			
Toluene	0.96	0.050	1.000	0	96.2	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.6	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.5	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1911A92

03-Dec-19

Client: Vertex Resource Group Ltd.**Project:** FEEMA B 4

Sample ID: 1911A92-014AMS	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: BS19-14 4'	Batch ID: 49012	RunNo: 64782								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220772	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.024	0.9681	0	102	76	123			
Toluene	1.0	0.048	0.9681	0.009117	103	80.3	127			
Ethylbenzene	1.0	0.048	0.9681	0	105	80.2	131			
Xylenes, Total	3.1	0.097	2.904	0.01491	105	78	133			
Surr: 4-Bromofluorobenzene	1.0		0.9681		105	80	120			

Sample ID: 1911A92-014AMSD	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: BS19-14 4'	Batch ID: 49012	RunNo: 64782								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2220773	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9681	0	103	76	123	0.898	20	
Toluene	1.0	0.048	0.9681	0.009117	105	80.3	127	1.34	20	
Ethylbenzene	1.0	0.048	0.9681	0	106	80.2	131	1.27	20	
Xylenes, Total	3.1	0.097	2.904	0.01491	106	78	133	0.264	20	
Surr: 4-Bromofluorobenzene	1.1		0.9681		109	80	120	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: VERTEX CARLSBAD

Work Order Number: 1911A92

RcptNo: 1

Received By: Yazmine Garduno 11/22/2019 9:07:00 AM

Completed By: Yazmine Garduno 11/22/2019 11:18:12 AM

Reviewed By: *DM* 11/22/19*Yazmine Garduno**Yazmine Garduno*

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: *YG 11/22/19*

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.7	Good				
2	4.6	Good				
3	3.7	Good				

Chain-of-Custody Record

Client: VERTX Resource ServicesMailing Address: 00N FILEPhone #: 00N FILEemail or Fax#: 00N FILE

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC ☐ Other☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

FEMA B #4

Project #:

19E-04217-001

Project Manager:

NATLIE GORDON
N.GORDON@VEATX.CA

Sampler:

SHAR HARVESTEROn Ice: ☒ Yes ☐ No# of Coolers: 1Cooler Temp (including CP): Remark (°C)

Container Type and #

Preservative Type

HEAL No.

Date

Time

Sample Name

Matrix

Type

Time

Date

Time

Sample Name

Matrix

Type

Time

Date

Time

Sample Name

Matrix

Type

Time

Date

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Sample Name

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Date

Time

Sample Name

Matrix

Type

Time

Date

Chain-of-Custody Record

Client: VERTAL Resource Services

Mailing Address: ON FILE

Phone #: ON FILE

email or Fax#: ON FILE

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance ☐ Other

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: ☐ Standard ☐ Rush

Project Name: FEE MA B #4

Project #: 19E-04217-001

Project Manager: NATHALIE GORDON

NGORDON@VERTAL-CA

Sampler: SIMAR HARVESTER

On Ice: ☐ Yes ☐ No

of Coolers: 3

Cooler Temp (including CP): Remark 1 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
11/20	13:35	S	BS19-13 4'	JAR	ICE	1911A02
	13:40		BS19-14			-013
	13:45		BS19-15			-014
	13:50		WS19-01 0-4'			-015
	13:55		WS19-02			-016
	14:00		WS19-03			-017
	14:05		WS19-04 0-4'			-018
	14:10		WS19-05 0-6'			-019
	14:15		WS19-06 0-4'			-020
	15:00		BS19-16 2'			-021
	15:05		BS19 17 2'			-022
	15:10		BS19-18 2'			-023
						-024

Relinquished by: [Signature] Date: 11/20/19 18:15

Relinquished by: [Signature] Date: 11/21/19 14:30

Received by: [Signature] Date: 11/21/19 14:30

Received by: [Signature] Date: 11/22/19 09:07



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
----------------------------	----------------------------	----------------------------	--------------------	--------------------------	---------------	--	------------	-----------------	---------------------------------

Remarks:

4.4 + 0.3 = 4.7

4.3 + 0.3 = 4.6

3.4 + 0.3 = 3.7

Chain-of-Custody Record

Turn-Around Time:		☒ Standard ☐ Rush	
Project Name:		FEC MA B #4	
Project #:		19E-04217-001	
Project Manager:		NATALIE GORDON	
Sampler:		N.GORDON@VERTEX.CA	
On Ice:		☐ Yes ☐ No	
# of Coolers:		1	
Cooler Temp (including CF):		19.1A92	
Container Type and #		Preservative Type	
HEAL No.			
Date	Time	Matrix	Sample Name
11/20	15:15	S	BS19-19 2'
	15:20		BS19-20
	15:25		BS19-21
	15:30		BS19-22
	15:35		BS19-23
	15:40		BS19-24
	15:45		BS19-25
	15:50		BS19-26
	15:55		BS19-27
	16:00		BS19-28
	16:05		BS19-29
	16:10		BS19-30 2'
Date:	Time:	Relinquished by:	Received by:
11/20	18:15	[Signature]	[Signature]
Date:	Time:	Relinquished by:	Received by:
11/21/19	19:05	[Signature]	[Signature]



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cd, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
☒	☒	☒	☒	☒	☒	☒	☒	☒	☒

Remarks:

4.4 + 0.3 = 4.7

4.3 + 0.3 = 4.6

3.4 + 0.3 = 3.7

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Turn-Around Time:

☐ Rush

Project Name:

Page NA-B #4

Project #:

19E-04217-001

Project Manager:

NETA'S GARDEN

ALGORDON@VERTX.CA

Sampler: SPAR HAZVE8792

On Ice: ☒ Yes ☐ No

of Coolers:

Cooler Temp_(including CF): 60.0000

Container Type and #	Preservative Type	HEAL No.
		1A1A92

10037

1002	1ce	-038
------	-----	------

Date	Time	Matrix	Sample Name
------	------	--------	-------------

11/0011-12 ✓ B510-31 3'

	16:20	RS19-32 2'
--	-------	------------

Date:		
Time:		
Relinquished by:		

11/20 18:15

Date:	Time:	Reinforced by:

Received by: Via: Date Time

15/11/1430

Received by 4/21/11 Via: Date Time

Remarks:

$$4.4 + 0.3 = 4.7$$
 $11.3 + 0.3 - 16$ $3.4 + 0.3 = 3.7$

Any sub-contracted data will be clearly notated on the analytical report. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

From: [Hernandez, Christina, EMNRD](#)
To: ["tfranklin@americansafety.net"](mailto:tfranklin@americansafety.net); [Yu, Olivia, EMNRD](#)
Cc: ["mattbuckles@mec.com"](mailto:mattbuckles@mec.com)
Subject: RE: Mack Energy - 1RP-5115 MA B #4
Date: Monday, October 22, 2018 8:55:00 AM
Attachments: [Reviewed1RP-5115Mack - MA B #4 Work Plan \(002\).pdf](#)

Dear Mr. Franklin:

Notes

1. A USGS well (324753103410201) 0.7 mi NE of the site shows water depth is at 60.62 ft bgs (1990). Additionally, an OSE stream is identified 600 ft to the SE.
2. Please clarify how deep the initial excavation was and how much soil was removed.

NMOCD approves of the delineation completed for 1RP-5115. The proposed remediation is also approved with these conditions:

- Dated photo documentation of the remedial activities.
- Scaled map with demarcation of original excavation area.
- Please utilize a revised Closure C-141 form available at:
<http://www.emnrd.state.nm.us/OCD/forms.html>

Thanks,
Christina Hernandez
EMNRD-OCD
Environmental Specialist
1625 N. French Drive
Hobbs, NM 88240
575-393-6161 x111
Christina.Hernandez@state.nm.us

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Thomas Franklin <tfranklin@americansafety.net>
Sent: Thursday, September 13, 2018 2:04 PM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: Matt Buckles <mattbuckles@mec.com>
Subject: Mack Energy - 1RP-5115 MA B #4

Ms. Yu,

On behalf of Mack Energy please find attached the remediation work plan for 1RP-5115. If you have any questions or concerns please feel free to contact myself at any time.

Best Regards

Thomas Franklin
Environmental Manager
American Safety Services Inc.
(432) 552-7625 Office
(432) 557-9868 Mobile

tfranklin@americansafety.net
www.americansafety.net



Company Name: MACK

Location Name: MA B #4

Release Date:

7/3/2018

EXCAVATION IS AT 4'BGS FROM 2018 ORIGINAL RELEASE AREA - SOUTH OF BTY

SP ID	Depth	Titr	PID	L-BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL	DATE	Notes
SP1	4'	20	H	ND	ND	60.8	82.8	143.6	ND	3/1/2022	
	5'	240	L								
	6'	80	L								
	7'	20	L	ND	ND	ND	ND	ND	ND	3/1/2022	
SP2	4'	20	H	ND	ND	63.2	84.4	147.6	ND	3/1/2022	
	5'	80	L								
	6'	80	L								
	7'	20	H	ND	ND	47	62.6	109.6	ND	3/1/2022	
SP3	4'	20		ND	ND	60.8	82.3	143.1	ND	3/1/2022	
	5'	160									
	6'	240									
	7'	20		ND	ND	ND	ND	ND	ND	3/1/2022	
SP4	4'	20		ND	ND	ND	ND	ND	ND	3/1/2022	
	5'	80									
	6'	60									
	7'	20		ND	ND	ND	ND	ND	ND	3/1/2022	
SP5	4'	40		ND	ND	ND	ND	ND	ND	3/1/2022	
	5'	20									
	6'	20									
	7'	20		ND	ND	ND	ND	ND	ND	3/1/2022	
SP6	4'	80		ND	ND	ND	ND	ND	ND	3/1/2022	
	5'	80									
	6'	40									
	7'	20		ND	ND	ND	ND	ND	ND	3/1/2022	
SW1	2'	80		ND	ND	ND	ND	ND	ND	3/1/2022	

SW2	2'	40		ND	ND	ND	ND	ND	ND	3/1/2022	
SW3	2'	40		ND	ND	ND	ND	ND	32	3/1/2022	
SW4	2'	80		ND	ND	ND	ND	ND	86.6	3/1/2022	
SW5	2'	20		ND	ND	ND	ND	ND	ND	3/1/2022	
SW6	SURF	2000		ND	ND	ND	ND	ND	1990	3/1/2022	BATTERY WALL
SW7	SURF	800		ND	ND	2200	1710	3910	636	3/1/2022	BATTERY WALL
SW8	2'	20		ND	ND	ND	ND	ND	ND	3/1/2022	
EXCAVATION IS AT 4'BGS FROM 2018 SECOND EXCAVATION AREA - WEST OF BTY											
SP1	4'	540		ND	ND	ND	ND	ND	521	3/1/2022	
	5'	80									
	6'	400									
	7'	320		ND	ND	ND	ND	ND	287	3/1/2022	
SP2	4'	80		ND	ND	ND	ND	ND	ND	3/1/2022	
	5'	80									
	6'	120									
	7'	80		ND	ND	ND	ND	ND	ND	3/1/2022	
SP3	4'	400		ND	ND	ND	ND	ND	404	3/1/2022	
	5'	80									
	6'	400									
	7'	180		ND	ND	ND	ND	ND	164	3/1/2022	
SP4	4'	160		ND	ND	ND	ND	ND	160	3/1/2022	
	5'	280									
	6'	240									
	7'	220		ND	ND	ND	ND	ND	209	3/1/2022	

SW1	2'	80		ND	ND	37	86.6	123.6	ND	3/1/2022	
SW2	2'	20		ND	ND	118	190	308	ND	3/1/2022	
SW3	2'	20		ND	ND	140	230	370	ND	3/1/2022	
SW4	2'	20		ND	ND	ND	ND	ND	ND	3/1/2022	
SW5	2'	20		ND	ND	ND	ND	ND	ND	3/1/2022	
SW6	2'	20		ND	ND	ND	ND	ND	ND	3/1/2022	

MACK ENERGY

MA B #4
WEST DELINEATION MAP

Legend

- HORIZONTAL SAMPLE POINTS
- MA B #4 WEST EXCV 6648 SQ. FT.
- VERTICAL SAMPLE POINTS



COMPANY: MACK ENERGY**LOCATION: MA B #4: WEST DELINEATION**

POINT	LATITUDE	LONGITUDE
SP1	32.793549°	-103.697667°
SP2	32.793413°	-103.697617°
SP3	32.793410°	-103.697769°
SP4	32.793499°	-103.697776°
SW1	32.793509°	-103.697573°
SW2	32.793453°	-103.697526°
SW3	32.793396°	-103.697534°
SW4	32.793363°	-103.697740°
SW5	32.793500°	-103.697865°
SW6	32.793588°	-103.697698°



COMPANY: MACK ENERGY**LOCATION: MA B #4: SOUTH DELINEATION**

POINT	LATITUDE	LONGITUDE
SP1	32.793259°	-103.697523°
SP2	32.793367°	-103.697486°
SP3	32.793348°	-103.697371°
SP4	32.793237°	-103.697387°
SP5	32.793150°	-103.697353°
SP6	32.793196°	-103.697267°
SW1	32.793204°	-103.697222°
SW2	32.793095°	-103.697302°
SW3	32.793128°	-103.697422°
SW4	32.793231°	-103.697445°
SW5	32.793241°	-103.697574°
SW6	32.793404°	-103.697523°
SW7	32.793401°	-103.697325°
SW8	32.793205°	-103.697326°

Report to:
Matt Buckles



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: MA B #4

Work Order: E203022

Job Number: 20046-0001

Received: 3/3/2022

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
3/9/22

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 3/9/22



Matt Buckles
7 W. Compress Road
Artesia, NM 88210

Project Name: MA B #4
Workorder: E203022
Date Received: 3/3/2022 1:10:00PM

Matt Buckles,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 3/3/2022 1:10:00PM, under the Project Name: MA B #4.

The analytical test results summarized in this report with the Project Name: MA B #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

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

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ljjarboe@envirotech-inc.com

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

Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
03/09/22 16:36

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP1 - 4' South	E203022-01A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP1 - 7' South	E203022-02A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP2 - 4' South	E203022-03A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP2 - 7' South	E203022-04A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP3 - 4' South	E203022-05A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP3 - 7' South	E203022-06A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP4 - 4' South	E203022-07A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP4 - 7' South	E203022-08A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP5 - 4' South	E203022-09A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP5 - 7' South	E203022-10A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP6 - 4' South	E203022-11A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SW1 - 2' South	E203022-12A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SW2 - 2' South	E203022-13A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SW3 - 2' South	E203022-14A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SW4 - 2' South	E203022-15A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SW5 - 2' South	E203022-16A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SW6 - Surface @ treater berm	E203022-17A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SW7 - Surface @ treater berm	E203022-18A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SW8 - 2' South	E203022-19A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP6 - 7' South	E203022-20A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.



Sample Data

Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: MA B #4 Project Number: 20046-0001 Project Manager: Matt Buckles	Reported: 3/9/2022 4:36:49PM
--	--	--

SP1 - 4' South

E203022-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Benzene	ND	0.0250	1	03/07/22	03/08/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/08/22	
Toluene	ND	0.0250	1	03/07/22	03/08/22	
o-Xylene	ND	0.0250	1	03/07/22	03/08/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/08/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/08/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	94.7 %	70-130		03/07/22	03/08/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/08/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	100 %	70-130		03/07/22	03/08/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2211010	
Diesel Range Organics (C10-C28)	60.8	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	82.8	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>	103 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: RAS		Batch: 2211007	
Chloride	ND	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SP1 - 7' South

E203022-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Benzene	ND	0.0250	1	03/07/22	03/08/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/08/22	
Toluene	ND	0.0250	1	03/07/22	03/08/22	
o-Xylene	ND	0.0250	1	03/07/22	03/08/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/08/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/08/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.0 %	70-130		03/07/22	03/08/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/08/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	101 %	70-130		03/07/22	03/08/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2211010
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	114 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2211007
Chloride	ND	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SP2 - 4' South

E203022-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Benzene	ND	0.0250	1	03/07/22	03/08/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/08/22	
Toluene	ND	0.0250	1	03/07/22	03/08/22	
o-Xylene	ND	0.0250	1	03/07/22	03/08/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/08/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/08/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.3 %	70-130		03/07/22	03/08/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/08/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	99.6 %	70-130		03/07/22	03/08/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2211010
Diesel Range Organics (C10-C28)	63.2	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	84.4	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	106 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2211007
Chloride	ND	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SP2 - 7' South

E203022-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Benzene	ND	0.0250	1	03/07/22	03/08/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/08/22	
Toluene	ND	0.0250	1	03/07/22	03/08/22	
o-Xylene	ND	0.0250	1	03/07/22	03/08/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/08/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/08/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	93.7 %	70-130		03/07/22	03/08/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/08/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	101 %	70-130		03/07/22	03/08/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2211010
Diesel Range Organics (C10-C28)	47.0	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	62.6	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	105 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2211007
Chloride	ND	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SP3 - 4' South

E203022-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Benzene	ND	0.0250	1	03/07/22	03/08/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/08/22	
Toluene	ND	0.0250	1	03/07/22	03/08/22	
o-Xylene	ND	0.0250	1	03/07/22	03/08/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/08/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/08/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.4 %	70-130		03/07/22	03/08/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/08/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	101 %	70-130		03/07/22	03/08/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2211010
Diesel Range Organics (C10-C28)	60.8	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	82.3	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	105 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2211007
Chloride	ND	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SP3 - 7' South

E203022-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.5 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	102 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2211010
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	115 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2211007
Chloride	ND	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SP4 - 4' South

E203022-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	93.8 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	102 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2211010
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	112 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2211007
Chloride	ND	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SP4 - 7' South

E203022-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.3 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	101 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2211010
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	115 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2211007
Chloride	ND	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SP5 - 4' South

E203022-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.3 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211010	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	116 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211007	
Chloride	ND	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SP5 - 7' South

E203022-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	93.8 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	102 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211010	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	114 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211007	
Chloride	ND	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SP6 - 4' South

E203022-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		93.0 %	70-130	03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		101 %	70-130	03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2211010
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
		112 %	50-200	03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2211007
Chloride	ND	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SW1 - 2' South

E203022-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	93.0 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	102 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211010	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	111 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211007	
Chloride	ND	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SW2 - 2' South

E203022-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	93.7 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	102 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211010	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	115 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211007	
Chloride	ND	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SW3 - 2' South

E203022-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.0 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	101 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211010	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	113 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211007	
Chloride	32.0	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SW4 - 2' South

E203022-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.4 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	103 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211010	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	116 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211007	
Chloride	86.6	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SW5 - 2' South

E203022-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	93.7 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2211010
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	116 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2211007
Chloride	ND	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SW6 - Surface @ treater berm

E203022-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	93.5 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211013
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	102 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2211010
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	114 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2211007
Chloride	1990	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SW7 - Surface @ treater berm

E203022-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.2 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211010	
Diesel Range Organics (C10-C28)	2200	125	5	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	1710	250	5	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	102 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211007	
Chloride	636	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SW8 - 2' South

E203022-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.0 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211010	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	114 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211007	
Chloride	ND	20.0	1	03/07/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Matt Buckles

Reported:
3/9/2022 4:36:49PM

SP6 - 7' South

E203022-20

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.9 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211013	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	101 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211010	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/08/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/08/22	
<i>Surrogate: n-Nonane</i>						
	119 %	50-200		03/07/22	03/08/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211007	
Chloride	ND	20.0	1	03/07/22	03/08/22	



QC Summary Data

Mack Energy	Project Name:	MA B #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Matt Buckles	3/9/2022 4:36:49PM

Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2211013-BLK1)

Prepared: 03/07/22 Analyzed: 03/08/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.78		8.00		97.3	70-130			

LCS (2211013-BS1)

Prepared: 03/07/22 Analyzed: 03/08/22

Benzene	4.69	0.0250	5.00		93.8	70-130			
Ethylbenzene	5.01	0.0250	5.00		100	70-130			
Toluene	5.21	0.0250	5.00		104	70-130			
o-Xylene	4.96	0.0250	5.00		99.3	70-130			
p,m-Xylene	10.2	0.0500	10.0		102	70-130			
Total Xylenes	15.1	0.0250	15.0		101	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.71		8.00		96.4	70-130			

Matrix Spike (2211013-MS1)

Source: E203022-03

Prepared: 03/07/22 Analyzed: 03/08/22

Benzene	4.77	0.0250	5.00	ND	95.4	54-133			
Ethylbenzene	5.07	0.0250	5.00	ND	101	61-133			
Toluene	5.28	0.0250	5.00	ND	106	61-130			
o-Xylene	5.03	0.0250	5.00	ND	101	63-131			
p,m-Xylene	10.3	0.0500	10.0	ND	103	63-131			
Total Xylenes	15.3	0.0250	15.0	ND	102	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.69		8.00		96.1	70-130			

Matrix Spike Dup (2211013-MSD1)

Source: E203022-03

Prepared: 03/07/22 Analyzed: 03/08/22

Benzene	4.79	0.0250	5.00	ND	95.8	54-133	0.347	20	
Ethylbenzene	5.10	0.0250	5.00	ND	102	61-133	0.540	20	
Toluene	5.30	0.0250	5.00	ND	106	61-130	0.459	20	
o-Xylene	5.05	0.0250	5.00	ND	101	63-131	0.504	20	
p,m-Xylene	10.3	0.0500	10.0	ND	103	63-131	0.573	20	
Total Xylenes	15.4	0.0250	15.0	ND	103	63-131	0.551	20	
Surrogate: 4-Bromochlorobenzene-PID	7.64		8.00		95.5	70-130			



QC Summary Data

Mack Energy	Project Name:	MA B #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Matt Buckles	3/9/2022 4:36:49PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2211013-BLK1)

Prepared: 03/07/22 Analyzed: 03/08/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.02		8.00		100	70-130			

LCS (2211013-BS2)

Prepared: 03/07/22 Analyzed: 03/08/22

Gasoline Range Organics (C6-C10)	47.9	20.0	50.0		95.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.93		8.00		99.1	70-130			

Matrix Spike (2211013-MS2)

Source: E203022-03

Prepared: 03/07/22 Analyzed: 03/08/22

Gasoline Range Organics (C6-C10)	48.1	20.0	50.0	ND	96.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.14		8.00		102	70-130			

Matrix Spike Dup (2211013-MSD2)

Source: E203022-03

Prepared: 03/07/22 Analyzed: 03/08/22

Gasoline Range Organics (C6-C10)	48.8	20.0	50.0	ND	97.6	70-130	1.47	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.11		8.00		101	70-130			



QC Summary Data

Mack Energy	Project Name:	MA B #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Matt Buckles	3/9/2022 4:36:49PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2211010-BLK1)

Prepared: 03/07/22 Analyzed: 03/08/22

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: <i>n</i> -Nonane	57.1		50.0		114	50-200			

LCS (2211010-BS1)

Prepared: 03/07/22 Analyzed: 03/08/22

Diesel Range Organics (C10-C28)	466	25.0	500		93.3	38-132			
Surrogate: <i>n</i> -Nonane	56.1		50.0		112	50-200			

Matrix Spike (2211010-MS1)

Source: E203022-04

Prepared: 03/07/22 Analyzed: 03/08/22

Diesel Range Organics (C10-C28)	495	25.0	500	47.0	89.7	38-132			
Surrogate: <i>n</i> -Nonane	56.3		50.0		113	50-200			

Matrix Spike Dup (2211010-MSD1)

Source: E203022-04

Prepared: 03/07/22 Analyzed: 03/08/22

Diesel Range Organics (C10-C28)	501	25.0	500	47.0	90.8	38-132	1.08	20	
Surrogate: <i>n</i> -Nonane	56.1		50.0		112	50-200			



QC Summary Data

Mack Energy	Project Name:	MA B #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Matt Buckles	3/9/2022 4:36:49PM

Anions by EPA 300.0/9056A

Analyst: RAS

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

Blank (2211007-BLK1)					Prepared: 03/07/22 Analyzed: 03/08/22				
Chloride	ND	20.0							
LCS (2211007-BS1)					Prepared: 03/07/22 Analyzed: 03/08/22				
Chloride	246	20.0	250		98.4	90-110			
Matrix Spike (2211007-MS1)					Source: E203022-01		Prepared: 03/07/22 Analyzed: 03/08/22		
Chloride	265	20.0	250	ND	106	80-120			
Matrix Spike Dup (2211007-MSD1)					Source: E203022-01		Prepared: 03/07/22 Analyzed: 03/08/22		
Chloride	267	20.0	250	ND	107	80-120	0.871	20	

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



Definitions and Notes

Mack Energy	Project Name:	MA B #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Matt Buckles	03/09/22 16:36

- 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

Page 1 of 4

Client: <u>Black Energy</u>	Attention: <u>ESS</u>	Lab Use Only		TAT				EPA Program	
Project: <u>MA B #4</u>	Address: <u>2724 New County</u>	Lab WO# <u>EE203022</u>	Job Number <u>20046-0001</u>	1D	2D	3D	Standard	CWA	SDWA
Project Manager: <u>MA B #4</u>	City, State, Zip <u>NM 88240</u>	Analysis and Method				RCRA			
Address:	Phone:					State			
City, State, Zip	Email: <u>Nadake</u>					NM	CO	UT	AZ
Phone:						Remarks			
Mail:									
Report due by:									

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	BDOC NM	BDOC TX						
	3/1	soil	1	SP1-4' South	1														
				SP1-7' "	2														
				SP2-4' "	3														
				SP2-7' "	4														
				SP3-4' "	5														
				SP3-7' "	6														
				SP4-4' "	7														
				SP4-7' "	8														
				SP5-4' "	9														
				SP5-7' "	10														

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: Zen Kumbie

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

Relinquished by: (Signature) <u>[Signature]</u>	Date <u>3/2/22</u>	Time <u>1:45</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>3-2-22</u>	Time <u>1345</u>	Lab Use Only Received on ice: <u>Y</u> / N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>
Relinquished by: (Signature) <u>[Signature]</u>	Date <u>3-2-22</u>	Time <u>1530</u>	Received by: (Signature) <u>Caitlin Chuter</u>	Date <u>3/3/22</u>	Time <u>13:10</u>	
Relinquished by: (Signature) _____	Date _____	Time _____	Received by: (Signature) _____	Date _____	Time _____	

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Released to: [unclear] 7/28/2026 9:22:36 AM

Received by OCD: 7/8/2026 11:54:22 AM

Project Information

Chain of Custody

Client:		Bill To		Lab Use Only		TAT				EPA Program							
Project:		Attention:		Lab WO#		1D		2D		3D		Standard		CWA		SDWA	
Project Manager:		Address:		Job Number													
Address:		City, State, Zip		Analysis and Method												RCRA	
City, State, Zip		Phone:															
Phone:		Email:															
mail:																	
Report due by:																	

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 NM	BGDOC TX	Remarks
	3/1	soil	1	SPL-4'	11									
				SPL-7'										
				SW1-2'	12									
				SW2-2'	13									
				SW3-2'	14									
				SW4-2'	15									
				SW5-2'	16									
				SW6 - Surface @ breaker berm	17									
				SW7 - Surface @ breaker berm	18									
				SW8 - 2'	19									

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only Received on ice: ☒ Y / ☐ N T1 _____ T2 _____ T3 _____ AVG Temp °C 4
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Envirotech Analytical Laboratory

Printed: 3/7/2022 11:32:20AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	03/03/22 13:10	Work Order ID:	E203022
Phone:	(575) 746-9547	Date Logged In:	03/02/22 16:27	Logged In By:	Caitlin Christian
Email:	natalie@energystaffingllc.com	Due Date:	03/09/22 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? No
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: UPSComments/Resolution

Project has been separated into 2 reports due to amount of samples. Workorders are as follows: E203022 COC page 1&2 of 4. E203023 COC page 3&4 of 4. Sample times not provided on the COC. Sample Sp6-7 mislabeled as sp6-5 confirmed w client added to coc.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

Project Information

Chain of Custody

Page 1 of 4

Client: <u>Black Energy</u>		Bill To		Lab Use Only		TAT				EPA Program			
Project: <u>MA B #4</u>		Attention: <u>ESS</u>		Lab WO# <u>203022</u>		Job Number <u>20046-0001</u>		1D	2D	3D	Standard	CWA	SDWA
Project Manager: <u>MA B #4</u>		Address: <u>2724 New County</u>		City, State, Zip <u>NM 88240</u>		Analysis and Method						RCRA	
Address:		Phone:		Email: <u>NWAKE</u>								State	
City, State, Zip												NM CO UT AZ TX	
Phone:													
Email:													
Report due by:													

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BDOC NM	BDOC TX	Remarks
	3/1	Soil	1	SP1 - 4' South	1									
				SP1 - 7' "	2									
				SP2 - 4' "	3									
				SP2 - 7' "	4									
				SP3 - 4' "	5									
				SP3 - 7' "	6									
				SP4 - 4' "	7									
				SP4 - 7' "	8									
				SP5 - 4' "	9									
				SP5 - 7' "	10									

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: Jon Kumble

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

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only Received on ice: <u>Y/N</u> T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>
<u>[Signature]</u>	3/2/22	1:45	<u>[Signature]</u>	3-2-22	1345	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
<u>[Signature]</u>	3-2-22	1530	<u>Caroline Chuter</u>	3/3/22	13:10	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.



Project Information

Chain of Custody

Page 2 of 4

Client: <u>Mack Energy</u>	Bill To	Lab Use Only		TAT				EPA Program	
Project: <u>MAB #4</u>	Attention: <u>ESS</u>	Lab WO#	Job Number	1D	2D	3D	Standard	CWA	SDWA
Project Manager: <u>Math Buckles</u>	Address:	<u>E 203022</u>	<u>20046-001</u>						
Address:	City, State, Zip	Analysis and Method							RCRA
City, State, Zip	Phone:	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	BGDOC TX
Phone:	Email:								State
Email:	<u>Natalie</u>								NM CO UT AZ TX
Report due by:									Remarks

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 NM	BGDOC TX	Remarks
	3/1	soil	1	SPL-4' South	11									
				SPL-7'										No Sample
				SW1-2'	12									3/3/22 CC
				SW2-2'	13									
				SW3-2'	14									
				SW4-2'	15									
				SW5-2'	16									
				SW6 - Surface @ treater berm	17									
				SW7 - Surface @ treater berm	18									
				SW8 - 2' "South"	19									

Additional Instructions:

SPL-7' CC South 20

Added per client 3/4/22

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: J. Kimble

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

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only Received on ice: <u>Y/N</u> T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>
<u>Natalie Buckles</u>	3/2/22	1:48	<u>Sam</u>	3-2-22	1348	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
<u>Sam</u>	3-2-22	1530	<u>Charlie Chute</u>	3/3/22	13:10	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	

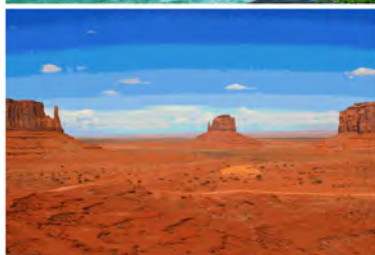
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

 **envirotech**

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: MA B #4

Work Order: E203023

Job Number: 20046-0001

Received: 3/3/2022

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
3/9/22

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 3/9/22



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: MA B #4
Workorder: E203023
Date Received: 3/3/2022 1:10:00PM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 3/3/2022 1:10:00PM, under the Project Name: MA B #4.

The analytical test results summarized in this report with the Project Name: MA B #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

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

Alexa Michaels
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labadmin@envirotech-inc.com

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Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

Mack Energy	Project Name:	MA B #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	03/09/22 16:41

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP1 - 4'	E203023-01A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP1 - 7'	E203023-02A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP2 - 4'	E203023-03A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP2 - 7'	E203023-04A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP3 - 4'	E203023-05A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP4 - 7'	E203023-06A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SW2 - 2'	E203023-07A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SW3 - 2'	E203023-08A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SW4 - 2'	E203023-09A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SW5 - 2'	E203023-10A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SW6 - 2'	E203023-11A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SW1 - 2'	E203023-12A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP4 - 4'	E203023-13A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.
SP3 - 7'	E203023-14A	Soil	03/01/22	03/03/22	Glass Jar, 4 oz.



Sample Data

Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: MA B #4 Project Number: 20046-0001 Project Manager: Natalie Gladden	Reported: 3/9/2022 4:41:11PM
--	---	--

SP1 - 4'

E203023-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	94.8 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	100 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2211009	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/07/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/07/22	
<i>Surrogate: n-Nonane</i>	115 %	50-200		03/07/22	03/07/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: RAS		Batch: 2211016	
Chloride	521	20.0	1	03/08/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
3/9/2022 4:41:11PM

SP1 - 7'

E203023-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211012
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	93.7 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211012
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2211009
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/07/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/07/22	
<i>Surrogate: n-Nonane</i>						
	107 %	50-200		03/07/22	03/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2211016
Chloride	287	20.0	1	03/08/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
3/9/2022 4:41:11PM

SP2 - 4'

E203023-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.9 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211009	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/07/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/07/22	
<i>Surrogate: n-Nonane</i>						
	109 %	50-200		03/07/22	03/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211016	
Chloride	ND	20.0	1	03/08/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
3/9/2022 4:41:11PM

SP2 - 7'

E203023-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Benzene	ND	0.0250	1	03/07/22	03/08/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/08/22	
Toluene	ND	0.0250	1	03/07/22	03/08/22	
o-Xylene	ND	0.0250	1	03/07/22	03/08/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/08/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/08/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.6 %	70-130		03/07/22	03/08/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/08/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	101 %	70-130		03/07/22	03/08/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211009	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/07/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/07/22	
<i>Surrogate: n-Nonane</i>						
	110 %	50-200		03/07/22	03/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211016	
Chloride	ND	20.0	1	03/08/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
3/9/2022 4:41:11PM

SP3 - 4'

E203023-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Benzene	ND	0.0250	1	03/07/22	03/08/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/08/22	
Toluene	ND	0.0250	1	03/07/22	03/08/22	
o-Xylene	ND	0.0250	1	03/07/22	03/08/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/08/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/08/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.2 %	70-130		03/07/22	03/08/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/08/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		03/07/22	03/08/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211009	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/07/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/07/22	
<i>Surrogate: n-Nonane</i>						
	108 %	50-200		03/07/22	03/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211016	
Chloride	404	20.0	1	03/08/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
3/9/2022 4:41:11PM

SP4 - 7'

E203023-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.9 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211009	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/07/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/07/22	
<i>Surrogate: n-Nonane</i>						
	110 %	50-200		03/07/22	03/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211016	
Chloride	209	20.0	1	03/08/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
3/9/2022 4:41:11PM

SW2 - 2'

E203023-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.1 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211009	
Diesel Range Organics (C10-C28)	118	25.0	1	03/07/22	03/07/22	
Oil Range Organics (C28-C36)	190	50.0	1	03/07/22	03/07/22	
<i>Surrogate: n-Nonane</i>						
	111 %	50-200		03/07/22	03/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211016	
Chloride	ND	20.0	1	03/08/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
3/9/2022 4:41:11PM

SW3 - 2'

E203023-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.4 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211009	
Diesel Range Organics (C10-C28)	140	25.0	1	03/07/22	03/07/22	
Oil Range Organics (C28-C36)	230	50.0	1	03/07/22	03/07/22	
<i>Surrogate: n-Nonane</i>						
	117 %	50-200		03/07/22	03/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211016	
Chloride	ND	20.0	1	03/08/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
3/9/2022 4:41:11PM

SW4 - 2'

E203023-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.8 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211009	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/07/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/07/22	
<i>Surrogate: n-Nonane</i>						
	107 %	50-200		03/07/22	03/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211016	
Chloride	ND	20.0	1	03/08/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
3/9/2022 4:41:11PM

SW5 - 2'

E203023-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.6 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211009	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/07/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/07/22	
<i>Surrogate: n-Nonane</i>						
	110 %	50-200		03/07/22	03/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211016	
Chloride	ND	20.0	1	03/08/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
3/9/2022 4:41:11PM

SW6 - 2'

E203023-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.7 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211009	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/07/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/07/22	
<i>Surrogate: n-Nonane</i>						
	109 %	50-200		03/07/22	03/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211016	
Chloride	ND	20.0	1	03/08/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
3/9/2022 4:41:11PM

SW1 - 2'

E203023-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211012
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.2 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2211012
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	98.9 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2211009
Diesel Range Organics (C10-C28)	37.0	25.0	1	03/07/22	03/07/22	
Oil Range Organics (C28-C36)	86.6	50.0	1	03/07/22	03/07/22	
<i>Surrogate: n-Nonane</i>						
	109 %	50-200		03/07/22	03/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2211016
Chloride	ND	20.0	1	03/08/22	03/08/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
3/9/2022 4:41:11PM

SP4 - 4'

E203023-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.1 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	98.4 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211009	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/07/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/07/22	
<i>Surrogate: n-Nonane</i>						
	108 %	50-200		03/07/22	03/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211016	
Chloride	160	20.0	1	03/08/22	03/09/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
3/9/2022 4:41:11PM

SP3 - 7'

E203023-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Benzene	ND	0.0250	1	03/07/22	03/09/22	
Ethylbenzene	ND	0.0250	1	03/07/22	03/09/22	
Toluene	ND	0.0250	1	03/07/22	03/09/22	
o-Xylene	ND	0.0250	1	03/07/22	03/09/22	
p,m-Xylene	ND	0.0500	1	03/07/22	03/09/22	
Total Xylenes	ND	0.0250	1	03/07/22	03/09/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.1 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2211012	
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/07/22	03/09/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	99.4 %	70-130		03/07/22	03/09/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2211009	
Diesel Range Organics (C10-C28)	ND	25.0	1	03/07/22	03/07/22	
Oil Range Organics (C28-C36)	ND	50.0	1	03/07/22	03/07/22	
<i>Surrogate: n-Nonane</i>						
	111 %	50-200		03/07/22	03/07/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2211016	
Chloride	164	20.0	1	03/08/22	03/09/22	



QC Summary Data

Mack Energy	Project Name:	MA B #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	3/9/2022 4:41:11PM

Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2211012-BLK1)

Prepared: 03/07/22 Analyzed: 03/09/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.63		8.00		95.4	70-130			

LCS (2211012-BS1)

Prepared: 03/07/22 Analyzed: 03/09/22

Benzene	4.49	0.0250	5.00		89.8	70-130			
Ethylbenzene	4.77	0.0250	5.00		95.4	70-130			
Toluene	4.98	0.0250	5.00		99.7	70-130			
o-Xylene	4.73	0.0250	5.00		94.6	70-130			
p,m-Xylene	9.66	0.0500	10.0		96.6	70-130			
Total Xylenes	14.4	0.0250	15.0		96.0	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.62		8.00		95.2	70-130			

Matrix Spike (2211012-MS1)

Source: E203023-02

Prepared: 03/07/22 Analyzed: 03/09/22

Benzene	4.72	0.0250	5.00	ND	94.3	54-133			
Ethylbenzene	4.97	0.0250	5.00	ND	99.4	61-133			
Toluene	5.21	0.0250	5.00	ND	104	61-130			
o-Xylene	4.92	0.0250	5.00	ND	98.5	63-131			
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131			
Total Xylenes	15.0	0.0250	15.0	ND	99.9	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.50		8.00		93.7	70-130			

Matrix Spike Dup (2211012-MSD1)

Source: E203023-02

Prepared: 03/07/22 Analyzed: 03/09/22

Benzene	4.62	0.0250	5.00	ND	92.4	54-133	2.03	20	
Ethylbenzene	4.88	0.0250	5.00	ND	97.5	61-133	1.94	20	
Toluene	5.10	0.0250	5.00	ND	102	61-130	2.07	20	
o-Xylene	4.85	0.0250	5.00	ND	97.0	63-131	1.52	20	
p,m-Xylene	9.86	0.0500	10.0	ND	98.6	63-131	2.04	20	
Total Xylenes	14.7	0.0250	15.0	ND	98.1	63-131	1.87	20	
Surrogate: 4-Bromochlorobenzene-PID	7.50		8.00		93.7	70-130			



QC Summary Data

Mack Energy	Project Name:	MA B #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	3/9/2022 4:41:11PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2211012-BLK1)

Prepared: 03/07/22 Analyzed: 03/09/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.97		8.00		99.7	70-130			

LCS (2211012-BS2)

Prepared: 03/07/22 Analyzed: 03/09/22

Gasoline Range Organics (C6-C10)	44.7	20.0	50.0		89.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.21		8.00		103	70-130			

Matrix Spike (2211012-MS2)

Source: E203023-02

Prepared: 03/07/22 Analyzed: 03/09/22

Gasoline Range Organics (C6-C10)	46.7	20.0	50.0	ND	93.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.98		8.00		99.8	70-130			

Matrix Spike Dup (2211012-MSD2)

Source: E203023-02

Prepared: 03/07/22 Analyzed: 03/09/22

Gasoline Range Organics (C6-C10)	46.7	20.0	50.0	ND	93.3	70-130	0.0948	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.10		8.00		101	70-130			



QC Summary Data

Mack Energy	Project Name:	MA B #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	3/9/2022 4:41:11PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2211009-BLK1)

Prepared: 03/07/22 Analyzed: 03/07/22

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: <i>n</i> -Nonane	54.4		50.0		109	50-200			

LCS (2211009-BS1)

Prepared: 03/07/22 Analyzed: 03/07/22

Diesel Range Organics (C10-C28)	445	25.0	500		89.1	38-132			
Surrogate: <i>n</i> -Nonane	51.3		50.0		103	50-200			

Matrix Spike (2211009-MS1)

Source: E203034-01

Prepared: 03/07/22 Analyzed: 03/07/22

Diesel Range Organics (C10-C28)	460	25.0	500	ND	91.9	38-132			
Surrogate: <i>n</i> -Nonane	49.5		50.0		99.0	50-200			

Matrix Spike Dup (2211009-MSD1)

Source: E203034-01

Prepared: 03/07/22 Analyzed: 03/07/22

Diesel Range Organics (C10-C28)	461	25.0	500	ND	92.1	38-132	0.234	20	
Surrogate: <i>n</i> -Nonane	50.0		50.0		99.9	50-200			



QC Summary Data

Mack Energy	Project Name:	MA B #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	3/9/2022 4:41:11PM

Anions by EPA 300.0/9056A

Analyst: RAS

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

Blank (2211016-BLK1)					Prepared: 03/08/22 Analyzed: 03/08/22				
Chloride	ND	20.0							
LCS (2211016-BS1)					Prepared: 03/08/22 Analyzed: 03/08/22				
Chloride	250	20.0	250		99.8	90-110			
Matrix Spike (2211016-MS1)					Source: E203023-01		Prepared: 03/08/22 Analyzed: 03/08/22		
Chloride	598	20.0	250	521	30.8	80-120			M2
Matrix Spike Dup (2211016-MSD1)					Source: E203023-01		Prepared: 03/08/22 Analyzed: 03/08/22		
Chloride	691	20.0	250	521	67.8	80-120	14.3	20	M2

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



Definitions and Notes

Mack Energy	Project Name:	MA B #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	03/09/22 16:41

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

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

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



Released to: [unclear] 7/28/2026 9:22:36 AM

Received by OCD: 7/8/2026 11:54:22 AM

Project Information

Chain of Custody

Client:		Bill To	Lab Use Only		TAT				EPA Program					
Project:			Lab WO#	Job Number	1D	2D	3D	Standard	CWA	SDWA				
Project Manager:			E203023	200416-0001										
Address:			Analysis and Method								RCRA			
City, State, Zip			DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	BGDOC TX	State			
Phone:											NM	CO	UT	AZ
Email:														
Report due by:														

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 NM	BGDOC TX	Remarks
	3/1	Soil	1	SP1-4'	1									
				SP1-7'	2									
				SP2-4'	3									
				SP2-7'	4									
				SP3-4'	5									
				SP4-7'	6									
				SW1-2'	7									
				SW2-2'	8									
				SW3-2'	9									
				SW4-2'	10									

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: J. Kimble

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only Received on ice: ☒ / N T1 _____ T2 _____ T3 _____ AVG Temp °C 4
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

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Envirotech Analytical Laboratory

Printed: 3/7/2022 11:33:43AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	03/03/22 13:10	Work Order ID:	E203023
Phone:	(575) 390-6397	Date Logged In:	03/03/22 08:30	Logged In By:	Caitlin Christian
Email:	Natalie@energystaffingllc.com	Due Date:	03/09/22 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? No
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: UPSComments/Resolution

Project has been separated into 2 reports due to amount of samples. WOs are as follows: E203022 COC page 1&2 of 4. E203023 COC page 3&4 of 4. Sample times not provided. Sample 12 was mislabeled client confirmed sample ID is SW1-2, 2 more samples added.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

Project Information

Chain of Custody

Page 3 of 4

Client: <u>Mack Energy</u>	Bill To	Lab Use Only		TAT				EPA Program	
Project: <u>MA B #4</u>	Attention: <u>ESS</u>	Lab WO#	Job Number	1D	2D	3D	Standard	CWA	SDWA
Project Manager: <u>Matt Buckles</u>	Address:	<u>E203023</u>	<u>200410-001</u>						
Address:	City, State, Zip	Analysis and Method							RCRA
City, State, Zip	Phone:	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	BGDOC TX
Phone:	Email: <u>Natalie</u>								State
Email:									NM CO UT AZ TX
Report due by:									Remarks

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	BGDOC TX	Remarks
	3/1	Soil	1	SP1-4'	1									
				SP1-7'	2									
				SP2-4'	3									
				SP2-7'	4									
				SP3-4'	5									
				SP4-7'	6									
				SW1-2'	7									No Sample
				SW2-2'	7									3/3/22 CC
				SW3-2'	8									
				SW4-2'	9									

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: J. Kimble

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

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only Received on ice: <u>Y/N</u> T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>
<u>[Signature]</u>	3/2/22	1:51	<u>[Signature]</u>	3-2-22	1351	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
<u>[Signature]</u>	3-2-22	1530	<u>[Signature]</u>	3/3/22	13:10	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.


envirotech

Project Information

Chain of Custody

Page 4 of 4

Client: <u>McK Energy</u>		Bill To		Lab Use Only		TAT		EPA Program					
Project: <u>MA B #4</u>		Attention: <u>ESS</u>		Lab WO# <u>E203023</u>		Job Number <u>20046-0001</u>		1D	2D	3D	Standard	CWA	SDWA
Project Manager: <u>Nate Buckles</u>		Address:		Analysis and Method								RCRA	
Address:		City, State, Zip											
City, State, Zip		Phone:											
Phone:		Email: <u>Natalie</u>											
Email:													
Report due by:													

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BDOC NM	BDOC TX	Remarks
	3/1	soil	1	SW5-2'	10	X						X		
	3/1			SW6-2'	11	X						X		
	3/1			SW1-2'	12							X		Samples added per client 3/4/22 cc
	3/1			SP4-4'	13							X		
	3/1			SP3-7'	14							X		

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: J. Kimble

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

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only
<u>[Signature]</u>	3/2/22		<u>[Signature]</u>	3.2.22	1352	Received on ice: <u>(Y)</u> N
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1
<u>[Signature]</u>	3.2.22	1530	<u>[Signature]</u>	3/3/22	13:10	T2
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T3
						AVG Temp °C <u>4</u>

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.



MACK ENERGY: MA B #4 DELINEATION PHOTOS











Company Name: MACK ENERGY

Location Name: MA B #4

WEST

SP ID	Depth	Titr	PID	L-BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL	Dates
COMP 1A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 2A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 3A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 4A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 5A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 6A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP7A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 8A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 9A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 10A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 11A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 12A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP13A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 14A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 15A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 16A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 17A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 18A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 19A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 20A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 21A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 22A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 23A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 24A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 25A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 26A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 27A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 28A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 29A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 30A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022

COMP 31A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 32A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 33A	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
SW COMP 1A	2	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW COMP 2A	2	80	L	ND	ND	ND	ND	ND	20.5	4/22/2022
SW COMP 3A	2	160	H	ND	ND	70.8	122	192.8	ND	4/22/2022
SW COMP 4A	2	160	H	MD	MD	72.8	130	202.8	ND	4/22/2022
SW COMP 5A	2	80	L	ND	ND	ND	ND	ND	259	4/22/2022
SW COMP 6A	2	80	L	ND	ND	ND	ND	ND	219	4/22/2022
SW COMP 7A	2	320	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW COMP 8A	2	320	L	ND	ND	ND	ND	ND	ND	4/22/2022
SOUTH										
COMP 1B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 2B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 3B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 4B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 5B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 6B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 7B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 8B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 9B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 9B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 10B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 11B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 12B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 13B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 14B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 15B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 16B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 17B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 18B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 19B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 20B	2	80	H	ND	ND	112	190	302	ND	4/21/2022
COMP 21B	2	80	H	ND	ND	124	220	344	ND	4/21/2022

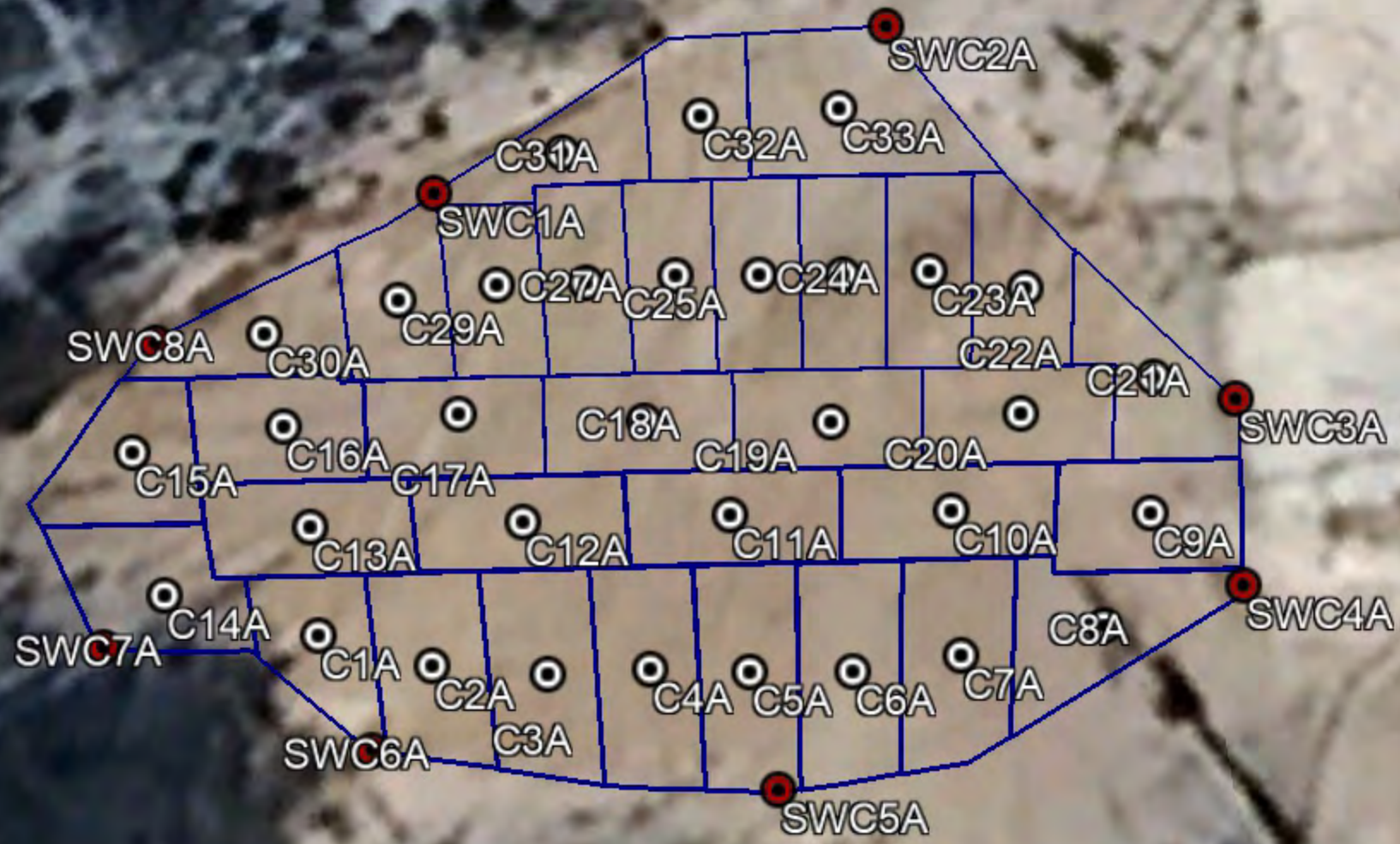
COMP 22B	2	80	H	ND	ND	132	245	377	ND	4/21/2022
COMP 23B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 24B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 25B	2	80	H	ND	ND	39.5	78	117.5	ND	4/21/2022
COMP 26B	2	80	H	ND	ND	61.9	88.6	150.5	ND	4/21/2022
COMP 27B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 28B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 29B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
COMP 30B	2	80	H	ND	ND	29.5	53	82.5	ND	4/21/2022
COMP 31B	2	80	L	ND	ND	ND	ND	ND	ND	4/21/2022
SW1 B	6	1840	L	ND	ND	ND	ND	ND	1630	4/22/2022
SW2 B	6	>4000	L	ND	ND	ND	ND	ND	3450	4/22/2022
SW3 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW4 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW5 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW6 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW7 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW8 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW9 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW10 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW11 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022
SW12 B	4	80	L	ND	ND	ND	ND	ND	ND	4/22/2022

MACK ENERGY

MA B #4
WEST EXCAVATION COMPOSITE MAP

Legend

- COMPOSITES
- EXCAVATION AREA
- SIDEWALL COMPOSITES



COMPANY: MACK ENERGY**LOCATION: MA B #4 WEST**

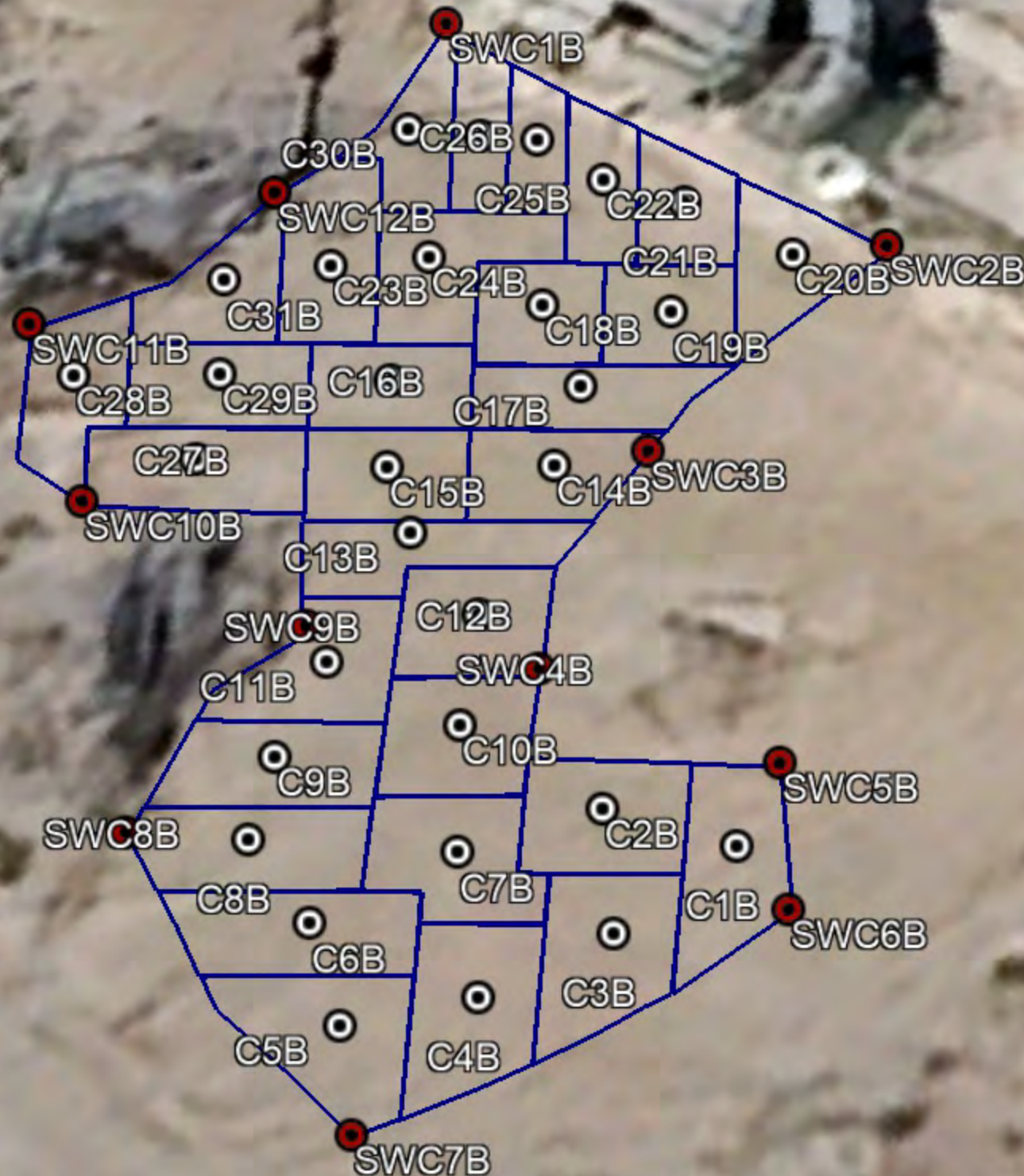
POINT	LATITUDE	LONGITUDE
C1	32.793407°	-103.697810°
C2	32.793396°	-103.697776°
C3	32.793391°	-103.697742°
C4	32.793390°	-103.697712°
C5	32.793387°	-103.697683°
C6	32.793385°	-103.697653°
C7	32.793387°	-103.697621°
C8	32.793392°	-103.697578°
C9	32.793422°	-103.697559°
C10	32.793427°	-103.697619°
C11	32.793431°	-103.697686°
C12	32.793434°	-103.697749°
C13	32.793438°	-103.697814°
C14	32.793422°	-103.697857°
C15	32.793465°	-103.697871°
C16	32.793469°	-103.697824°
C17	32.793468°	-103.697769°
C18	32.793461°	-103.697711°
C19	32.793456°	-103.697653°
C20	32.793454°	-103.697594°
C21	32.793462°	-103.697551°
C22	32.793493°	-103.697587°
C23	32.793501°	-103.697617°
C24	32.793502°	-103.697645°
C25	32.793504°	-103.697672°
C26	32.793506°	-103.697699°
C27	32.793506°	-103.697728°
C28	32.793508°	-103.697757°
C29	32.793506°	-103.697789°
C30	32.793499°	-103.697832°
C31	32.793551°	-103.697735°
C32	32.793560°	-103.697688°
C33	32.793559°	-103.697641°
CSW1	32.793541°	-103.697778°
CSW2	32.793588°	-103.697622°
CSW3	32.793453°	-103.697527°
CSW4	32.793400°	-103.697535°
CSW5	32.793356°	-103.697677°
CSW6	32.793375°	-103.697793°
CSW7	32.793409°	-103.697874°
CSW8	32.793499°	-103.697867°

MACK ENERGY

MAB #4
SOUTH EXCAVATION COMPOSITE MAP

Legend

- COMPOSITES
- EXCAVATION AREA
- SIDEWALL COMPOSITES

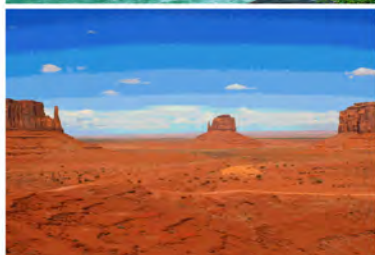


COMPANY: MACK ENERGY**LOCATION: MA B #4 SOUTH**

POINT	LATITUDE	LONGITUDE
C1	32.793214°	-103.697247°
C2	32.793204°	-103.697291°
C3	32.793176°	-103.697265°
C4	32.793143°	-103.697290°
C5	32.793118°	-103.697322°
C6	32.793136°	-103.697350°
C7	32.793173°	-103.697323°
C8	32.793146°	-103.697384°
C9	32.793169°	-103.697394°
C10	32.793204°	-103.697348°
C11	32.793200°	-103.697400°
C12	32.793235°	-103.697366°
C13	32.793246°	-103.697404°
C14	32.793287°	-103.697376°
C15	32.793260°	-103.697426°
C16	32.793285°	-103.697446°
C17	32.793314°	-103.697386°
C18	32.793332°	-103.697417°
C19	32.793351°	-103.697375°
C20	32.793388°	-103.697349°
C21	32.793387°	-103.697396°
C22	32.793381°	-103.697428°
C23	32.793309°	-103.697494°
C24	32.793328°	-103.697465°
C25	32.793383°	-103.697460°
C26	32.793375°	-103.697480°
C27	32.793232°	-103.697486°
C28	32.793235°	-103.697545°
C29	32.793259°	-103.697500°
C30	32.793365°	-103.697506°
C31	32.793287°	-103.697524°
CSW1	32.793407°	-103.697523°
CSW2	32.793406°	-103.697321°
CSW3	32.793306°	-103.697351°
CSW4	32.793230°	-103.697337°
CSW5	32.793241°	-103.697250°
CSW6	32.793206°	-103.697222°
CSW7	32.793097°	-103.697299°
CSW8	32.793130°	-103.697420°
CSW9	32.793206°	-103.697414°
CSW10	32.793203°	-103.697510°

CSW11	32.793242°	-103.697573°
CSW12	32.793322°	-103.697532°

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: MAB 4

Work Order: E204121

Job Number: 20046-0001

Received: 4/25/2022

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
4/29/22

5796 U.S. Hwy 64
Farmington, NM 87401

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



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
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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: 4/29/22



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: MAB 4
Workorder: E204121
Date Received: 4/25/2022 8:10:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/25/2022 8:10:00AM, under the Project Name: MAB 4.

The analytical test results summarized in this report with the Project Name: MAB 4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

Walter Hinchman
Laboratory Director
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Cell: 775-287-1762
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Sample Summary

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	04/29/22 15:55

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Comp 1A	E204121-01A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 2A	E204121-02A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 3A	E204121-03A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 4A	E204121-04A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 5A	E204121-05A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 6A	E204121-06A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 7A	E204121-07A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 8A	E204121-08A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 9A	E204121-09A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 10A	E204121-10A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 11A	E204121-11A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 12A	E204121-12A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 13A	E204121-13A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 14A	E204121-14A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 15A	E204121-15A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 16A	E204121-16A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 17A	E204121-17A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 18A	E204121-18A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 19A	E204121-19A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 20A	E204121-20A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.



Sample Data

Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: MAB 4 Project Number: 20046-0001 Project Manager: Natalie Gladden	Reported: 4/29/2022 3:55:12PM
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Comp 1A

E204121-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218007
Benzene	ND	0.0250	1	04/25/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/27/22	
Toluene	ND	0.0250	1	04/25/22	04/27/22	
o-Xylene	ND	0.0250	1	04/25/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/27/22	
Surrogate: 4-Bromochlorobenzene-PID	98.5 %	70-130		04/25/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218007
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/27/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID	90.2 %	70-130		04/25/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218029
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/26/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/26/22	
Surrogate: n-Nonane	110 %	50-200		04/26/22	04/26/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218012
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 2A

E204121-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Benzene	ND	0.0250	1	04/25/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/27/22	
Toluene	ND	0.0250	1	04/25/22	04/27/22	
o-Xylene	ND	0.0250	1	04/25/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/27/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.2 %	70-130		04/25/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/27/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.2 %	70-130		04/25/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218029	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/26/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/26/22	
<i>Surrogate: n-Nonane</i>						
	101 %	50-200		04/26/22	04/26/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218012	
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy	Project Name:	MAB 4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/29/2022 3:55:12PM

Comp 3A

E204121-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Benzene	ND	0.0250	1	04/25/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/27/22	
Toluene	ND	0.0250	1	04/25/22	04/27/22	
o-Xylene	ND	0.0250	1	04/25/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/27/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	98.0 %	70-130		04/25/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/27/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	89.6 %	70-130		04/25/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: AK		Batch: 2218029	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/26/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/26/22	
<i>Surrogate: n-Nonane</i>	102 %	50-200		04/26/22	04/26/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: RAS		Batch: 2218012	
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 4A

E204121-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Benzene	ND	0.0250	1	04/25/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/28/22	
Toluene	ND	0.0250	1	04/25/22	04/28/22	
o-Xylene	ND	0.0250	1	04/25/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		106 %	70-130	04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		86.5 %	70-130	04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218029	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/26/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/26/22	
<i>Surrogate: n-Nonane</i>						
		102 %	50-200	04/26/22	04/26/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218012	
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 5A

E204121-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Benzene	ND	0.0250	1	04/25/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/27/22	
Toluene	ND	0.0250	1	04/25/22	04/27/22	
o-Xylene	ND	0.0250	1	04/25/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/27/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.4 %	70-130		04/25/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/27/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.9 %	70-130		04/25/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218029	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/26/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/26/22	
<i>Surrogate: n-Nonane</i>						
	101 %	50-200		04/26/22	04/26/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218012	
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 6A

E204121-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B		mg/kg	mg/kg	Analyst: IY		Batch: 2218007
Benzene	ND	0.0250	1	04/25/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/27/22	
Toluene	ND	0.0250	1	04/25/22	04/27/22	
o-Xylene	ND	0.0250	1	04/25/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/27/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		99.0 %	70-130	04/25/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO		mg/kg	mg/kg	Analyst: IY		Batch: 2218007
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/27/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		89.4 %	70-130	04/25/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO		mg/kg	mg/kg	Analyst: AK		Batch: 2218029
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/26/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/26/22	
<i>Surrogate: n-Nonane</i>		104 %	50-200	04/26/22	04/26/22	
Anions by EPA 300.0/9056A		mg/kg	mg/kg	Analyst: RAS		Batch: 2218012
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 7A

E204121-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Benzene	ND	0.0250	1	04/25/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/27/22	
Toluene	ND	0.0250	1	04/25/22	04/27/22	
o-Xylene	ND	0.0250	1	04/25/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/27/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.4 %	70-130		04/25/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/27/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.4 %	70-130		04/25/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218029	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/26/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/26/22	
<i>Surrogate: n-Nonane</i>						
	102 %	50-200		04/26/22	04/26/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218012	
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 8A

E204121-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218007
Benzene	ND	0.0250	1	04/25/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/28/22	
Toluene	ND	0.0250	1	04/25/22	04/28/22	
o-Xylene	ND	0.0250	1	04/25/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218007
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		89.5 %	70-130	04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218029
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/26/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/26/22	
<i>Surrogate: n-Nonane</i>						
		98.9 %	50-200	04/26/22	04/26/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218012
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 9A

E204121-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Benzene	ND	0.0250	1	04/25/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/28/22	
Toluene	ND	0.0250	1	04/25/22	04/28/22	
o-Xylene	ND	0.0250	1	04/25/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		106 %	70-130	04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		89.5 %	70-130	04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218029	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/27/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/27/22	
<i>Surrogate: n-Nonane</i>						
		103 %	50-200	04/26/22	04/27/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218012	
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 10A

E204121-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Benzene	ND	0.0250	1	04/25/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/29/22	
Toluene	ND	0.0250	1	04/25/22	04/29/22	
o-Xylene	ND	0.0250	1	04/25/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		107 %	70-130	04/25/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		88.4 %	70-130	04/25/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218029	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/27/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/27/22	
<i>Surrogate: n-Nonane</i>						
		105 %	50-200	04/26/22	04/27/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218012	
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 11A

E204121-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Benzene	ND	0.0250	1	04/25/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/29/22	
Toluene	ND	0.0250	1	04/25/22	04/29/22	
o-Xylene	ND	0.0250	1	04/25/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		106 %	70-130	04/25/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		88.4 %	70-130	04/25/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218029	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/27/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/27/22	
<i>Surrogate: n-Nonane</i>						
		102 %	50-200	04/26/22	04/27/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218012	
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 12A

E204121-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218007
Benzene	ND	0.0250	1	04/25/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/29/22	
Toluene	ND	0.0250	1	04/25/22	04/29/22	
o-Xylene	ND	0.0250	1	04/25/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		106 %	70-130	04/25/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218007
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		88.7 %	70-130	04/25/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218029
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/27/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/27/22	
<i>Surrogate: n-Nonane</i>						
		104 %	50-200	04/26/22	04/27/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218012
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 13A

E204121-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Benzene	ND	0.0250	1	04/25/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/29/22	
Toluene	ND	0.0250	1	04/25/22	04/29/22	
o-Xylene	ND	0.0250	1	04/25/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		104 %	70-130	04/25/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		88.5 %	70-130	04/25/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218029	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/27/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/27/22	
<i>Surrogate: n-Nonane</i>						
		104 %	50-200	04/26/22	04/27/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218012	
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 14A

E204121-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Benzene	ND	0.0250	1	04/25/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/29/22	
Toluene	ND	0.0250	1	04/25/22	04/29/22	
o-Xylene	ND	0.0250	1	04/25/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		105 %	70-130	04/25/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		88.8 %	70-130	04/25/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218029	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/27/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/27/22	
<i>Surrogate: n-Nonane</i>						
		102 %	50-200	04/26/22	04/27/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218012	
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 15A

E204121-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Benzene	ND	0.0250	1	04/25/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/28/22	
Toluene	ND	0.0250	1	04/25/22	04/28/22	
o-Xylene	ND	0.0250	1	04/25/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.4 %	70-130		04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.8 %	70-130		04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218029	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/27/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/27/22	
<i>Surrogate: n-Nonane</i>						
	103 %	50-200		04/26/22	04/27/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218012	
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 16A

E204121-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Benzene	ND	0.0250	1	04/25/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/28/22	
Toluene	ND	0.0250	1	04/25/22	04/28/22	
o-Xylene	ND	0.0250	1	04/25/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.9 %	70-130		04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.2 %	70-130		04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218029	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/27/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/27/22	
<i>Surrogate: n-Nonane</i>						
	104 %	50-200		04/26/22	04/27/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218012	
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 17A

E204121-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Benzene	ND	0.0250	1	04/25/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/28/22	
Toluene	ND	0.0250	1	04/25/22	04/28/22	
o-Xylene	ND	0.0250	1	04/25/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.5 %	70-130		04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.5 %	70-130		04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218029	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/27/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/27/22	
<i>Surrogate: n-Nonane</i>						
	102 %	50-200		04/26/22	04/27/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218012	
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 18A

E204121-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Benzene	ND	0.0250	1	04/25/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/28/22	
Toluene	ND	0.0250	1	04/25/22	04/28/22	
o-Xylene	ND	0.0250	1	04/25/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.0 %	70-130		04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218007	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.5 %	70-130		04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218029	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/27/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/27/22	
<i>Surrogate: n-Nonane</i>						
	103 %	50-200		04/26/22	04/27/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218012	
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 19A

E204121-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218007
Benzene	ND	0.0250	1	04/25/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/28/22	
Toluene	ND	0.0250	1	04/25/22	04/28/22	
o-Xylene	ND	0.0250	1	04/25/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.0 %	70-130		04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218007
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.6 %	70-130		04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218029
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/27/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/27/22	
<i>Surrogate: n-Nonane</i>						
	103 %	50-200		04/26/22	04/27/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218012
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/29/2022 3:55:12PM

Comp 20A

E204121-20

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218007
Benzene	ND	0.0250	1	04/25/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/25/22	04/28/22	
Toluene	ND	0.0250	1	04/25/22	04/28/22	
o-Xylene	ND	0.0250	1	04/25/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/25/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/25/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.7 %	70-130		04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218007
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/25/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.5 %	70-130		04/25/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218029
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/22	04/27/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/22	04/27/22	
<i>Surrogate: n-Nonane</i>						
	106 %	50-200		04/26/22	04/27/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218012
Chloride	ND	20.0	1	04/25/22	04/28/22	



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/29/2022 3:55:12PM

Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2218007-BLK1)

Prepared: 04/25/22 Analyzed: 04/28/22

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	8.00		8.00		100	70-130			

LCS (2218007-BS1)

Prepared: 04/25/22 Analyzed: 04/28/22

Benzene	5.57	0.0250	5.00		111	70-130			
Ethylbenzene	5.01	0.0250	5.00		100	70-130			
Toluene	5.32	0.0250	5.00		106	70-130			
o-Xylene	5.22	0.0250	5.00		104	70-130			
p,m-Xylene	10.3	0.0500	10.0		103	70-130			
Total Xylenes	15.5	0.0250	15.0		104	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.18		8.00		102	70-130			

Matrix Spike (2218007-MS1)

Source: E204121-04

Prepared: 04/25/22 Analyzed: 04/28/22

Benzene	5.76	0.0250	5.00	ND	115	54-133			
Ethylbenzene	5.20	0.0250	5.00	ND	104	61-133			
Toluene	5.51	0.0250	5.00	ND	110	61-130			
o-Xylene	5.42	0.0250	5.00	ND	108	63-131			
p,m-Xylene	10.7	0.0500	10.0	ND	107	63-131			
Total Xylenes	16.1	0.0250	15.0	ND	108	63-131			
Surrogate: 4-Bromochlorobenzene-PID	8.48		8.00		106	70-130			

Matrix Spike Dup (2218007-MSD1)

Source: E204121-04

Prepared: 04/25/22 Analyzed: 04/28/22

Benzene	5.47	0.0250	5.00	ND	109	54-133	5.09	20	
Ethylbenzene	4.97	0.0250	5.00	ND	99.3	61-133	4.67	20	
Toluene	5.25	0.0250	5.00	ND	105	61-130	4.89	20	
o-Xylene	5.17	0.0250	5.00	ND	103	63-131	4.74	20	
p,m-Xylene	10.2	0.0500	10.0	ND	102	63-131	4.51	20	
Total Xylenes	15.4	0.0250	15.0	ND	103	63-131	4.59	20	
Surrogate: 4-Bromochlorobenzene-PID	8.64		8.00		108	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/29/2022 3:55:12PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2218007-BLK1)

Prepared: 04/25/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.15		8.00		89.3	70-130			

LCS (2218007-BS2)

Prepared: 04/25/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	50.9	20.0	50.0		102	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.98		8.00		87.2	70-130			

Matrix Spike (2218007-MS2)

Source: E204121-04

Prepared: 04/25/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	54.2	20.0	50.0	ND	108	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.13		8.00		89.1	70-130			

Matrix Spike Dup (2218007-MSD2)

Source: E204121-04

Prepared: 04/25/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	50.4	20.0	50.0	ND	101	70-130	7.24	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.09		8.00		88.7	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/29/2022 3:55:12PM

Nonhalogenated Organics by 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
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Blank (2218029-BLK1)					Prepared: 04/26/22 Analyzed: 04/26/22				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	50.0		50.0		100	50-200			

LCS (2218029-BS1)					Prepared: 04/26/22 Analyzed: 04/26/22				
Diesel Range Organics (C10-C28)	482	25.0	500		96.4	38-132			
Surrogate: n-Nonane	50.8		50.0		102	50-200			

Matrix Spike (2218029-MS1)					Source: E204121-05		Prepared: 04/26/22 Analyzed: 04/26/22		
Diesel Range Organics (C10-C28)	483	25.0	500	ND	96.6	38-132			
Surrogate: n-Nonane	51.8		50.0		104	50-200			

Matrix Spike Dup (2218029-MSD1)					Source: E204121-05		Prepared: 04/26/22 Analyzed: 04/26/22		
Diesel Range Organics (C10-C28)	476	25.0	500	ND	95.3	38-132	1.43	20	
Surrogate: n-Nonane	51.0		50.0		102	50-200			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/29/2022 3:55:12PM

Anions by EPA 300.0/9056A

Analyst: RAS

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

Blank (2218012-BLK1)					Prepared: 04/25/22 Analyzed: 04/27/22				
Chloride	ND	20.0							
LCS (2218012-BS1)					Prepared: 04/25/22 Analyzed: 04/28/22				
Chloride	249	20.0	250		99.5	90-110			
Matrix Spike (2218012-MS1)					Source: E204121-01		Prepared: 04/25/22 Analyzed: 04/27/22		
Chloride	290	20.0	250	ND	116	80-120			
Matrix Spike Dup (2218012-MSD1)					Source: E204121-01		Prepared: 04/25/22 Analyzed: 04/27/22		
Chloride	262	20.0	250	ND	105	80-120	10.1	20	

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



Definitions and Notes

Mack Energy	Project Name:	MAB 4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	04/29/22 15:55

- 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.



Chain of Custody

[illegible]

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: MAR CUSCO WHC

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

Relinquished by: (Signature) <i>Mina P.</i>	Date 4/21/22	Time 5:35pm	Received by: (Signature) <i>[Signature]</i>	Date 4-22-22	Time 10:15	Lab Use Only Received on Ice: ☒ Y / ☐ N
Relinquished by: (Signature) <i>[Signature]</i>	Date 4-22-22	Time 1530	Received by: (Signature) <i>[Signature]</i>	Date 4/25/22	Time 8:10	T1 _____ T2 _____ T3 _____
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	AVG Temp °C <u>4</u>

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Page 31 of 33 be returned to client or disposed of at the client expense. The report for the analysis of the above

Project Information

Chain of Custody

Page 2 of 7

Client: <u>MACK ENERGY</u>					Bill To					Lab Use Only					TAT				EPA Program																							
Project: <u>MAB 4</u>					Attention: <u>ESS</u>					Lab WO# <u>E 204121</u>					Job Number <u>80046-0001</u>				1D	2D	3D	Standard	CWA	SDWA																		
Project Manager:					Address: <u>2427 W. COUNTY RD</u>					Analysis and Method									RCRA																							
Address:					City, State, Zip <u>HOBBS NM 88240</u>																																					
City, State, Zip					Phone: <u>575 3906397</u>					DRO/ORO by 8015					GRO/DRO by 8015				BTEX by 8021				VOC by 8260				Metals 6010				Chloride 300.0				BGDOC NM				BGDOC TX			
Phone:					Email: <u>NATALIE GLADON</u>																																					
Email:																																										
Report due by:																																										
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	Remarks																																				
	4/21/22	S	1	COMP 11A	11																																					
				12A	12																																					
				13A	13																																					
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				17A	17																																					
				18A	18																																					
				19A	19																																					
				20A	20																																					

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

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

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only
	4/21/22	5:35pm		4-22-22	10:15	Received on ice: ☒ N
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1
	4-22-22	1530		4/25/22	8:10	T2
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T3
						AVG Temp °C <u>4</u>

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Page 32 of 33 be returned to client or disposed of at the client expense. The report for the analysis of the above

Envirotech Analytical Laboratory

Printed: 4/25/2022 10:03:52AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	04/25/22 08:10	Work Order ID:	E204121
Phone:	(575) 390-6397	Date Logged In:	04/22/22 10:55	Logged In By:	Alexa Michaels
Email:	Natalie@energystaffingllc.com	Due Date:	04/29/22 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierSample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client InstructionComments/Resolution

Project has been separated into 3 reports due to amount of samples. Workorders are as follows: E204121 COC Page 1&2 of 7, E204122 COC page 3&4 of 7, E204123 COC page 5,6,7 of 7. Time sampled not provided on COC

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

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: MAB 4
Work Order: E204122
Job Number: 20046-0001
Received: 4/25/2022

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
5/2/22

5796 U.S. Hwy 64
Farmington, NM 87401
Phone: (505) 632-1881
Envirotech-inc.com



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

Date Reported: 5/2/22



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: MAB 4
Workorder: E204122
Date Received: 4/25/2022 8:10:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/25/2022 8:10:00AM, under the Project Name: MAB 4.

The analytical test results summarized in this report with the Project Name: MAB 4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

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

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ljjarboe@envirotech-inc.com

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

Envirotech Web Address: www.envirotech-inc.com

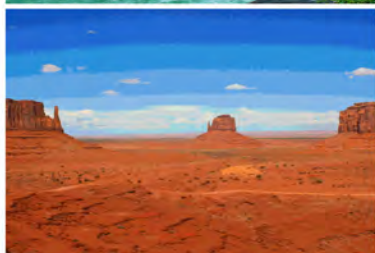
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Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: MAB 4

Work Order: E204123

Job Number: 20046-0001

Received: 4/25/2022

Revision: 2

Report Reviewed By:

Walter Hinchman
Laboratory Director
5/2/22

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 5/2/22



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: MAB 4
Workorder: E204123
Date Received: 4/25/2022 8:10:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/25/2022 8:10:00AM, under the Project Name: MAB 4.

The analytical test results summarized in this report with the Project Name: MAB 4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

Walter Hinchman
Laboratory Director
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Cell: 775-287-1762
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Raina Schwanz
Laboratory Administrator
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labadmin@envirotech-inc.com

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Envirotech Web Address: www.envirotech-inc.com

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Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

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Sample Summary

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/02/22 15:32

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Comp 8B	E204123-01A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 9B	E204123-02A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 10B	E204123-03A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 11B	E204123-04A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 14B	E204123-05A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 15B	E204123-06A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 16B	E204123-07A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 17B	E204123-08A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 18B	E204123-09A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 19B	E204123-10A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 20B	E204123-11A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 21B	E204123-12A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 22B	E204123-13A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 23B	E204123-14A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 24B	E204123-15A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 25B	E204123-16A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 26B	E204123-17A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 27B	E204123-18A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 28B	E204123-19A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 29B	E204123-20A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 30B	E204123-21A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 31B	E204123-22A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 12B	E204123-23A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 13B	E204123-24A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 8B

E204123-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.4 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	104 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218040
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	105 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218016
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 9B

E204123-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.6 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	105 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	103 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 10B

E204123-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.0 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	105 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	110 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 11B

E204123-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.1 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	87.1 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	116 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 14B

E204123-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.5 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	104 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	113 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 15B

E204123-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.3 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	102 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218040
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	112 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218016
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 16B

E204123-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		98.6 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
		113 %	50-200	04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 17B

E204123-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		100 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		97.0 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
		113 %	50-200	04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 18B

E204123-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.0 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	125 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 19B

E204123-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.9 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.4 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	114 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 20B

E204123-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.3 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.0 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218040
Diesel Range Organics (C10-C28)	112	50.0	2	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	190	100	2	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	116 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218016
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 21B

E204123-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	98.6 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	96.1 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	124	50.0	2	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	220	100	2	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>	136 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 22B

E204123-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.7 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.7 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218040
Diesel Range Organics (C10-C28)	132	50.0	2	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	245	100	2	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	136 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218016
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 23B

E204123-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.7 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.3 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218040
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	118 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218016
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 24B

E204123-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.4 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	117 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 25B

E204123-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.4 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	39.5	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	78.0	50.0	1	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	127 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 26B

E204123-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.8 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	97.6 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	61.9	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	88.6	50.0	1	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	121 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 27B

E204123-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.7 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	95.9 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	118 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 28B

E204123-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.6 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.1 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	115 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 29B

E204123-20

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	05/02/22	
Ethylbenzene	ND	0.0250	1	04/26/22	05/02/22	
Toluene	ND	0.0250	1	04/26/22	05/02/22	
o-Xylene	ND	0.0250	1	04/26/22	05/02/22	
p,m-Xylene	ND	0.0500	1	04/26/22	05/02/22	
Total Xylenes	ND	0.0250	1	04/26/22	05/02/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.1 %	70-130		04/26/22	05/02/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	05/02/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.4 %	70-130		04/26/22	05/02/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	107 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 30B

E204123-21

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Benzene	ND	0.0250	1	04/26/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/27/22	
Toluene	ND	0.0250	1	04/26/22	04/27/22	
o-Xylene	ND	0.0250	1	04/26/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/27/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		100 %	70-130	04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/27/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		88.0 %	70-130	04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218039
Diesel Range Organics (C10-C28)	29.5	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	53.0	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
		72.0 %	50-200	04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218014
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 31B

E204123-22

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Benzene	ND	0.0250	1	04/26/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/27/22	
Toluene	ND	0.0250	1	04/26/22	04/27/22	
o-Xylene	ND	0.0250	1	04/26/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/27/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/27/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		90.4 %	70-130	04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218039
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
		109 %	50-200	04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218014
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 12B

E204123-23

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		89.8 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218039
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
		106 %	50-200	04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218014
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 13B

E204123-24

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		89.9 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218039
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
		110 %	50-200	04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218014
Chloride	ND	20.0	1	04/25/22	04/27/22	



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2218024-BLK1)

Prepared: 04/26/22 Analyzed: 04/28/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.96		8.00		99.5	70-130			

LCS (2218024-BS1)

Prepared: 04/26/22 Analyzed: 04/28/22

Benzene	5.28	0.0250	5.00		106	70-130			
Ethylbenzene	5.30	0.0250	5.00		106	70-130			
Toluene	5.60	0.0250	5.00		112	70-130			
o-Xylene	5.25	0.0250	5.00		105	70-130			
p,m-Xylene	10.8	0.0500	10.0		108	70-130			
Total Xylenes	16.0	0.0250	15.0		107	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.88		8.00		98.5	70-130			

Matrix Spike (2218024-MS1)

Source: E204123-04

Prepared: 04/26/22 Analyzed: 04/28/22

Benzene	5.76	0.0250	5.00	ND	115	54-133			
Ethylbenzene	5.71	0.0250	5.00	ND	114	61-133			
Toluene	6.05	0.0250	5.00	ND	121	61-130			
o-Xylene	5.64	0.0250	5.00	ND	113	63-131			
p,m-Xylene	11.6	0.0500	10.0	ND	116	63-131			
Total Xylenes	17.2	0.0250	15.0	ND	115	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.81		8.00		97.7	70-130			

Matrix Spike Dup (2218024-MSD1)

Source: E204123-04

Prepared: 04/26/22 Analyzed: 04/28/22

Benzene	5.66	0.0250	5.00	ND	113	54-133	1.82	20	
Ethylbenzene	5.63	0.0250	5.00	ND	113	61-133	1.44	20	
Toluene	5.91	0.0250	5.00	ND	118	61-130	2.23	20	
o-Xylene	5.58	0.0250	5.00	ND	112	63-131	1.22	20	
p,m-Xylene	11.4	0.0500	10.0	ND	114	63-131	1.43	20	
Total Xylenes	17.0	0.0250	15.0	ND	113	63-131	1.36	20	
Surrogate: 4-Bromochlorobenzene-PID	7.78		8.00		97.3	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Volatile Organics by EPA 8021B

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
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Blank (2218028-BLK1)

Prepared: 04/26/22 Analyzed: 04/27/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.90		8.00		98.7	70-130			

LCS (2218028-BS1)

Prepared: 04/26/22 Analyzed: 04/27/22

Benzene	5.56	0.0250	5.00		111	70-130			
Ethylbenzene	4.99	0.0250	5.00		99.9	70-130			
Toluene	5.31	0.0250	5.00		106	70-130			
o-Xylene	5.20	0.0250	5.00		104	70-130			
p,m-Xylene	10.3	0.0500	10.0		103	70-130			
Total Xylenes	15.5	0.0250	15.0		103	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.08		8.00		101	70-130			

Matrix Spike (2218028-MS1)

Source: E204123-21

Prepared: 04/26/22 Analyzed: 04/27/22

Benzene	5.15	0.0250	5.00	ND	103	54-133			
Ethylbenzene	4.63	0.0250	5.00	ND	92.5	61-133			
Toluene	4.92	0.0250	5.00	ND	98.3	61-130			
o-Xylene	4.84	0.0250	5.00	ND	96.7	63-131			
p,m-Xylene	9.53	0.0500	10.0	ND	95.3	63-131			
Total Xylenes	14.4	0.0250	15.0	ND	95.8	63-131			
Surrogate: 4-Bromochlorobenzene-PID	8.18		8.00		102	70-130			

Matrix Spike Dup (2218028-MSD1)

Source: E204123-21

Prepared: 04/26/22 Analyzed: 04/27/22

Benzene	5.46	0.0250	5.00	ND	109	54-133	5.95	20	
Ethylbenzene	4.92	0.0250	5.00	ND	98.4	61-133	6.16	20	
Toluene	5.22	0.0250	5.00	ND	104	61-130	6.07	20	
o-Xylene	5.14	0.0250	5.00	ND	103	63-131	6.14	20	
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131	5.91	20	
Total Xylenes	15.3	0.0250	15.0	ND	102	63-131	5.99	20	
Surrogate: 4-Bromochlorobenzene-PID	8.27		8.00		103	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2218024-BLK1)

Prepared: 04/26/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.08		8.00		88.5	70-130			

LCS (2218024-BS2)

Prepared: 04/26/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	46.2	20.0	50.0		92.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.16		8.00		89.5	70-130			

Matrix Spike (2218024-MS2)

Source: E204123-04

Prepared: 04/26/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	46.6	20.0	50.0	ND	93.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.15		8.00		89.4	70-130			

Matrix Spike Dup (2218024-MSD2)

Source: E204123-04

Prepared: 04/26/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	46.4	20.0	50.0	ND	92.8	70-130	0.405	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.16		8.00		89.5	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Nonhalogenated Organics by EPA 8015D - GRO

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
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Blank (2218028-BLK1) Prepared: 04/26/22 Analyzed: 04/27/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.09		8.00		88.6	70-130			

LCS (2218028-BS2) Prepared: 04/26/22 Analyzed: 04/27/22

Gasoline Range Organics (C6-C10)	47.2	20.0	50.0		94.3	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.26		8.00		90.7	70-130			

Matrix Spike (2218028-MS2) Source: E204123-21 Prepared: 04/26/22 Analyzed: 04/27/22

Gasoline Range Organics (C6-C10)	47.3	20.0	50.0	ND	94.7	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.21		8.00		90.1	70-130			

Matrix Spike Dup (2218028-MSD2) Source: E204123-21 Prepared: 04/26/22 Analyzed: 04/27/22

Gasoline Range Organics (C6-C10)	54.6	20.0	50.0	ND	109	70-130	14.2	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.17		8.00		89.6	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2218039-BLK1) Prepared: 04/28/22 Analyzed: 04/28/22

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	52.4		50.0		105	50-200			

LCS (2218039-BS1) Prepared: 04/28/22 Analyzed: 04/28/22

Diesel Range Organics (C10-C28)	437	25.0	500		87.4	38-132			
Surrogate: n-Nonane	51.3		50.0		103	50-200			

Matrix Spike (2218039-MS1) Source: E204134-01 Prepared: 04/28/22 Analyzed: 04/28/22

Diesel Range Organics (C10-C28)	443	25.0	500	ND	88.6	38-132			
Surrogate: n-Nonane	52.4		50.0		105	50-200			

Matrix Spike Dup (2218039-MSD1) Source: E204134-01 Prepared: 04/28/22 Analyzed: 04/28/22

Diesel Range Organics (C10-C28)	485	25.0	500	ND	97.0	38-132	9.06	20	
Surrogate: n-Nonane	55.5		50.0		111	50-200			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Nonhalogenated Organics by 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
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Blank (2218040-BLK1)					Prepared: 04/28/22 Analyzed: 04/28/22				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	53.4		50.0		107	50-200			

LCS (2218040-BS1)					Prepared: 04/28/22 Analyzed: 04/28/22				
Diesel Range Organics (C10-C28)	529	25.0	500		106	38-132			
Surrogate: n-Nonane	55.5		50.0		111	50-200			

Matrix Spike (2218040-MS1)					Source: E204123-01		Prepared: 04/28/22 Analyzed: 04/28/22		
Diesel Range Organics (C10-C28)	550	25.0	500	ND	110	38-132			
Surrogate: n-Nonane	57.1		50.0		114	50-200			

Matrix Spike Dup (2218040-MSD1)					Source: E204123-01		Prepared: 04/28/22 Analyzed: 04/28/22		
Diesel Range Organics (C10-C28)	510	25.0	500	ND	102	38-132	7.45	20	
Surrogate: n-Nonane	53.2		50.0		106	50-200			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Anions by EPA 300.0/9056A

Analyst: RAS

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

Blank (2218014-BLK1)					Prepared: 04/25/22 Analyzed: 04/27/22				
Chloride	ND	20.0							
LCS (2218014-BS1)					Prepared: 04/25/22 Analyzed: 04/27/22				
Chloride	267	20.0	250		107	90-110			
Matrix Spike (2218014-MS1)					Source: E204132-01		Prepared: 04/25/22 Analyzed: 04/28/22		
Chloride	1330	400	250	1060	106	80-120			
Matrix Spike Dup (2218014-MSD1)					Source: E204132-01		Prepared: 04/25/22 Analyzed: 04/28/22		
Chloride	1620	400	250	1060	222	80-120	19.6	20	M2



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Anions by EPA 300.0/9056A

Analyst: RAS

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

Blank (2218016-BLK1)					Prepared: 04/25/22 Analyzed: 04/28/22				
Chloride	ND	20.0							
LCS (2218016-BS1)					Prepared: 04/25/22 Analyzed: 04/28/22				
Chloride	248	20.0	250		99.3	90-110			
Matrix Spike (2218016-MS1)					Source: E204123-01		Prepared: 04/25/22 Analyzed: 04/28/22		
Chloride	254	20.0	250	ND	102	80-120			
Matrix Spike Dup (2218016-MSD1)					Source: E204123-01		Prepared: 04/25/22 Analyzed: 04/28/22		
Chloride	253	20.0	250	ND	101	80-120	0.151	20	

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



Definitions and Notes

Mack Energy	Project Name:	MAB 4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/02/22 15:32

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

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

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

Project Information

Chain of Custody

Page 5 of 7

Client: <u>MAC ENERGY</u>		Bill To		Lab Use Only		TAT				EPA Program			
Project: <u>MAB 4</u>		Attention: <u>ESS</u>		Lab WO# <u>E204123</u>		Job Number <u>20046-0001</u>		1D	2D	3D	Standard	CWA	SDWA
Project Manager:		Address: <u>2427 W GUNTER</u>											
Address:		City, State, Zip: <u>40305 NM 88240</u>											RCRA
City, State, Zip		Phone: <u>575 390-6397</u>											
Phone:		Email: <u>NATALIE BLADON</u>											
Email:													
Report due by:													

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 NM	BGDOC TX	Remarks
	4/21/22	S	1	COMP 8B	1							X		
				9B	2									
				10B	3									
				11B	4									
				14B	5									
				15B	6									
				16B	7									
				17B	8									
				18B	9									
				19B	10									

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: MAC RIVERA - M

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

Relinquished by: (Signature) <u>M</u>	Date <u>4/21/22</u>	Time	Received by: (Signature) <u>Mac Rivera</u>	Date <u>4-22-22</u>	Time <u>1015</u>	Lab Use Only
Relinquished by: (Signature) <u>Mac Rivera</u>	Date <u>4-22-22</u>	Time <u>1530</u>	Received by: (Signature) <u>Patricia Chute</u>	Date <u>4/25/22</u>	Time <u>8:10</u>	Received on ice: <u>Y/N</u>
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1: T2: T3:
AVG Temp °C <u>4</u>						

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Page 39 of 42 be returned to client or disposed of at the client expense. The report for the analysis of the above

Project Information

Chain of Custody

Page 6 of 7

Client: <u>MACX ENERGY</u>		Bill To		Lab Use Only		TAT		EPA Program					
Project: <u>MAC 4</u>		Attention: <u>ESS</u>		Lab WO# <u>E604123</u>		Job Number <u>20046-001</u>		1D	2D	3D	Standard	CWA	SDWA
Project Manager:		Address: <u>2427 W. COUNTY RD</u>		Analysis and Method								RCRA	
Address:		City, State, Zip: <u>ALBUQUERQUE NM 88240</u>											
City, State, Zip		Phone: <u>575 390-6397</u>		DRO/ORO by 8015		GRO/DRO by 8015		BTEX by 8021		VOC by 8260		Metals 6010	
Phone:		Email: <u>NATALIE GLADSON</u>		Chloride 300.0		BGDOC NM		BGDOC TX				State	
Email:												NM CO UT AZ TX	
Report due by:												Remarks	

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 NM	BGDOC TX	Remarks
	4/21/22	S	1	COMP 203	11							X		
				213	12									
				22B	13									
				23B	14									
				24B	15									
				25B	16									
				26B	17									
				27B	18									
				28B	19									
				29B	20									

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: MARCO RIVERA

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

Relinquished by: (Signature) <u>[Signature]</u>	Date <u>4/21/22</u>	Time	Received by: (Signature) <u>[Signature]</u>	Date <u>4-22-22</u>	Time <u>1015</u>	Lab Use Only
Relinquished by: (Signature) <u>[Signature]</u>	Date <u>4-22-22</u>	Time <u>1530</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>4/25/22</u>	Time <u>8:10</u>	Received on ice: <u>Y/N</u>
Relinquished by: (Signature) <u>[Signature]</u>	Date	Time	Received by: (Signature)	Date	Time	T1 T2 T3
AVG Temp °C <u>4</u>						

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Page 40 of 42 be returned to client or disposed of at the client expense. The report for the analysis of the above

Project Information

Chain of Custody

Page 7 of 7

Client: <u>MACK ENERGY</u>		Bill To		Lab Use Only		TAT		EPA Program					
Project: <u>MAB 4</u>		Attention: <u>ESS</u>		Lab WO# <u>E204123</u>		Job Number <u>20046-0001</u>		1D	2D	3D	Standard	CWA	SDWA
Project Manager:		Address: <u>247 W. COUNTY RD</u>		Analysis and Method								RCRA	
Address:		City, State, Zip: <u>WARS W-M 88240</u>											
City, State, Zip		Phone: <u>575 390-6397</u>											
Phone:		Email: <u>NATALIE GLADEN</u>											
Email:													
Report due by:													

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 NM	BGDOC TX	Remarks
	7/16/22	S	1	COMP 30B	21							X		
	7/16/22	S	1	31B	22							S		

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: MACK RIVOLA

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

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only
<u>[Signature]</u>	7/16/22		<u>[Signature]</u>	4-22-22	10:15	Received on ice: <u>(Y)</u> N
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1
<u>[Signature]</u>	4-22-22	15:30	<u>[Signature]</u>	4/25/22	8:10	T2
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T3
						AVG Temp °C <u>4</u>

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Page 41 of 42 be returned to client or disposed of at the client expense. The report for the analysis of the above

Envirotech Analytical Laboratory

Printed: 4/25/2022 10:19:34AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	04/25/22 08:10	Work Order ID:	E204123
Phone:	(575) 390-6397	Date Logged In:	04/22/22 11:11	Logged In By:	Alexa Michaels
Email:	Natalie@energystaffingllc.com	Due Date:	04/29/22 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? No
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierSample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client InstructionComments/Resolution

Project has been separated into 3 reports due to amount of samples. Workorders are as follows: E204121 COC Page 1&2 of 7, E204122 COC page 3&4 of 7, E204123 COC page 5,6,7 of 7. Time sampled not provided on COC. Comp 12B, Comp 13B added to COC.

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

Date



envirotech Inc.

Sample Summary

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/02/22 15:32

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Comp 8B	E204123-01A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 9B	E204123-02A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 10B	E204123-03A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 11B	E204123-04A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 14B	E204123-05A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 15B	E204123-06A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 16B	E204123-07A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 17B	E204123-08A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 18B	E204123-09A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 19B	E204123-10A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 20B	E204123-11A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 21B	E204123-12A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 22B	E204123-13A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 23B	E204123-14A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 24B	E204123-15A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 25B	E204123-16A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 26B	E204123-17A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 27B	E204123-18A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 28B	E204123-19A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 29B	E204123-20A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 30B	E204123-21A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 31B	E204123-22A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 12B	E204123-23A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 13B	E204123-24A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 8B

E204123-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.4 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	104 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218040
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	105 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218016
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 9B

E204123-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.6 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	105 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	103 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 10B

E204123-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.0 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	105 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	110 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 11B

E204123-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.1 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	87.1 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	116 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 14B

E204123-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.5 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	104 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	113 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 15B

E204123-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.3 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	102 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218040
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	112 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218016
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 16B

E204123-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		98.6 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
		113 %	50-200	04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 17B

E204123-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		100 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		97.0 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
		113 %	50-200	04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 18B

E204123-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.0 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	125 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 19B

E204123-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.9 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.4 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	114 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 20B

E204123-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.3 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.0 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	112	50.0	2	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	190	100	2	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
	116 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 21B

E204123-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.6 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.1 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	124	50.0	2	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	220	100	2	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	136 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 22B

E204123-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.7 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.7 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218040
Diesel Range Organics (C10-C28)	132	50.0	2	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	245	100	2	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	136 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218016
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 23B

E204123-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.7 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.3 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	118 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 24B

E204123-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.4 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	117 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 25B

E204123-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.4 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218040
Diesel Range Organics (C10-C28)	39.5	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	78.0	50.0	1	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	127 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218016
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 26B

E204123-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.8 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	97.6 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	61.9	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	88.6	50.0	1	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	121 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 27B

E204123-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.7 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218024
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	95.9 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218040
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	118 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218016
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 28B

E204123-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	04/29/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/29/22	
Toluene	ND	0.0250	1	04/26/22	04/29/22	
o-Xylene	ND	0.0250	1	04/26/22	04/29/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/29/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/29/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.6 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/29/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.1 %	70-130		04/26/22	04/29/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	115 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 29B

E204123-20

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Benzene	ND	0.0250	1	04/26/22	05/02/22	
Ethylbenzene	ND	0.0250	1	04/26/22	05/02/22	
Toluene	ND	0.0250	1	04/26/22	05/02/22	
o-Xylene	ND	0.0250	1	04/26/22	05/02/22	
p,m-Xylene	ND	0.0500	1	04/26/22	05/02/22	
Total Xylenes	ND	0.0250	1	04/26/22	05/02/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.1 %	70-130		04/26/22	05/02/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218024	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	05/02/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.4 %	70-130		04/26/22	05/02/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: AK		Batch: 2218040	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/29/22	
<i>Surrogate: n-Nonane</i>						
	107 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218016	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 30B

E204123-21

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Benzene	ND	0.0250	1	04/26/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/27/22	
Toluene	ND	0.0250	1	04/26/22	04/27/22	
o-Xylene	ND	0.0250	1	04/26/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/27/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		100 %	70-130	04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/27/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		88.0 %	70-130	04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218039
Diesel Range Organics (C10-C28)	29.5	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	53.0	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
		72.0 %	50-200	04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218014
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 31B

E204123-22

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Benzene	ND	0.0250	1	04/26/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/27/22	
Toluene	ND	0.0250	1	04/26/22	04/27/22	
o-Xylene	ND	0.0250	1	04/26/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/27/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/27/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		90.4 %	70-130	04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218039
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
		109 %	50-200	04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218014
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 12B

E204123-23

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		89.8 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218039
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
		106 %	50-200	04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218014
Chloride	ND	20.0	1	04/25/22	04/27/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 3:32:53PM

Comp 13B

E204123-24

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2218028
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		89.9 %	70-130	04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: AK		Batch: 2218039
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>						
		110 %	50-200	04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218014
Chloride	ND	20.0	1	04/25/22	04/27/22	



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2218024-BLK1)

Prepared: 04/26/22 Analyzed: 04/28/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.96		8.00		99.5	70-130			

LCS (2218024-BS1)

Prepared: 04/26/22 Analyzed: 04/28/22

Benzene	5.28	0.0250	5.00		106	70-130			
Ethylbenzene	5.30	0.0250	5.00		106	70-130			
Toluene	5.60	0.0250	5.00		112	70-130			
o-Xylene	5.25	0.0250	5.00		105	70-130			
p,m-Xylene	10.8	0.0500	10.0		108	70-130			
Total Xylenes	16.0	0.0250	15.0		107	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.88		8.00		98.5	70-130			

Matrix Spike (2218024-MS1)

Source: E204123-04

Prepared: 04/26/22 Analyzed: 04/28/22

Benzene	5.76	0.0250	5.00	ND	115	54-133			
Ethylbenzene	5.71	0.0250	5.00	ND	114	61-133			
Toluene	6.05	0.0250	5.00	ND	121	61-130			
o-Xylene	5.64	0.0250	5.00	ND	113	63-131			
p,m-Xylene	11.6	0.0500	10.0	ND	116	63-131			
Total Xylenes	17.2	0.0250	15.0	ND	115	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.81		8.00		97.7	70-130			

Matrix Spike Dup (2218024-MSD1)

Source: E204123-04

Prepared: 04/26/22 Analyzed: 04/28/22

Benzene	5.66	0.0250	5.00	ND	113	54-133	1.82	20	
Ethylbenzene	5.63	0.0250	5.00	ND	113	61-133	1.44	20	
Toluene	5.91	0.0250	5.00	ND	118	61-130	2.23	20	
o-Xylene	5.58	0.0250	5.00	ND	112	63-131	1.22	20	
p,m-Xylene	11.4	0.0500	10.0	ND	114	63-131	1.43	20	
Total Xylenes	17.0	0.0250	15.0	ND	113	63-131	1.36	20	
Surrogate: 4-Bromochlorobenzene-PID	7.78		8.00		97.3	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Volatile Organics by EPA 8021B

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
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Blank (2218028-BLK1)

Prepared: 04/26/22 Analyzed: 04/27/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.90		8.00		98.7	70-130			

LCS (2218028-BS1)

Prepared: 04/26/22 Analyzed: 04/27/22

Benzene	5.56	0.0250	5.00		111	70-130			
Ethylbenzene	4.99	0.0250	5.00		99.9	70-130			
Toluene	5.31	0.0250	5.00		106	70-130			
o-Xylene	5.20	0.0250	5.00		104	70-130			
p,m-Xylene	10.3	0.0500	10.0		103	70-130			
Total Xylenes	15.5	0.0250	15.0		103	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.08		8.00		101	70-130			

Matrix Spike (2218028-MS1)

Source: E204123-21

Prepared: 04/26/22 Analyzed: 04/27/22

Benzene	5.15	0.0250	5.00	ND	103	54-133			
Ethylbenzene	4.63	0.0250	5.00	ND	92.5	61-133			
Toluene	4.92	0.0250	5.00	ND	98.3	61-130			
o-Xylene	4.84	0.0250	5.00	ND	96.7	63-131			
p,m-Xylene	9.53	0.0500	10.0	ND	95.3	63-131			
Total Xylenes	14.4	0.0250	15.0	ND	95.8	63-131			
Surrogate: 4-Bromochlorobenzene-PID	8.18		8.00		102	70-130			

Matrix Spike Dup (2218028-MSD1)

Source: E204123-21

Prepared: 04/26/22 Analyzed: 04/27/22

Benzene	5.46	0.0250	5.00	ND	109	54-133	5.95	20	
Ethylbenzene	4.92	0.0250	5.00	ND	98.4	61-133	6.16	20	
Toluene	5.22	0.0250	5.00	ND	104	61-130	6.07	20	
o-Xylene	5.14	0.0250	5.00	ND	103	63-131	6.14	20	
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131	5.91	20	
Total Xylenes	15.3	0.0250	15.0	ND	102	63-131	5.99	20	
Surrogate: 4-Bromochlorobenzene-PID	8.27		8.00		103	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2218024-BLK1)

Prepared: 04/26/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.08		8.00		88.5	70-130			

LCS (2218024-BS2)

Prepared: 04/26/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	46.2	20.0	50.0		92.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.16		8.00		89.5	70-130			

Matrix Spike (2218024-MS2)

Source: E204123-04

Prepared: 04/26/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	46.6	20.0	50.0	ND	93.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.15		8.00		89.4	70-130			

Matrix Spike Dup (2218024-MSD2)

Source: E204123-04

Prepared: 04/26/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	46.4	20.0	50.0	ND	92.8	70-130	0.405	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.16		8.00		89.5	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Nonhalogenated Organics by EPA 8015D - GRO

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
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Blank (2218028-BLK1) Prepared: 04/26/22 Analyzed: 04/27/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.09		8.00		88.6	70-130			

LCS (2218028-BS2) Prepared: 04/26/22 Analyzed: 04/27/22

Gasoline Range Organics (C6-C10)	47.2	20.0	50.0		94.3	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.26		8.00		90.7	70-130			

Matrix Spike (2218028-MS2) Source: E204123-21 Prepared: 04/26/22 Analyzed: 04/27/22

Gasoline Range Organics (C6-C10)	47.3	20.0	50.0	ND	94.7	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.21		8.00		90.1	70-130			

Matrix Spike Dup (2218028-MSD2) Source: E204123-21 Prepared: 04/26/22 Analyzed: 04/27/22

Gasoline Range Organics (C6-C10)	54.6	20.0	50.0	ND	109	70-130	14.2	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.17		8.00		89.6	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2218039-BLK1)					Prepared: 04/28/22 Analyzed: 04/28/22				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	52.4		50.0		105	50-200			

LCS (2218039-BS1)					Prepared: 04/28/22 Analyzed: 04/28/22				
Diesel Range Organics (C10-C28)	437	25.0	500		87.4	38-132			
Surrogate: n-Nonane	51.3		50.0		103	50-200			

Matrix Spike (2218039-MS1)					Source: E204134-01		Prepared: 04/28/22 Analyzed: 04/28/22		
Diesel Range Organics (C10-C28)	443	25.0	500	ND	88.6	38-132			
Surrogate: n-Nonane	52.4		50.0		105	50-200			

Matrix Spike Dup (2218039-MSD1)					Source: E204134-01		Prepared: 04/28/22 Analyzed: 04/28/22		
Diesel Range Organics (C10-C28)	485	25.0	500	ND	97.0	38-132	9.06	20	
Surrogate: n-Nonane	55.5		50.0		111	50-200			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Nonhalogenated Organics by 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
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Blank (2218040-BLK1)					Prepared: 04/28/22 Analyzed: 04/28/22				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	53.4		50.0		107	50-200			

LCS (2218040-BS1)					Prepared: 04/28/22 Analyzed: 04/28/22				
Diesel Range Organics (C10-C28)	529	25.0	500		106	38-132			
Surrogate: n-Nonane	55.5		50.0		111	50-200			

Matrix Spike (2218040-MS1)					Source: E204123-01		Prepared: 04/28/22 Analyzed: 04/28/22		
Diesel Range Organics (C10-C28)	550	25.0	500	ND	110	38-132			
Surrogate: n-Nonane	57.1		50.0		114	50-200			

Matrix Spike Dup (2218040-MSD1)					Source: E204123-01		Prepared: 04/28/22 Analyzed: 04/28/22		
Diesel Range Organics (C10-C28)	510	25.0	500	ND	102	38-132	7.45	20	
Surrogate: n-Nonane	53.2		50.0		106	50-200			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Anions by EPA 300.0/9056A

Analyst: RAS

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

Blank (2218014-BLK1)					Prepared: 04/25/22 Analyzed: 04/27/22				
Chloride	ND	20.0							
LCS (2218014-BS1)					Prepared: 04/25/22 Analyzed: 04/27/22				
Chloride	267	20.0	250		107	90-110			
Matrix Spike (2218014-MS1)					Source: E204132-01		Prepared: 04/25/22 Analyzed: 04/28/22		
Chloride	1330	400	250	1060	106	80-120			
Matrix Spike Dup (2218014-MSD1)					Source: E204132-01		Prepared: 04/25/22 Analyzed: 04/28/22		
Chloride	1620	400	250	1060	222	80-120	19.6	20	M2



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 3:32:53PM

Anions by EPA 300.0/9056A

Analyst: RAS

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

Blank (2218016-BLK1)					Prepared: 04/25/22 Analyzed: 04/28/22				
Chloride	ND	20.0							
LCS (2218016-BS1)					Prepared: 04/25/22 Analyzed: 04/28/22				
Chloride	248	20.0	250		99.3	90-110			
Matrix Spike (2218016-MS1)					Source: E204123-01		Prepared: 04/25/22 Analyzed: 04/28/22		
Chloride	254	20.0	250	ND	102	80-120			
Matrix Spike Dup (2218016-MSD1)					Source: E204123-01		Prepared: 04/25/22 Analyzed: 04/28/22		
Chloride	253	20.0	250	ND	101	80-120	0.151	20	

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



Definitions and Notes

Mack Energy	Project Name:	MAB 4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/02/22 15:32

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

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

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



Project Information

Chain of Custody

Page 5 of 7

Client: <u>MAC ENERGY</u>		Bill To		Lab Use Only		TAT				EPA Program			
Project: <u>MAB 4</u>		Attention: <u>ESS</u>		Lab WO# <u>E204123</u>		Job Number <u>20046-0001</u>		1D	2D	3D	Standard	CWA	SDWA
Project Manager:		Address: <u>2427 W GUNTER</u>											
Address:		City, State, Zip: <u>40305 NM 88240</u>											RCRA
City, State, Zip		Phone: <u>575 390-6397</u>											
Phone:		Email: <u>NATALIE BLADON</u>											
Email:													
Report due by:													

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 NM	BGDOC TX	Remarks
	4/21/22	S	1	COMP 8B	1							X		
				9B	2									
				10B	3									
				11B	4									
				14B	5									
				15B	6									
				16B	7									
				17B	8									
				18B	9									
				19B	10									

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: MAC RIVERA - M

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

Relinquished by: (Signature) <u>M</u>	Date <u>4/21/22</u>	Time	Received by: (Signature) <u>John</u>	Date <u>4-22-22</u>	Time <u>1015</u>	Lab Use Only
Relinquished by: (Signature) <u>John</u>	Date <u>4-22-22</u>	Time <u>1530</u>	Received by: (Signature) <u>Patricia Chute</u>	Date <u>4/25/22</u>	Time <u>8:10</u>	Received on ice: <u>Y/N</u>
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1: T2: T3:
AVG Temp °C <u>4</u>						

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Page 39 of 42 be returned to client or disposed of at the client expense. The report for the analysis of the above

Project Information

Chain of Custody

Page 6 of 7

Client: <u>MACX ENERGY</u>		Bill To		Lab Use Only		TAT				EPA Program			
Project: <u>MAC 4</u>		Attention: <u>ESS</u>		Lab WO# <u>E604123</u>		Job Number <u>20046-001</u>		1D	2D	3D	Standard	CWA	SDWA
Project Manager:		Address: <u>2427 W. COUNTY RD</u>											
Address:		City, State, Zip: <u>ALBUQUERQUE NM 88240</u>		Analysis and Method								RCRA	
City, State, Zip		Phone: <u>575 390-6397</u>										State	
Phone:		Email: <u>NATALIE GLADSON</u>										☒ NM ☐ CO ☐ UT ☐ AZ ☐ TX	
Email:													
Report due by:													

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 NM	BGDOC TX	Remarks
	4/21/22	S	1	COMP 203	11									
				213	12									
				22B	13									
				23B	14									
				24B	15									
				25B	16									
				26B	17									
				27B	18									
				28B	19									
				29B	20									

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: MADEIRA

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

Relinquished by: (Signature) <u>[Signature]</u>	Date <u>4/21/22</u>	Time	Received by: (Signature) <u>[Signature]</u>	Date <u>4-22-22</u>	Time <u>1015</u>	Lab Use Only
Relinquished by: (Signature) <u>[Signature]</u>	Date <u>4-22-22</u>	Time <u>1530</u>	Received by: (Signature) <u>Carla Chute</u>	Date <u>4/25/22</u>	Time <u>8:10</u>	Received on ice: ☒ Y ☐ N
Relinquished by: (Signature) <u>[Signature]</u>	Date	Time	Received by: (Signature)	Date	Time	T1 _____ T2 _____ T3 _____
AVG Temp °C <u>4</u>						

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Page 40 of 42 be returned to client or disposed of at the client expense. The report for the analysis of the above

Project Information

Chain of Custody

Page 7 of 7

Client: <u>MACK ENERGY</u>		Bill To		Lab Use Only		TAT		EPA Program					
Project: <u>MAB 4</u>		Attention: <u>CSS</u>		Lab WO# <u>E204123</u>		Job Number <u>20046-0001</u>		1D	2D	3D	Standard	CWA	SDWA
Project Manager:		Address: <u>247 W. COUNTY RD</u>		Analysis and Method								RCRA	
Address:		City, State, Zip: <u>WARS W-M 88240</u>											
City, State, Zip		Phone: <u>575 390-6397</u>		DRO/ORO by 8015		GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0		BGDOC NM	BGDOC TX
Phone:		Email: <u>NATALIE GLADEN</u>											
Email:													
Report due by:													

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 NM	BGDOC TX	Remarks
	7/16/22	S	1	COMP 30B	21							X		
	7/16/22	S	5	31B	22							S		

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: MACK RIVOLTA

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

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only
<u>[Signature]</u>	7/16/22		<u>[Signature]</u>	4-22-22	10:15	Received on ice: <u>(Y)</u> N
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1
<u>[Signature]</u>	4-22-22	15:30	<u>[Signature]</u>	4/25/22	8:10	T2
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T3
						AVG Temp °C <u>4</u>

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Page 41 of 42 be returned to client or disposed of at the client expense. The report for the analysis of the above

Envirotech Analytical Laboratory

Printed: 4/25/2022 10:19:34AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	04/25/22 08:10	Work Order ID:	E204123
Phone:	(575) 390-6397	Date Logged In:	04/22/22 11:11	Logged In By:	Alexa Michaels
Email:	Natalie@energystaffingllc.com	Due Date:	04/29/22 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? No
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierComments/Resolution

Project has been separated into 3 reports due to amount of samples. Workorders are as follows: E204121 COC Page 1&2 of 7, E204122 COC page 3&4 of 7, E204123 COC page 5,6,7 of 7. Time sampled not provided on COC. Comp 12B, Comp 13B added to COC.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

Sample Summary

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/02/22 13:07

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Comp 21A	E204122-01A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 22A	E204122-02A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 23A	E204122-03A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 24A	E204122-04A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 25A	E204122-05A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 26A	E204122-06A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 27A	E204122-07A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 28A	E204122-08A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 29A	E204122-09A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 30A	E204122-10A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 31A	E204122-11A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 32A	E204122-12A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 33A	E204122-13A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 1B	E204122-14A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 2B	E204122-15A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 3B	E204122-16A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 4B	E204122-17A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 5B	E204122-18A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 6B	E204122-19A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.
Comp 7B	E204122-20A	Soil	04/21/22	04/25/22	Glass Jar, 4 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 21A

E204122-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218023
Benzene	ND	0.0250	1	04/26/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/27/22	
Toluene	ND	0.0250	1	04/26/22	04/27/22	
o-Xylene	ND	0.0250	1	04/26/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/27/22	
<i>Surrogate: Bromofluorobenzene</i>	99.1 %	70-130		04/26/22	04/27/22	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	101 %	70-130		04/26/22	04/27/22	
<i>Surrogate: Toluene-d8</i>	105 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218023
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/27/22	
<i>Surrogate: Bromofluorobenzene</i>	99.1 %	70-130		04/26/22	04/27/22	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	101 %	70-130		04/26/22	04/27/22	
<i>Surrogate: Toluene-d8</i>	105 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2218038
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
<i>Surrogate: n-Nonane</i>	72.4 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218015
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 22A

E204122-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/27/22	
Toluene	ND	0.0250	1	04/26/22	04/27/22	
o-Xylene	ND	0.0250	1	04/26/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/27/22	
Surrogate: Bromofluorobenzene	96.8 %	70-130		04/26/22	04/27/22	
Surrogate: 1,2-Dichloroethane-d4	98.1 %	70-130		04/26/22	04/27/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/27/22	
Surrogate: Bromofluorobenzene	96.8 %	70-130		04/26/22	04/27/22	
Surrogate: 1,2-Dichloroethane-d4	98.1 %	70-130		04/26/22	04/27/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
Surrogate: n-Nonane	105 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 23A

E204122-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/27/22	
Toluene	ND	0.0250	1	04/26/22	04/27/22	
o-Xylene	ND	0.0250	1	04/26/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/27/22	
Surrogate: Bromofluorobenzene	97.3 %	70-130		04/26/22	04/27/22	
Surrogate: 1,2-Dichloroethane-d4	97.6 %	70-130		04/26/22	04/27/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/27/22	
Surrogate: Bromofluorobenzene	97.3 %	70-130		04/26/22	04/27/22	
Surrogate: 1,2-Dichloroethane-d4	97.6 %	70-130		04/26/22	04/27/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
Surrogate: n-Nonane	121 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 24A

E204122-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/27/22	
Toluene	ND	0.0250	1	04/26/22	04/27/22	
o-Xylene	ND	0.0250	1	04/26/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/27/22	
Surrogate: Bromofluorobenzene	97.4 %	70-130		04/26/22	04/27/22	
Surrogate: 1,2-Dichloroethane-d4	99.0 %	70-130		04/26/22	04/27/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/27/22	
Surrogate: Bromofluorobenzene	97.4 %	70-130		04/26/22	04/27/22	
Surrogate: 1,2-Dichloroethane-d4	99.0 %	70-130		04/26/22	04/27/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
Surrogate: n-Nonane	106 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 25A

E204122-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/27/22	
Toluene	ND	0.0250	1	04/26/22	04/27/22	
o-Xylene	ND	0.0250	1	04/26/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/27/22	
Surrogate: Bromofluorobenzene	97.5 %	70-130		04/26/22	04/27/22	
Surrogate: 1,2-Dichloroethane-d4	99.0 %	70-130		04/26/22	04/27/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/27/22	
Surrogate: Bromofluorobenzene	97.5 %	70-130		04/26/22	04/27/22	
Surrogate: 1,2-Dichloroethane-d4	99.0 %	70-130		04/26/22	04/27/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
Surrogate: n-Nonane	99.6 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 26A

E204122-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/27/22	
Toluene	ND	0.0250	1	04/26/22	04/27/22	
o-Xylene	ND	0.0250	1	04/26/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/27/22	
Surrogate: Bromofluorobenzene	96.6 %	70-130		04/26/22	04/27/22	
Surrogate: 1,2-Dichloroethane-d4	98.7 %	70-130		04/26/22	04/27/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/27/22	
Surrogate: Bromofluorobenzene	96.6 %	70-130		04/26/22	04/27/22	
Surrogate: 1,2-Dichloroethane-d4	98.7 %	70-130		04/26/22	04/27/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
Surrogate: n-Nonane	98.5 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 27A

E204122-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218023
Benzene	ND	0.0250	1	04/26/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/27/22	
Toluene	ND	0.0250	1	04/26/22	04/27/22	
o-Xylene	ND	0.0250	1	04/26/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/27/22	
Surrogate: Bromofluorobenzene	98.3 %	70-130		04/26/22	04/27/22	
Surrogate: 1,2-Dichloroethane-d4	97.7 %	70-130		04/26/22	04/27/22	
Surrogate: Toluene-d8	107 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218023
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/27/22	
Surrogate: Bromofluorobenzene	98.3 %	70-130		04/26/22	04/27/22	
Surrogate: 1,2-Dichloroethane-d4	97.7 %	70-130		04/26/22	04/27/22	
Surrogate: Toluene-d8	107 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2218038
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
Surrogate: n-Nonane	93.5 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218015
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 28A

E204122-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/27/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/27/22	
Toluene	ND	0.0250	1	04/26/22	04/27/22	
o-Xylene	ND	0.0250	1	04/26/22	04/27/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/27/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/27/22	
Surrogate: Bromofluorobenzene	97.5 %	70-130		04/26/22	04/27/22	
Surrogate: 1,2-Dichloroethane-d4	97.2 %	70-130		04/26/22	04/27/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/27/22	
Surrogate: Bromofluorobenzene	97.5 %	70-130		04/26/22	04/27/22	
Surrogate: 1,2-Dichloroethane-d4	97.2 %	70-130		04/26/22	04/27/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/27/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
Surrogate: n-Nonane	89.0 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 29A

E204122-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	96.8 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	98.1 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	96.8 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	98.1 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
Surrogate: n-Nonane	103 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 30A

E204122-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	95.9 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	97.2 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	103 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	95.9 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	97.2 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	103 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
Surrogate: n-Nonane	109 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 31A

E204122-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218023
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	98.0 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	98.1 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218023
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	98.0 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	98.1 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2218038
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
Surrogate: n-Nonane	80.4 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2218015
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 32A

E204122-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	98.4 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	98.9 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	98.4 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	98.9 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
Surrogate: n-Nonane	112 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 33A

E204122-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	98.1 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	98.1 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
Surrogate: n-Nonane	99.0 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 1B

E204122-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	96.8 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	98.4 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	96.8 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	98.4 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
Surrogate: n-Nonane	91.6 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 2B

E204122-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	98.1 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	104 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	98.1 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	104 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/28/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/28/22	
Surrogate: n-Nonane	91.9 %	50-200		04/28/22	04/28/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 3B

E204122-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	95.3 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	100 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	103 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	95.3 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	100 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	103 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/29/22	
Surrogate: n-Nonane	112 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 4B

E204122-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	97.7 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	94.0 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	97.7 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	94.0 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	105 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/29/22	
Surrogate: n-Nonane	94.5 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 5B

E204122-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	96.3 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	95.1 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	96.3 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	95.1 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/29/22	
Surrogate: n-Nonane	103 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 6B

E204122-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	96.7 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	99.6 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	96.7 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	99.6 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/29/22	
Surrogate: n-Nonane	91.9 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2022 1:07:09PM

Comp 7B

E204122-20

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Benzene	ND	0.0250	1	04/26/22	04/28/22	
Ethylbenzene	ND	0.0250	1	04/26/22	04/28/22	
Toluene	ND	0.0250	1	04/26/22	04/28/22	
o-Xylene	ND	0.0250	1	04/26/22	04/28/22	
p,m-Xylene	ND	0.0500	1	04/26/22	04/28/22	
Total Xylenes	ND	0.0250	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	98.1 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/22	04/28/22	
Surrogate: Bromofluorobenzene	98.1 %	70-130		04/26/22	04/28/22	
Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		04/26/22	04/28/22	
Surrogate: Toluene-d8	104 %	70-130		04/26/22	04/28/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218038	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/28/22	04/29/22	
Oil Range Organics (C28-C36)	ND	50.0	1	04/28/22	04/29/22	
Surrogate: n-Nonane	93.9 %	50-200		04/28/22	04/29/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2218015	
Chloride	ND	20.0	1	04/25/22	04/28/22	



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 1:07:09PM

Volatile Organic Compounds by EPA 8260B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2218023-BLK1)

Prepared: 04/26/22 Analyzed: 04/28/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	0.486		0.500		97.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.492		0.500		98.4	70-130			
Surrogate: Toluene-d8	0.518		0.500		104	70-130			

LCS (2218023-BS1)

Prepared: 04/26/22 Analyzed: 04/28/22

Benzene	2.23	0.0250	2.50		89.1	70-130			
Ethylbenzene	2.33	0.0250	2.50		93.2	70-130			
Toluene	2.26	0.0250	2.50		90.2	70-130			
o-Xylene	2.27	0.0250	2.50		90.6	70-130			
p,m-Xylene	4.50	0.0500	5.00		89.9	70-130			
Total Xylenes	6.76	0.0250	7.50		90.2	70-130			
Surrogate: Bromofluorobenzene	0.488		0.500		97.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.510		0.500		102	70-130			
Surrogate: Toluene-d8	0.509		0.500		102	70-130			

Matrix Spike (2218023-MS1)

Source: E204122-03

Prepared: 04/26/22 Analyzed: 04/28/22

Benzene	2.24	0.0250	2.50	ND	89.4	48-131			
Ethylbenzene	2.34	0.0250	2.50	ND	93.5	45-135			
Toluene	2.28	0.0250	2.50	ND	91.2	48-130			
o-Xylene	2.28	0.0250	2.50	ND	91.2	43-135			
p,m-Xylene	4.50	0.0500	5.00	ND	89.9	43-135			
Total Xylenes	6.78	0.0250	7.50	ND	90.4	43-135			
Surrogate: Bromofluorobenzene	0.505		0.500		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.499		0.500		99.8	70-130			
Surrogate: Toluene-d8	0.513		0.500		103	70-130			

Matrix Spike Dup (2218023-MSD1)

Source: E204122-03

Prepared: 04/26/22 Analyzed: 04/28/22

Benzene	2.14	0.0250	2.50	ND	85.7	48-131	4.30	23	
Ethylbenzene	2.23	0.0250	2.50	ND	89.0	45-135	4.89	27	
Toluene	2.16	0.0250	2.50	ND	86.4	48-130	5.43	24	
o-Xylene	2.16	0.0250	2.50	ND	86.5	43-135	5.33	27	
p,m-Xylene	4.27	0.0500	5.00	ND	85.4	43-135	5.12	27	
Total Xylenes	6.43	0.0250	7.50	ND	85.8	43-135	5.19	27	
Surrogate: Bromofluorobenzene	0.503		0.500		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.502		0.500		100	70-130			
Surrogate: Toluene-d8	0.513		0.500		103	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 1:07:09PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2218023-BLK1)

Prepared: 04/26/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.486		0.500		97.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.492		0.500		98.4	70-130			
Surrogate: Toluene-d8	0.518		0.500		104	70-130			

LCS (2218023-BS2)

Prepared: 04/26/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	65.0	20.0	50.0		130	70-130			
Surrogate: Bromofluorobenzene	0.486		0.500		97.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.506		0.500		101	70-130			
Surrogate: Toluene-d8	0.519		0.500		104	70-130			

Matrix Spike (2218023-MS2)

Source: E204122-03

Prepared: 04/26/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	58.7	20.0	50.0	ND	117	70-130			
Surrogate: Bromofluorobenzene	0.491		0.500		98.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.496		0.500		99.2	70-130			
Surrogate: Toluene-d8	0.516		0.500		103	70-130			

Matrix Spike Dup (2218023-MSD2)

Source: E204122-03

Prepared: 04/26/22 Analyzed: 04/28/22

Gasoline Range Organics (C6-C10)	66.1	20.0	50.0	ND	132	70-130	11.9	20	M1
Surrogate: Bromofluorobenzene	0.496		0.500		99.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.497		0.500		99.3	70-130			
Surrogate: Toluene-d8	0.518		0.500		104	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 1:07:09PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2218038-BLK1)

Prepared: 04/28/22 Analyzed: 04/28/22

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	54.3		50.0		109	50-200			

LCS (2218038-BS1)

Prepared: 04/28/22 Analyzed: 04/29/22

Diesel Range Organics (C10-C28)	475	25.0	500		94.9	38-132			
Surrogate: n-Nonane	43.9		50.0		87.9	50-200			

Matrix Spike (2218038-MS1)

Source: E204122-01

Prepared: 04/28/22 Analyzed: 04/28/22

Diesel Range Organics (C10-C28)	486	25.0	500	ND	97.3	38-132			
Surrogate: n-Nonane	43.7		50.0		87.4	50-200			

Matrix Spike Dup (2218038-MSD1)

Source: E204122-01

Prepared: 04/28/22 Analyzed: 04/29/22

Diesel Range Organics (C10-C28)	497	25.0	500	ND	99.3	38-132	2.12	20	
Surrogate: n-Nonane	47.8		50.0		95.6	50-200			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2022 1:07:09PM

Anions by EPA 300.0/9056A

Analyst: RAS

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

Blank (2218015-BLK1)					Prepared: 04/25/22 Analyzed: 04/28/22				
Chloride	ND	20.0							
LCS (2218015-BS1)					Prepared: 04/25/22 Analyzed: 04/28/22				
Chloride	247	20.0	250		99.0	90-110			
Matrix Spike (2218015-MS1)					Source: E204122-01		Prepared: 04/25/22 Analyzed: 04/28/22		
Chloride	251	20.0	250	ND	101	80-120			
Matrix Spike Dup (2218015-MSD1)					Source: E204122-01		Prepared: 04/25/22 Analyzed: 04/28/22		
Chloride	250	20.0	250	ND	100	80-120	0.343	20	

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



Definitions and Notes

Mack Energy	Project Name:	MAB 4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/02/22 13:07

- M1 Matrix spike recovery was above acceptance limits. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

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

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



Project Information

Chain of Custody

Page 3 of 7

Client: <u>MAK ENERGY</u>				Bill To				Lab Use Only				TAT				EPA Program			
Project: <u>MAB 4</u>				Attention: <u>ESS</u>				Lab WO# <u>E204122</u>		Job Number <u>20046-0001</u>		1D	2D	3D	Standard	CWA	SDWA		
Project Manager:				Address: <u>2427 W. COUNTY RD</u>				Analysis and Method										RCRA	
Address:				City, State, Zip: <u>HB3RS NM. 88240</u>														CWA	
City, State, Zip				Phone: <u>575 390-6347</u>				DRO/ORO by 8015 GRO/DRO by 8015 BTEX by 8021 VOC by 8260 Metals 6010 Chloride 300.0 BGDOC NM BGDOC TX										State	
Phone:				Email: <u>NATALIE GLADSON</u>														NM	
Email:																		Remarks	
Report due by:																			
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number														
	4/21/22	S	1	comp 21A	1														
				22A	2														
				23A	3														
				24A	4														
				25A	5														
				26A	6														
				27A	7														
				28A	8														
				29A	9														
				30A	10														

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: MADE RIVERA

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

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only	
<u>[Signature]</u>	4/21/22		<u>[Signature]</u>	4-22-22	1015	Received on ice: <u>(V) N</u>	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1: T2: T3:	
<u>[Signature]</u>	4-22-22	1530	<u>[Signature]</u>	4/25/22	8:10		
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	AVG Temp °C <u>4</u>	

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Page 31 of 33 be returned to client or disposed of at the client expense. The report for the analysis of the above

Project Information

Chain of Custody

Page 4 of 7

Client: <u>MACK ENERGY</u>		Bill To		Lab Use Only		TAT				EPA Program			
Project: <u>MAB 4</u>		Attention: <u>ESS</u>		Lab WO# <u>E 204122</u>		Job Number <u>20046-0001</u>		1D	2D	3D	Standard	CWA	SDWA
Project Manager:		Address: <u>2427 W. COUNTY RD</u>											
Address:		City, State, Zip <u>HC 825 NM 88246</u>											RCRA
City, State, Zip		Phone: <u>575 390-6397</u>											
Phone:		Email: <u>NATALIE GLADDEN</u>											
Email:													
Report due by:													

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	BDOC NM	BDOC TX	Remarks
	4/21/22	S	1	comp 31A	11							X		
				32A	12									
				33A	13									
				1B	14									
				2B	15									
				3B	16									
				4B	17									
				5B	18									
				6B	19									
				7B	20									

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: MACK RIVERA

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

Relinquished by: (Signature) <u>[Signature]</u>	Date <u>4/21/22</u>	Time	Received by: (Signature) <u>[Signature]</u>	Date <u>4-22-22</u>	Time <u>1015</u>	Lab Use Only
Relinquished by: (Signature) <u>[Signature]</u>	Date <u>4-22-22</u>	Time <u>1530</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>4/25/22</u>	Time <u>8:10</u>	Received on ice: <u>(Y) N</u>
Relinquished by: (Signature) <u>[Signature]</u>	Date	Time	Received by: (Signature)	Date	Time	T1: T2: T3:
AVG Temp °C <u>4</u>						

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Page 32 of 33 be returned to client or disposed of at the client expense. The report for the analysis of the above

Envirotech Analytical Laboratory

Printed: 4/25/2022 10:13:15AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	04/25/22 08:10	Work Order ID:	E204121
Phone:	(575) 390-6397	Date Logged In:	04/22/22 10:55	Logged In By:	Alexa Michaels
Email:	Natalie@energystaffingllc.com	Due Date:	04/29/22 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierComments/Resolution

Project has been separated into 3 reports due to amount of samples. Workorders are as follows: E204121 COC Page 1&2 of 7, E204122 COC page 3&4 of 7, E204123 COC page 5,6,7 of 7. Time sampled not provided on COC

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: MAB 4

Work Order: E204149

Job Number: 20046-0001

Received: 4/27/2022

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
5/4/22

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 5/4/22



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: MAB 4
Workorder: E204149
Date Received: 4/27/2022 7:00:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/27/2022 7:00:00AM, under the Project Name: MAB 4.

The analytical test results summarized in this report with the Project Name: MAB 4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
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Technical Representative
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Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/04/22 15:55

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW Comp 1A	E204149-01A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 2A	E204149-02A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 3A	E204149-03A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 4A	E204149-04A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 5A	E204149-05A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 6A	E204149-06A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 7A	E204149-07A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 8A	E204149-08A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 1B	E204149-09A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 2B	E204149-10A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 3B	E204149-11A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 4B	E204149-12A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 5B	E204149-13A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 6B	E204149-14A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 7B	E204149-15A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 8B	E204149-16A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 9B	E204149-17A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 10B	E204149-18A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 11B	E204149-19A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.
SW Comp 12B	E204149-20A	Soil	04/22/22	04/27/22	Glass Jar, 4 oz.



Sample Data

Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: MAB 4 Project Number: 20046-0001 Project Manager: Natalie Gladden	Reported: 5/4/2022 3:55:15PM
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SW Comp 1A

E204149-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218060
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0323	0.0250	1	04/29/22	05/03/22	
o-Xylene	0.0942	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	0.0942	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		104 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2218060
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		89.5 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2218053
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>						
		84.1 %	50-200	05/03/22	05/03/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: CS		Batch: 2219007
Chloride	ND	20.0	1	05/02/22	05/02/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 2A

E204149-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0395	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		90.5 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218053	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>						
		98.5 %	50-200	05/03/22	05/03/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: CS		Batch: 2219007	
Chloride	20.5	20.0	1	05/02/22	05/02/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 3A

E204149-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B		mg/kg	mg/kg	Analyst: IY		Batch: 2218060
Benzene	0.0258	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0632	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		101 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO		mg/kg	mg/kg	Analyst: IY		Batch: 2218060
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		88.6 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO		mg/kg	mg/kg	Analyst: JL		Batch: 2218053
Diesel Range Organics (C10-C28)	70.8	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	122	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>		99.3 %	50-200	05/03/22	05/03/22	
Anions by EPA 300.0/9056A		mg/kg	mg/kg	Analyst: CS		Batch: 2219007
Chloride	ND	20.0	1	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 4A

E204149-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Benzene	0.0268	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0778	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		89.6 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218053	
Diesel Range Organics (C10-C28)	72.8	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	130	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>						
		99.5 %	50-200	05/03/22	05/03/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: CS		Batch: 2219007	
Chloride	ND	20.0	1	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 5A

E204149-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0469	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		88.1 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218053	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>						
		86.4 %	50-200	05/03/22	05/03/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: CS		Batch: 2219007	
Chloride	259	20.0	1	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 6A

E204149-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0450	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.8 %	70-130		04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.2 %	70-130		04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218053	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>						
	87.0 %	50-200		05/03/22	05/03/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: CS		Batch: 2219007	
Chloride	219	20.0	1	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 7A

E204149-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0314	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		105 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		88.1 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218053	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>						
		85.9 %	50-200	05/03/22	05/03/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: CS		Batch: 2219007	
Chloride	ND	20.0	1	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 8A

E204149-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0349	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.0 %	70-130		04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.0 %	70-130		04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218053	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>						
	87.3 %	50-200		05/03/22	05/03/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: CS		Batch: 2219007	
Chloride	ND	20.0	1	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 1B

E204149-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	ND	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.9 %	70-130		04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.7 %	70-130		04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218053	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>						
	88.8 %	50-200		05/03/22	05/03/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: CS		Batch: 2219007	
Chloride	1630	40.0	2	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 2B

E204149-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	ND	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		89.0 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218053	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>						
		90.4 %	50-200	05/03/22	05/03/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: CS		Batch: 2219007	
Chloride	3450	40.0	2	05/02/22	05/03/22	



Sample Data

Mack Energy	Project Name:	MAB 4	Reported: 5/4/2022 3:55:15PM
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	

SW Comp 3B

E204149-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0600	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	<i>99.1 %</i>	<i>70-130</i>		<i>04/29/22</i>	<i>05/03/22</i>	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	<i>89.6 %</i>	<i>70-130</i>		<i>04/29/22</i>	<i>05/03/22</i>	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2218053	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>	<i>90.6 %</i>	<i>50-200</i>		<i>05/03/22</i>	<i>05/03/22</i>	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: CS		Batch: 2219007	
Chloride	ND	20.0	1	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 4B

E204149-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B		mg/kg	mg/kg	Analyst: IY		Batch: 2218060
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0511	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		98.5 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO		mg/kg	mg/kg	Analyst: IY		Batch: 2218060
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		89.7 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO		mg/kg	mg/kg	Analyst: JL		Batch: 2218053
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>		88.9 %	50-200	05/03/22	05/03/22	
Anions by EPA 300.0/9056A		mg/kg	mg/kg	Analyst: CS		Batch: 2219007
Chloride	ND	20.0	1	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 5B

E204149-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B		mg/kg	mg/kg	Analyst: IY		Batch: 2218060
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0500	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		101 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO		mg/kg	mg/kg	Analyst: IY		Batch: 2218060
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		89.0 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO		mg/kg	mg/kg	Analyst: JL		Batch: 2218053
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>		91.3 %	50-200	05/03/22	05/03/22	
Anions by EPA 300.0/9056A		mg/kg	mg/kg	Analyst: CS		Batch: 2219007
Chloride	ND	20.0	1	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 6B

E204149-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0516	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		103 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		88.8 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218053	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>						
		96.2 %	50-200	05/03/22	05/03/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: CS		Batch: 2219007	
Chloride	ND	20.0	1	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 7B

E204149-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B		mg/kg	mg/kg	Analyst: IY		Batch: 2218060
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0412	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		105 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO		mg/kg	mg/kg	Analyst: IY		Batch: 2218060
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		88.5 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO		mg/kg	mg/kg	Analyst: JL		Batch: 2218053
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>		93.2 %	50-200	05/03/22	05/03/22	
Anions by EPA 300.0/9056A		mg/kg	mg/kg	Analyst: CS		Batch: 2219007
Chloride	ND	20.0	1	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 8B

E204149-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B		mg/kg	mg/kg	Analyst: IY		Batch: 2218060
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0348	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		98.5 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO		mg/kg	mg/kg	Analyst: IY		Batch: 2218060
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		89.7 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO		mg/kg	mg/kg	Analyst: JL		Batch: 2218053
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>		90.6 %	50-200	05/03/22	05/03/22	
Anions by EPA 300.0/9056A		mg/kg	mg/kg	Analyst: CS		Batch: 2219007
Chloride	ND	20.0	1	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 9B

E204149-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0602	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.3 %	70-130		04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.4 %	70-130		04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218053	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>						
	93.8 %	50-200		05/03/22	05/03/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: CS		Batch: 2219007	
Chloride	ND	20.0	1	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 10B

E204149-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0429	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.4 %	70-130		04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.6 %	70-130		04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218053	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>						
	92.8 %	50-200		05/03/22	05/03/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: CS		Batch: 2219007	
Chloride	ND	20.0	1	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 11B

E204149-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0373	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.3 %	70-130		04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.2 %	70-130		04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218053	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>						
	94.3 %	50-200		05/03/22	05/03/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: CS		Batch: 2219007	
Chloride	ND	20.0	1	05/02/22	05/03/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/4/2022 3:55:15PM

SW Comp 12B

E204149-20

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Benzene	ND	0.0250	1	04/29/22	05/03/22	
Ethylbenzene	ND	0.0250	1	04/29/22	05/03/22	
Toluene	0.0262	0.0250	1	04/29/22	05/03/22	
o-Xylene	ND	0.0250	1	04/29/22	05/03/22	
p,m-Xylene	ND	0.0500	1	04/29/22	05/03/22	
Total Xylenes	ND	0.0250	1	04/29/22	05/03/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2218060	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/29/22	05/03/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		89.0 %	70-130	04/29/22	05/03/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: JL		Batch: 2218053	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/03/22	05/03/22	
Oil Range Organics (C28-C36)	ND	50.0	1	05/03/22	05/03/22	
<i>Surrogate: n-Nonane</i>						
		94.7 %	50-200	05/03/22	05/03/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: CS		Batch: 2219007	
Chloride	ND	20.0	1	05/02/22	05/03/22	



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/4/2022 3:55:15PM

Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2218060-BLK1)

Prepared: 04/29/22 Analyzed: 05/03/22

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	8.34		8.00		104	70-130			

LCS (2218060-BS1)

Prepared: 04/29/22 Analyzed: 05/04/22

Benzene	5.59	0.0250	5.00		112	70-130			
Ethylbenzene	5.02	0.0250	5.00		100	70-130			
Toluene	5.35	0.0250	5.00		107	70-130			
o-Xylene	5.26	0.0250	5.00		105	70-130			
p,m-Xylene	10.3	0.0500	10.0		103	70-130			
Total Xylenes	15.6	0.0250	15.0		104	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.14		8.00		102	70-130			

Matrix Spike (2218060-MS1)

Source: E204149-03

Prepared: 04/29/22 Analyzed: 05/04/22

Benzene	5.71	0.0250	5.00	0.0258	114	54-133			
Ethylbenzene	5.08	0.0250	5.00	ND	102	61-133			
Toluene	5.49	0.0250	5.00	0.0632	109	61-130			
o-Xylene	5.31	0.0250	5.00	ND	106	63-131			
p,m-Xylene	10.4	0.0500	10.0	ND	104	63-131			
Total Xylenes	15.7	0.0250	15.0	ND	105	63-131			
Surrogate: 4-Bromochlorobenzene-PID	8.09		8.00		101	70-130			

Matrix Spike Dup (2218060-MSD1)

Source: E204149-03

Prepared: 04/29/22 Analyzed: 05/04/22

Benzene	5.68	0.0250	5.00	0.0258	113	54-133	0.514	20	
Ethylbenzene	5.08	0.0250	5.00	ND	102	61-133	0.0502	20	
Toluene	5.47	0.0250	5.00	0.0632	108	61-130	0.317	20	
o-Xylene	5.30	0.0250	5.00	ND	106	63-131	0.169	20	
p,m-Xylene	10.4	0.0500	10.0	ND	104	63-131	0.147	20	
Total Xylenes	15.7	0.0250	15.0	ND	105	63-131	0.0407	20	
Surrogate: 4-Bromochlorobenzene-PID	8.05		8.00		101	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/4/2022 3:55:15PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2218060-BLK1)

Prepared: 04/29/22 Analyzed: 05/03/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.12		8.00		89.0	70-130			

LCS (2218060-BS2)

Prepared: 04/29/22 Analyzed: 05/04/22

Gasoline Range Organics (C6-C10)	52.4	20.0	50.0		105	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.39		8.00		92.3	70-130			

Matrix Spike (2218060-MS2)

Source: E204149-03

Prepared: 04/29/22 Analyzed: 05/04/22

Gasoline Range Organics (C6-C10)	52.2	20.0	50.0	ND	104	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.25		8.00		90.6	70-130			

Matrix Spike Dup (2218060-MSD2)

Source: E204149-03

Prepared: 04/29/22 Analyzed: 05/04/22

Gasoline Range Organics (C6-C10)	53.8	20.0	50.0	ND	108	70-130	3.07	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.20		8.00		89.9	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/4/2022 3:55:15PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2218053-BLK1)

Prepared: 05/03/22 Analyzed: 05/03/22

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: <i>n</i> -Nonane	40.2		50.0		80.4	50-200			

LCS (2218053-BS1)

Prepared: 05/03/22 Analyzed: 05/03/22

Diesel Range Organics (C10-C28)	465	25.0	500		93.1	38-132			
Surrogate: <i>n</i> -Nonane	41.6		50.0		83.3	50-200			

Matrix Spike (2218053-MS1)

Source: E204149-01

Prepared: 05/03/22 Analyzed: 05/03/22

Diesel Range Organics (C10-C28)	473	25.0	500	ND	94.6	38-132			
Surrogate: <i>n</i> -Nonane	42.1		50.0		84.1	50-200			

Matrix Spike Dup (2218053-MSD1)

Source: E204149-01

Prepared: 05/03/22 Analyzed: 05/03/22

Diesel Range Organics (C10-C28)	484	25.0	500	ND	96.8	38-132	2.32	20	
Surrogate: <i>n</i> -Nonane	43.3		50.0		86.5	50-200			



QC Summary Data

Mack Energy	Project Name:	MAB 4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/4/2022 3:55:15PM

Anions by EPA 300.0/9056A

Analyst: CS

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

Blank (2219007-BLK1)					Prepared: 05/02/22 Analyzed: 05/02/22				
Chloride	ND	20.0							
LCS (2219007-BS1)					Prepared: 05/02/22 Analyzed: 05/02/22				
Chloride	245	20.0	250		97.9	90-110			
Matrix Spike (2219007-MS1)					Source: E204149-01		Prepared: 05/02/22 Analyzed: 05/02/22		
Chloride	264	20.0	250	ND	106	80-120			
Matrix Spike Dup (2219007-MSD1)					Source: E204149-01		Prepared: 05/02/22 Analyzed: 05/02/22		
Chloride	264	20.0	250	ND	106	80-120	0.0958	20	

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



Definitions and Notes

Mack Energy	Project Name:	MAB 4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/04/22 15:55

- 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

Page 1 of 2

Client: <u>MACK ENERGY</u>		Attention: <u>ESS</u>		Lab Use Only		TAT				EPA Program			
Project: <u>MAB #4</u>		Address: <u>2427 W. COUNTY RD</u>		Lab WO# <u>E204149</u>		Job Number <u>20046-0001</u>		1D	2D	3D	Standard	CWA	SDWA
Project Manager:		City, State, Zip <u>HOBBBS NM 88248</u>		Analysis and Method									
Address:		Phone: <u>575 390-6397</u>											
City, State, Zip		Email: <u>NATLIE GLADEN</u>										State	
Phone:												NM CO UT AZ TX	
Email:													
Report due by:												Remarks	
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 NM	BGDOC TX
	4/22/22	S	1	SW COMP 1A	1							X	
				2A	2								
				3A	3								
				4A	4								
				5A	5								
				6A	6								
				7A	7								
				8A	8								
				1B	9								
				2B	10								

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: MARC RIVERA

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

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only Received on ice: <u>Y/N</u> T1: _____ T2: _____ T3: _____ AVG Temp °C <u>4</u>
<u>MARC RIVERA</u>	4/22/22	4:30 pm	<u>[Signature]</u>	4-25-22	130.5	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
<u>[Signature]</u>	4-26-22	1615	<u>[Signature]</u>	4/27/22	7:00	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Page 31 of 33 be returned to client or disposed of at the client expense. The report for the analysis of the above

Project Information

Chain of Custody

Page ~~28~~ of 2

Client: <u>MAK ENERGY</u>				Bill To				Lab Use Only				TAT				EPA Program																							
Project: <u>MAR 4</u>				Attention: <u>ESS</u>				Lab WO# <u>E 204149</u>				Job Number <u>200410-0001</u>				1D	2D	3D	Standard	CWA	SDWA																		
Project Manager:				Address: <u>2427 W. COUNTY RD</u>				Analysis and Method																															
Address:				City, State, Zip <u>HOBBS NM 88240</u>																																			
City, State, Zip				Phone: <u>575 390 6397</u>				DRO/ORO by 8015				GRO/DRO by 8015				BTEX by 8021				VOC by 8260				Metals 6010				Chloride 300.0				BGDOC NM				BGDOC TX			
Phone:				Email: <u>NATALIE GLADSON</u>																																			
Email:																																							
Report due by:																																							
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	Remarks																																	
	4/22/22	S	1	SW comp 3B	11																																		
				4B	12																																		
				5B	13																																		
				6B	14																																		
				7B	15																																		
				8B	16																																		
				9B	17																																		
				10B	18																																		
				11B	19																																		
				12B	20																																		

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: MAK RIVERA

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

Relinquished by: (Signature) <u>M. Rivera</u>	Date <u>4/22/22</u>	Time <u>4:30 pm</u>	Received by: (Signature) <u>John</u>	Date <u>4-25-22</u>	Time <u>1305</u>	Lab Use Only	
Relinquished by: (Signature) <u>John</u>	Date <u>4-26-22</u>	Time <u>1615</u>	Received by: (Signature) <u>Carther Chater</u>	Date <u>4/22/22</u>	Time <u>7:00</u>	Received on ice: ☒ N	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1: T2: T3:	
AVG Temp °C <u>4</u>							

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Page 32 of 33 be returned to client or disposed of at the client expense. The report for the analysis of the above

Envirotech Analytical Laboratory

Printed: 4/27/2022 10:12:07AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	04/27/22 07:00	Work Order ID:	E204149
Phone:	(575) 390-6397	Date Logged In:	04/27/22 07:27	Logged In By:	Caitlin Christian
Email:	Natalie@energystaffingllc.com	Due Date:	05/03/22 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

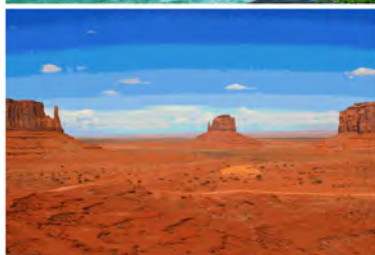
Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: MA B #4

Work Order: E206141

Job Number: 20046-0001

Received: 6/20/2022

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
6/21/22

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 6/21/22



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: MA B #4
Workorder: E206141
Date Received: 6/20/2022 8:15:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 6/20/2022 8:15:00AM, under the Project Name: MA B #4.

The analytical test results summarized in this report with the Project Name: MA B #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

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

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Technical Representative
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Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: MA B #4 Project Number: 20046-0001 Project Manager: Natalie Gladden	Reported: 06/21/22 15:01
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Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW Comp 1B	E206141-01A	Soil	06/16/22	06/20/22	Glass Jar, 4 oz.
SW Comp 2B	E206141-02A	Soil	06/16/22	06/20/22	Glass Jar, 4 oz.
SW Comp 3A	E206141-03A	Soil	06/16/22	06/20/22	Glass Jar, 4 oz.
SW Comp 4A	E206141-04A	Soil	06/16/22	06/20/22	Glass Jar, 4 oz.
Comp 20B	E206141-05A	Soil	06/16/22	06/20/22	Glass Jar, 4 oz.
Comp 21B	E206141-06A	Soil	06/16/22	06/20/22	Glass Jar, 4 oz.
Comp 22B	E206141-07A	Soil	06/16/22	06/20/22	Glass Jar, 4 oz.
Comp 25B	E206141-08A	Soil	06/16/22	06/20/22	Glass Jar, 4 oz.
Comp 26B	E206141-09A	Soil	06/16/22	06/20/22	Glass Jar, 4 oz.
Comp 30B	E206141-10A	Soil	06/16/22	06/20/22	Glass Jar, 4 oz.



Sample Data

Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: MA B #4 Project Number: 20046-0001 Project Manager: Natalie Gladden	Reported: 6/21/2022 3:01:17PM
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SW Comp 1B

E206141-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Benzene	ND	0.0250	1	06/20/22	06/20/22	
Ethylbenzene	ND	0.0250	1	06/20/22	06/20/22	
Toluene	ND	0.0250	1	06/20/22	06/20/22	
o-Xylene	ND	0.0250	1	06/20/22	06/20/22	
p,m-Xylene	ND	0.0500	1	06/20/22	06/20/22	
Total Xylenes	ND	0.0250	1	06/20/22	06/20/22	
Surrogate: 4-Bromochlorobenzene-PID	90.2 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/20/22	06/20/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID	92.5 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2226005
Diesel Range Organics (C10-C28)	ND	25.0	1	06/20/22	06/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	06/20/22	06/20/22	
Surrogate: n-Nonane	170 %	50-200		06/20/22	06/20/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2226007
Chloride	ND	20.0	1	06/20/22	06/20/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
6/21/2022 3:01:17PM

SW Comp 2B

E206141-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: IY		Batch: 2226001	
Benzene	ND	0.0250	1	06/20/22	06/20/22	
Ethylbenzene	ND	0.0250	1	06/20/22	06/20/22	
Toluene	ND	0.0250	1	06/20/22	06/20/22	
o-Xylene	ND	0.0250	1	06/20/22	06/20/22	
p,m-Xylene	ND	0.0500	1	06/20/22	06/20/22	
Total Xylenes	ND	0.0250	1	06/20/22	06/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	89.5 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2226001	
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/20/22	06/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	93.9 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: JL		Batch: 2226005	
Diesel Range Organics (C10-C28)	ND	25.0	1	06/20/22	06/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	06/20/22	06/20/22	
<i>Surrogate: n-Nonane</i>	91.0 %	50-200		06/20/22	06/20/22	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: RAS		Batch: 2226007	
Chloride	ND	20.0	1	06/20/22	06/20/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
6/21/2022 3:01:17PM

SW Comp 3A

E206141-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Benzene	ND	0.0250	1	06/20/22	06/20/22	
Ethylbenzene	ND	0.0250	1	06/20/22	06/20/22	
Toluene	ND	0.0250	1	06/20/22	06/20/22	
o-Xylene	ND	0.0250	1	06/20/22	06/20/22	
p,m-Xylene	ND	0.0500	1	06/20/22	06/20/22	
Total Xylenes	ND	0.0250	1	06/20/22	06/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	89.8 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/20/22	06/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	92.5 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2226005
Diesel Range Organics (C10-C28)	45.8	25.0	1	06/20/22	06/20/22	
Oil Range Organics (C28-C36)	68.7	50.0	1	06/20/22	06/20/22	
<i>Surrogate: n-Nonane</i>						
	94.2 %	50-200		06/20/22	06/20/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2226007
Chloride	41.5	20.0	1	06/20/22	06/20/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
6/21/2022 3:01:17PM

SW Comp 4A

E206141-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Benzene	ND	0.0250	1	06/20/22	06/20/22	
Ethylbenzene	ND	0.0250	1	06/20/22	06/20/22	
Toluene	ND	0.0250	1	06/20/22	06/20/22	
o-Xylene	ND	0.0250	1	06/20/22	06/20/22	
p,m-Xylene	ND	0.0500	1	06/20/22	06/20/22	
Total Xylenes	ND	0.0250	1	06/20/22	06/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	90.5 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/20/22	06/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	92.0 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2226005
Diesel Range Organics (C10-C28)	54.2	25.0	1	06/20/22	06/20/22	
Oil Range Organics (C28-C36)	83.5	50.0	1	06/20/22	06/20/22	
<i>Surrogate: n-Nonane</i>						
	105 %	50-200		06/20/22	06/20/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2226007
Chloride	44.9	20.0	1	06/20/22	06/20/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
6/21/2022 3:01:17PM

Comp 20B

E206141-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Benzene	ND	0.0250	1	06/20/22	06/20/22	
Ethylbenzene	ND	0.0250	1	06/20/22	06/20/22	
Toluene	ND	0.0250	1	06/20/22	06/20/22	
o-Xylene	ND	0.0250	1	06/20/22	06/20/22	
p,m-Xylene	ND	0.0500	1	06/20/22	06/20/22	
Total Xylenes	ND	0.0250	1	06/20/22	06/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	89.7 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/20/22	06/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	91.8 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2226005
Diesel Range Organics (C10-C28)	57.2	25.0	1	06/20/22	06/20/22	
Oil Range Organics (C28-C36)	87.0	50.0	1	06/20/22	06/20/22	
<i>Surrogate: n-Nonane</i>						
	105 %	50-200		06/20/22	06/20/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2226007
Chloride	41.3	20.0	1	06/20/22	06/20/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
6/21/2022 3:01:17PM

Comp 21B

E206141-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Benzene	ND	0.0250	1	06/20/22	06/20/22	
Ethylbenzene	ND	0.0250	1	06/20/22	06/20/22	
Toluene	ND	0.0250	1	06/20/22	06/20/22	
o-Xylene	ND	0.0250	1	06/20/22	06/20/22	
p,m-Xylene	ND	0.0500	1	06/20/22	06/20/22	
Total Xylenes	ND	0.0250	1	06/20/22	06/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	88.6 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/20/22	06/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	91.7 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2226005
Diesel Range Organics (C10-C28)	42.6	25.0	1	06/20/22	06/20/22	
Oil Range Organics (C28-C36)	62.0	50.0	1	06/20/22	06/20/22	
<i>Surrogate: n-Nonane</i>						
	103 %	50-200		06/20/22	06/20/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2226007
Chloride	35.4	20.0	1	06/20/22	06/20/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
6/21/2022 3:01:17PM

Comp 22B

E206141-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Benzene	ND	0.0250	1	06/20/22	06/20/22	
Ethylbenzene	ND	0.0250	1	06/20/22	06/20/22	
Toluene	ND	0.0250	1	06/20/22	06/20/22	
o-Xylene	ND	0.0250	1	06/20/22	06/20/22	
p,m-Xylene	ND	0.0500	1	06/20/22	06/20/22	
Total Xylenes	ND	0.0250	1	06/20/22	06/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	77.2 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/20/22	06/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.8 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2226005
Diesel Range Organics (C10-C28)	157	25.0	1	06/20/22	06/20/22	
Oil Range Organics (C28-C36)	198	50.0	1	06/20/22	06/20/22	
<i>Surrogate: n-Nonane</i>						
	128 %	50-200		06/20/22	06/20/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2226007
Chloride	78.1	20.0	1	06/20/22	06/20/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
6/21/2022 3:01:17PM

Comp 25B

E206141-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Benzene	ND	0.0250	1	06/20/22	06/20/22	
Ethylbenzene	ND	0.0250	1	06/20/22	06/20/22	
Toluene	ND	0.0250	1	06/20/22	06/20/22	
o-Xylene	ND	0.0250	1	06/20/22	06/20/22	
p,m-Xylene	ND	0.0500	1	06/20/22	06/20/22	
Total Xylenes	ND	0.0250	1	06/20/22	06/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	82.1 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/20/22	06/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.2 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2226005
Diesel Range Organics (C10-C28)	137	25.0	1	06/20/22	06/20/22	
Oil Range Organics (C28-C36)	186	50.0	1	06/20/22	06/20/22	
<i>Surrogate: n-Nonane</i>						
	107 %	50-200		06/20/22	06/20/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2226007
Chloride	79.5	20.0	1	06/20/22	06/20/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
6/21/2022 3:01:17PM

Comp 26B

E206141-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Benzene	ND	0.0250	1	06/20/22	06/20/22	
Ethylbenzene	ND	0.0250	1	06/20/22	06/20/22	
Toluene	ND	0.0250	1	06/20/22	06/20/22	
o-Xylene	ND	0.0250	1	06/20/22	06/20/22	
p,m-Xylene	ND	0.0500	1	06/20/22	06/20/22	
Total Xylenes	ND	0.0250	1	06/20/22	06/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	83.1 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/20/22	06/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	87.7 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2226005
Diesel Range Organics (C10-C28)	121	25.0	1	06/20/22	06/20/22	
Oil Range Organics (C28-C36)	163	50.0	1	06/20/22	06/20/22	
<i>Surrogate: n-Nonane</i>						
	107 %	50-200		06/20/22	06/20/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2226007
Chloride	62.1	20.0	1	06/20/22	06/20/22	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MA B #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
6/21/2022 3:01:17PM

Comp 30B

E206141-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Benzene	ND	0.0250	1	06/20/22	06/20/22	
Ethylbenzene	ND	0.0250	1	06/20/22	06/20/22	
Toluene	ND	0.0250	1	06/20/22	06/20/22	
o-Xylene	ND	0.0250	1	06/20/22	06/20/22	
p,m-Xylene	ND	0.0500	1	06/20/22	06/20/22	
Total Xylenes	ND	0.0250	1	06/20/22	06/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	83.9 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2226001
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/20/22	06/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.7 %	70-130		06/20/22	06/20/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: JL		Batch: 2226005
Diesel Range Organics (C10-C28)	ND	25.0	1	06/20/22	06/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	06/20/22	06/20/22	
<i>Surrogate: n-Nonane</i>						
	87.7 %	50-200		06/20/22	06/20/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2226007
Chloride	ND	20.0	1	06/20/22	06/20/22	



QC Summary Data

Mack Energy	Project Name:	MA B #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	6/21/2022 3:01:17PM

Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2226001-BLK1)

Prepared: 06/20/22 Analyzed: 06/20/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.11		8.00		88.9	70-130			

LCS (2226001-BS1)

Prepared: 06/20/22 Analyzed: 06/20/22

Benzene	5.07	0.0250	5.00		101	70-130			
Ethylbenzene	4.60	0.0250	5.00		92.1	70-130			
Toluene	4.88	0.0250	5.00		97.7	70-130			
o-Xylene	4.76	0.0250	5.00		95.2	70-130			
p,m-Xylene	9.49	0.0500	10.0		94.9	70-130			
Total Xylenes	14.3	0.0250	15.0		95.0	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.35		8.00		91.9	70-130			

LCS Dup (2226001-BSD1)

Prepared: 06/20/22 Analyzed: 06/20/22

Benzene	5.12	0.0250	5.00		102	70-130	0.902	20	
Ethylbenzene	4.65	0.0250	5.00		93.0	70-130	0.951	20	
Toluene	4.93	0.0250	5.00		98.6	70-130	0.926	20	
o-Xylene	4.81	0.0250	5.00		96.3	70-130	1.05	20	
p,m-Xylene	9.58	0.0500	10.0		95.8	70-130	0.901	20	
Total Xylenes	14.4	0.0250	15.0		95.9	70-130	0.951	20	
Surrogate: 4-Bromochlorobenzene-PID	7.31		8.00		91.3	70-130			



QC Summary Data

Mack Energy	Project Name:	MA B #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	6/21/2022 3:01:17PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2226001-BLK1)

Prepared: 06/20/22 Analyzed: 06/20/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.41		8.00		92.6	70-130			

LCS (2226001-BS2)

Prepared: 06/20/22 Analyzed: 06/20/22

Gasoline Range Organics (C6-C10)	52.6	20.0	50.0		105	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.56		8.00		94.5	70-130			

LCS Dup (2226001-BSD2)

Prepared: 06/20/22 Analyzed: 06/20/22

Gasoline Range Organics (C6-C10)	54.6	20.0	50.0		109	70-130	3.84	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.59		8.00		94.8	70-130			



QC Summary Data

Mack Energy	Project Name:	MA B #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	6/21/2022 3:01:17PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2226005-BLK1)

Prepared: 06/20/22 Analyzed: 06/20/22

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	39.8		50.0		79.6	50-200			

LCS (2226005-BS1)

Prepared: 06/20/22 Analyzed: 06/20/22

Diesel Range Organics (C10-C28)	465	25.0	500		92.9	38-132			
Surrogate: n-Nonane	42.7		50.0		85.4	50-200			

Matrix Spike (2226005-MS1)

Source: E206142-04

Prepared: 06/20/22 Analyzed: 06/20/22

Diesel Range Organics (C10-C28)	503	25.0	500	ND	101	38-132			
Surrogate: n-Nonane	45.2		50.0		90.5	50-200			

Matrix Spike Dup (2226005-MSD1)

Source: E206142-04

Prepared: 06/20/22 Analyzed: 06/20/22

Diesel Range Organics (C10-C28)	483	25.0	500	ND	96.6	38-132	4.01	20	
Surrogate: n-Nonane	46.2		50.0		92.5	50-200			



QC Summary Data

Mack Energy	Project Name:	MA B #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	6/21/2022 3:01:17PM

Anions by EPA 300.0/9056A

Analyst: RAS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2226007-BLK1)

Prepared: 06/20/22 Analyzed: 06/20/22

Chloride	ND	20.0							
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LCS (2226007-BS1)

Prepared: 06/20/22 Analyzed: 06/20/22

Chloride	248	20.0	250		99.3	90-110			
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Matrix Spike (2226007-MS1)

Source: E206138-01

Prepared: 06/20/22 Analyzed: 06/20/22

Chloride	1260	40.0	250	1170	37.2	80-120			M4
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Matrix Spike Dup (2226007-MSD1)

Source: E206138-01

Prepared: 06/20/22 Analyzed: 06/20/22

Chloride	1270	40.0	250	1170	40.4	80-120	0.638	20	M4
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QC Summary Report Comment:

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



Definitions and Notes

Mack Energy	Project Name:	MA B #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	06/21/22 15:01

- M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

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

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



Project Information

Chain of Custody

Page 1 of 1

Client: MacK
 Project: MA B#4
 Project Manager:
 Address:
 City, State, Zip
 Phone:
 Email:
 Report due by:

Bill To

Attention: ECS
 Address: 2724 NW CR
 City, State, Zip: Hobbs, NM 88240
 Phone:
 Email: Natalie

Lab Use Only

Lab WO# E206141 Job Number 20046-0081

TAT

1D ☐ 2D ☒ 3D ☐ Standard

EPA Program

CWA ☐ SDWA ☐

Analysis and Method

DRO/DRO by 8015 ☐ GRO/DRO by 8015 ☐ BTEX by 8021 ☐ VOC by 8260 ☐ Metals 6010 ☐ Chloride 300.0 ☐ BGDOC NM ☒ BGDOC TX ☐

State

NM ☒ CO ☐ UT ☐ AZ ☐ TX ☐

Remarks

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	BGDOC TX	Remarks
	6-16	S	1	Sw Comp 1B	1							☒		
				Sw Comp 2B	2									
				Sw Comp 3A	3									
				Sw Comp 4A	4									
				Comp 20B	5									
				Comp 21B	6									
				Comp 22B	7									
				Comp 25B	8									
				Comp 26B	9									
				Comp 30B	10									

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Relinquished by: (Signature)

Date

Time

Sampled by:

Received by: (Signature)

Date

Time

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

Relinquished by: (Signature)

Date

Time

Received by: (Signature)

Date

Time

Received on ice:

Lab Use Only

☒ Y ☐ N

Relinquished by: (Signature)

Date

Time

Received by: (Signature)

Date

Time

T1 T2 T3

AVG Temp °C 4

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Envirotech Analytical Laboratory

Printed: 6/20/2022 11:57:12AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	06/20/22 08:15	Work Order ID:	E206141
Phone:	(575) 390-6397	Date Logged In:	06/20/22 08:26	Logged In By:	Caitlin Christian
Email:	Natalie@energystaffingllc.com	Due Date:	06/21/22 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: UPSComments/Resolution

Time sampled and project manager not provided on COC.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

MA B #4 RECLAMATION

In August of 2022, after backfilling the 4' area that was previously excavated by Vertex, ESS complied with the OCD Rules and Regulations for Environmental Projects as detailed in the main deferral report. The area composites were completed and cleared except for the area at the facility wall. The pasture area was backfilled with fresh/clean topsoil, tilled and slopped, BLM Seed was then broadcasted and site was then tilled again to plant the seed in the pasture area. Fresh water was then sprayed for the seed to take hold.

Attached you will find the mapping of the reclamation area.

MACK ENERGY

MA B #4 FACILITY
RECLAMATION MAP

Legend

-  SOUTH RECLAMATION AREA
-  WEST RECLAMATION AREA

MA B #4 WELL/FACILITY PAD 

WEST RECLAMATION AREA 1

SOUTH RECLAMATION AREA 1



Natalie Gladden

From: OCDOnline@state.nm.us
Sent: Tuesday, March 11, 2025 10:39 AM
To: Natalie Gladden
Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 405387

To whom it may concern (c/o Natalie Gladden for MACK ENERGY CORP),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nOY1818639026, for the following reasons:

- **Deferral request is denied for the following reasons; 1. Did not provide sampling notifications for 4/21/2022, 4/22/2022, 4/25/2022, and 6/16/2022 either via telephone or email included within the report. 2. Did not fully delineate both horizontally and vertically per 19.15.29.11 NMAC, especially the deferral area in question. 3. Have not recorded the estimated soil volume left in place to be deferred. 4. Have not provided adequate photos or site map to demonstrate the area being deferred. 5. Mack Energy has 90-days (June 9, 2025) to submit its appropriate or final remediation closure report.**

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 405387.

Please review and make the required correction(s) prior to resubmitting.

If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you,
Nelson Velez
Environmental Specialist - Advanced
505-469-6146
Nelson.Velez@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Natalie Gladden

From: OCDOnline@state.nm.us
Sent: Monday, November 17, 2025 3:37 PM
To: Natalie Gladden
Subject: The Oil Conservation Division (OCD) has accepted the application, Application ID: 527335

To whom it may concern (c/o Natalie Gladden for MACK ENERGY CORP),

The OCD has received the submitted *Notification for (Final) Sampling of a Release* (C-141N), for incident ID (n#) nOY1818639026.

The sampling event is expected to take place:

When: 11/19/2025 @ 07:00

Where: H-31-17S-33E 1650 FNL 990 FEL (32.7936935,-103.6971054)

Additional Information: MARK RIVERA 505-604-7371

Additional Instructions: NATALIE GLADDEN 575-390-6397

An OCD representative may be available onsite at the date and time reported. In the absence or presence of an OCD representative, sampling pursuant to 19.15.29.12.D NMAC is required. Sampling must be performed following an approved sampling plan or pursuant to 19.15.29.12.D.(1).(c) NMAC. Should there be a change in the scheduled date and time of the sampling event, then another notification should be resubmitted through OCD permitting as soon as possible.

- **Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.**
- **If confirmation sampling is going to take place over multiple days, individual C-141N applications must be submitted for each sampling date. Date ranges are not currently accepted on the C-141N application.**

If you have any questions regarding this application, or don't know why you have received this email, please contact us.

MACK ENERGY

MA B 4 FACILITY
DELINEATION MAP

Legend

- HORIZONTAL SAMPLE PTS
- IMPACT AREA
- ⚓ MA B #4 WELL/FACILITY PAD
- VERTICAL SAMPLE PTS

📌 **MA B #4 WELL/FACILITY PAD**



40 ft

Company Name: MACK

Location Name: MA B #4

SP ID	Depth	Titr	PID	L-BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL	DATES
SP1	SURF	1440	L	ND	ND	ND	ND	ND	1450	3/28/2025
	1	320								
	2	320	L	ND	ND	ND	ND	ND	319	4/1/2025
SP2	SURF	1440	H	ND	ND	7100	4490	11590	1800	3/28/2025
	1	1200								
	2	1040								
	3	720								
	4	400								
	5	880								
	6	640								
	7	480								
	8	480	L	ND	ND	ND	ND	ND	336	4/14/2025
SP3	SURF	2040	L	ND	ND	ND	ND	ND	2780	3/28/2025
	1	800								
	2	320								
	3	320	L	ND	ND	ND	ND	ND	344	4/1/2025
SP4	SURF	80	L	ND	ND	ND	ND	ND	251	3/28/2025
	1	720								
	2	800								
	3	320								
	4	80	L	ND	ND	ND	ND	ND	123	4/1/2025
SP5	SURF	>4000	L	ND	ND	ND	ND	ND	30200	3/28/2025
	1	2720								
	2	480								
	3	160	L	ND	ND	ND	ND	ND	108	4/1/2025
SP6	SURF	>4000	L	ND	ND	ND	ND	ND	14600	3/28/2025

	1	2320								
	2	880								
	3	540								
	4	400	L	ND	ND	ND	ND	ND	324	4/3/2025
SP7	SURF	2640	H	ND	ND	6580	4710	11290	5080	3/28/2025
	1	480								
	2	240	L	ND	ND	26.5	ND	26.5	255	4/1/2025
SP8	SURF	80	H	ND	ND	5030	5780	10810	35.4	3/28/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	96.8	4/1/2025
SP9	SURF	80	H	ND	ND	8590	8630	17220	21.5	3/28/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	33.3	4/1/2025
SP10	SURF	80	H	ND	ND	602	580	1182	52.5	3/28/2025
	1	240								
	2	160	L	ND	ND	ND	ND	ND	77.3	4/1/2025
SP11	SURF	>4000	L	ND	ND	ND	ND	ND	10900	3/28/2025
	1	680								
	2	640								
	3	500								
	4	480	L	ND	ND	ND	ND	ND	469	4/3/2025
SP12	SURF	>4000	L	ND	ND	ND	ND	ND	18500	3/28/2025
	1	2560								
	2	960								
	3	400								
	4	320	L	ND	ND	ND	ND	ND	181	4/1/2025
SP13	SURF	>4000	L	ND	ND	ND	ND	ND	13900	3/28/2025

	1	80								
	2	80	L	ND	ND	ND	ND	ND	220	4/1/2025
SP14	SURF	400	H	ND	ND	18000	10800	28800	333	3/28/2025
	1	320								
	2	160	H	ND	ND	199	236	435	147	4/1/2025
	3	80								
	4	80								
	5	80								
	6	80	L	ND	ND	ND	ND	ND	ND	4/17/2025
SP15	SURF	>4000	H	ND	ND	18300	11300	29600	8980	3/28/2025
	1	480								
	2	400	H	ND	ND	108	86.3	194.3	759	4/1/2025
	3	160								
	4	160								
	5	880								
	6	880								
	7	720								
	8	80								
	9	80								
	10	80	L	ND	ND	ND	ND	ND	ND	4/17/2025
SP16	SURF	80	H	ND	ND	2160	2820	4980	58.7	3/28/2025
	1									
	2		L	ND	ND	ND	ND	ND	286	4/3/2025
SP17	SURF	80	H	ND	ND	6360	6040	12400	49.6	3/28/2025
	1	2560								
	2	960								
	3	880								
	4	640								
	5	320								
	6	80								

	7	80	L	ND	ND	ND	ND	ND	83.1	4/14/2025
SP18	SURF	>4000	H	ND	ND	1650	2080	3730	6510	3/28/2025
	1									
	2		L	ND	ND	ND	ND	ND	330	4/3/2025
SP19	SURF	3600	H	ND	ND	156	388	544	3840	3/28/2025
	1									
	2		L	ND	ND	34.6	ND	34.6	82.6	4/3/2025
SP20	SURF	>4000		ND	ND	ND	ND	ND	6380	6/25/2025
	1	1840								
	2	80								
	3	80		ND	ND	ND	ND	ND	46.5	6/25/2025
SP21	SURF	>4000	L	ND	ND	ND	ND	ND	1310	4/28/2025
	1	>4000								
	2	1200								
	3	160								
	4	80	L	ND	ND	ND	ND	ND	26.2	4/28/2025
SP22	SURF	1600	L	ND	ND	ND	ND	ND	1930	4/28/2025
	1	2640								
	2	320								
	3	160	L	ND	ND	ND	ND	ND	144	4/28/2025
SP23	SURF	>4000	L	ND	ND	ND	ND	ND	9730	4/29/2025
	1	2880								
	2	720								
	3	400								
	4	400	L	ND	ND	ND	ND	ND	434	4/29/2025
SP24	SURF	400	H	ND	ND	3680	2980	6660	289	4/30/2025
	1	640								

	2	480								
	3	240	L	ND	ND	ND	ND	ND	212	4/30/2025
SP25	SURF	160	L	ND	ND	ND	ND	ND	95.7	4/30/2025
	1	1200								
	2	480								
	3	80	L	ND	ND	ND	ND	ND	136	4/30/2025
SP26	SURF	80	L	ND	ND	ND	ND	ND	60.6	4/30/2025
	1	1120								
	2	320								
	3	320	L	ND	ND	ND	ND	ND	392	4/30/2025
SP27	SURF	880	L	ND	ND	ND	ND	ND	850	4/30/2025
	1	1760								
	2	480								
	3	80	L	ND	ND	ND	ND	ND	40.8	4/30/2025
SP28	SURF	720	L	ND	ND	ND	ND	ND	684	4/30/2025
	1	1760								
	2	720								
	3	560								
	4	80	L	ND	ND	ND	ND	ND	44.1	4/30/2025
SP29	SURF	480	L	ND	ND	ND	ND	ND	511	4/30/2025
	1	880								
	2	400								
	3	400	L	ND	ND	ND	ND	ND	442	4/30/2025
SP30	SURF	80	L	ND	ND	ND	ND	ND	112	4/30/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	ND	4/30/2025
SP31	SURF	80	L	ND	ND	ND	ND	ND	24.2	4/30/2025

	1	240								
	2	240	L	ND	ND	ND	ND	ND	179	4/30/2025
SP32	SURF	1040	L	ND	ND	ND	ND	ND	811	4/30/2025
	1	240								
	2	160	L	ND	ND	ND	ND	ND	144	4/30/2025
SP33	SURF	80	L	ND	ND	ND	ND	ND	ND	4/30/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	135	4/30/2025
SP34	SURF	160	L	ND	ND	ND	ND	ND	132	5/1/2025
	1	480								
	2	320	L	ND	ND	ND	ND	ND	241	5/1/2025
SP35	SURF	80	L	ND	ND	ND	ND	ND	ND	5/1/2025
	1	400								
	2	320	L	ND	ND	ND	ND	ND	327	5/1/2025
SP36	SURF	80	L	ND	ND	ND	ND	ND	ND	5/1/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	ND	5/1/2025
SW1	SURF	>4000	L	ND	ND	ND	ND	ND	6400	3/28/2025
	1	240								
	2	80								
	3	80								
	4	80								
	5	80								
	6	80								
	7	320								
	8	640								
	9	2080								
	10	1600								DROPPED SP20

SW2	SURF	1840	H	ND	ND	46.9	54.6	101.5	2240	3/28/2025
	1	240								
	2	240								
	3	240								
	4	480								
	5	1200								
	6	1360								
	7	160								
	8	2080								
	9	1200								
	10	1200								DROPPED SP21
SW3	SURF	320	L	ND	ND	ND	ND	ND	156	3/28/2025
	1	80	H							
	2	400	H							
	3	480	H							
	4	480	H							
	5	280	H							
	6	460	H							
	7	80	L							
	8	80	L	ND	ND	ND	ND	ND	65.9	4/14/2025
SW4	SURF	80	L	ND	ND	ND	ND	ND	67.5	3/28/2025
	1	400								
	2	200	L	ND	ND	ND	ND	ND	193	4/17/2025
SW5	SURF	400	L	ND	ND	ND	ND	ND	335	3/28/2025
	1	300	H							
	2	280	H							
	3	425	H							
	4	514	H							
	5	320	H							
	6	420	H							

	7	250	H							
	8	180	H							
	9	80								
	10	20		ND	ND	ND	ND	ND	ND	6/25/2025
SW6	SURF	480	L	ND	ND	ND	ND	ND	491	3/28/2025
	1	480	M							
	2	480	H							
	3	400	H							
	4	120	L							
	5	80	L	ND	ND	ND	ND	ND	31.3	4/17/2025
SW7	SURF	80	L	ND	ND	ND	ND	ND	117	3/28/2025
	1	80	M							
	2	80	H							
	3	100	H							
	4	240	H							
	5	300	H							
	6	380	H							
	7	200	L							
	8	80	L	ND	ND	ND	ND	ND	36.4	4/17/2025
SW8	SURF	400	L	ND	ND	ND	ND	ND	134	3/28/2025
	1	240								
	2	160	L	ND	ND	ND	ND	ND	65.1	4/17/2025
SW9	SURF	80	L	ND	ND	ND	ND	ND	ND	3/28/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	ND	4/17/2025
SW10	SURF	80	L	ND	ND	ND	ND	ND	ND	3/28/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	ND	4/17/2025

SW11	SURF	160	L	ND	ND	ND	ND	ND	23.6	
	1	160								
	2	80	L	ND	ND	ND	ND	ND	ND	4/17/2025
SW12	SURF	240	L	ND	ND	ND	ND	ND	179	
	1	160								
	2	160	L	ND	ND	ND	ND	ND	ND	4/17/2025
SW13	SURF	>4000	L	ND	ND	ND	ND	ND	8600	6/25/2025
	1	>4000								
	2	>4000								
	3	>4000								
	4	>4000								
	5	>4000								
	6	>4000								
	7	2140								
	8	860								
	9	514								
	10	20	L	ND	ND	ND	ND	ND	20.1	6/25/2025
SW14	SURF	3520	L	ND	ND	ND	ND	ND	3470	4/28/2025
	1	1920								
	2	1200								
	3	1040								
	4	1360								
	5	1360								
	6	2800								
	7	3760								
	8	720								
	9	80								
	10	20	L	ND	ND	ND	ND	ND	ND	6/25/2025
SW15	SURF	>4000	L	ND	ND	ND	ND	ND	7730	4/28/2025
	1	>4000								

	2	>4000								
	3	>4000								
	4	>4000								
	5	>4000								
	6	>4000								
	7	1800								
	8	620								
	9	415								
	10	20		ND	ND	ND	ND	ND	ND	6/25/2025
SW16	SURF	320	H	ND	ND	148	245	393	180	5/1/2025
	1	300	H							
	2	280	H							
	3	340	H							
	4	260	H							
	5	240	H							
	6	40	L							
	7	20	L	ND	ND	ND	ND	ND	20.4	6/25/2025
SW17	SURF	80	L	ND	ND	ND	ND	ND	55.2	5/1/2025
	1	320	M							
	2	320	H							
	3	320	H							
	4	320	H							
	5	300	H							
	6	400	H							
	7	520	H							
	8	140	L							
	9	20	L	ND	ND	ND	ND	ND	20.4	
SW18	SURF	80	L	ND	ND	ND	ND	ND	40.8	5/1/2025
	1	80								
	2	80	L	ND	ND	ND	ND	ND	24.8	5/1/2025

SW19	SURF	3440	L	ND	ND	ND	ND	ND	3640	5/1/2025
	1	2480								
	2	80								
	3	80	L	ND	ND	ND	ND	ND	23.6	5/1/2025
SW20	SURF	80	L	ND	ND	ND	ND	ND	ND	5/1/2025
	1	320								
	2	320								
	3	320	L	ND	ND	ND	ND	ND	269	5/1/2025

CLIENTS MACK ENERGY
LOCATION MA B #4 FACILITY AREA
 SAMPLE DATA GPS

SAMPLE ID	LAT	LONG
SP1	32.793452°	-103.697132°
SP2	32.793496°	-103.697130°
SP3	32.793483°	-103.697479°
SP4	32.793466°	-103.697488°
SP5	32.793444°	-103.697495°
SP6	32.793471°	-103.697159°
SP7	32.793484°	-103.697002°
SP8	32.793492°	-103.697052°
SP9	32.793473°	-103.696964°
SP10	32.793463°	-103.697010°
SP11	32.793462°	-103.697060°
SP12	32.793446°	-103.697255°
SP13	32.793476°	-103.697090°
SP14	32.793452°	-103.697445°
SP15	32.793468°	-103.697442°
SP16	32.793449°	-103.697387°
SP17	32.793489°	-103.697441°
SP18	32.793490°	-103.697384°
SP19	32.793492°	-103.697336°
SP20	32.793482°	-103.697257°
SP21	32.793490°	-103.697223°
SP22	32.793446°	-103.697188°
SP23	32.793488°	-103.697175°
SP24	32.793469°	-103.697132°
SP25	32.793473°	-103.697039°
SP26	32.793465°	-103.697251°
SP27	32.793468°	-103.697294°
SP28	32.793444°	-103.697288°
SP29	32.793455°	-103.697312°
SP30	32.793442°	-103.697341°
SP31	32.793463°	-103.697330°
SP32	32.793465°	-103.697225°
SP33	32.793442°	-103.697224°
SP34	32.793493°	-103.697295°
SP35	32.793435°	-103.697434°
SP36	32.793469°	-103.697077°
SW1	32.793455°	-103.696988°
SW2	32.793437°	-103.697047°
SW3	32.793438°	-103.697125°
SW4	32.793433°	-103.697202°
SW5	32.793435°	-103.697282°
SW6	32.793434°	-103.697348°

SW7	32.793431°	-103.697411°
SW8	32.793430°	-103.697474°
SW9	32.793463°	-103.697509°
SW10	32.793502°	-103.697506°
SW11	32.793501°	-103.697442°
SW12	32.793506°	-103.697382°
SW13	32.793509°	-103.697318°
SW14	32.793505°	-103.697255°
SW15	32.793506°	-103.697196°
SW16	32.793507°	-103.697148°
SW17	32.793509°	-103.697095°
SW18	32.793509°	-103.697041°
SW19	32.793496°	-103.696992°
SW20	32.793474°	-103.696951°

Report to:
Natalie Gladden



5796 U.S. Hwy 64
Farmington, NM 87401

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



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E504002

Job Number: 20046-0001

Received: 4/2/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
4/3/25

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: 4/3/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E504002
Date Received: 4/2/2025 4:30:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/2/2025 4:30:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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Laboratory Director
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Cell: 775-287-1762
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Sample Summary

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	04/03/25 17:35

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP1-SURF	E504002-01A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP2-SURF	E504002-02A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP3-SURF	E504002-03A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP4-SURF	E504002-04A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP5-SURF	E504002-05A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP6-SURF	E504002-06A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP7-SURF	E504002-07A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP8-SURF	E504002-08A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP9-SURF	E504002-09A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP10-SURF	E504002-10A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP11-SURF	E504002-11A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP12-SURF	E504002-12A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP13-SURF	E504002-13A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP14-SURF	E504002-14A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP15-SURF	E504002-15A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP16-SURF	E504002-16A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP17-SURF	E504002-17A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP18-SURF	E504002-18A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SP19-SURF	E504002-19A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP1-SURF

E504002-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.7 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.7 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2514065	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	97.6 %	61-141		04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	1450	40.0	2	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP2-SURF

E504002-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.1 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.0 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2514065	
Diesel Range Organics (C10-C28)	7100	125	5	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	4490	250	5	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	116 %	61-141		04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	1800	20.0	1	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP3-SURF

E504002-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.2 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.0 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2514065	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	104 %	61-141		04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	2780	40.0	2	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP4-SURF

E504002-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.0 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.1 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2514065	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	101 %	61-141		04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	251	20.0	1	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP5-SURF

E504002-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2514062
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.2 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2514062
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	87.6 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: HM		Batch: 2514065
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	103 %	61-141		04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2514070
Chloride	30200	400	20	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP6-SURF

E504002-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		85.4 %	70-130	04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2514065	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
		106 %	61-141	04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	14600	200	10	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP7-SURF

E504002-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		84.9 %	70-130	04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2514065	
Diesel Range Organics (C10-C28)	6580	125	5	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	4710	250	5	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
		116 %	61-141	04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	5080	100	5	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP8-SURF

E504002-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.0 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	85.8 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2514065	
Diesel Range Organics (C10-C28)	5030	125	5	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	5780	250	5	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	114 %	61-141		04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	35.4	20.0	1	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP9-SURF

E504002-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.6 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	85.3 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2514065	
Diesel Range Organics (C10-C28)	8590	125	5	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	8630	250	5	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	108 %	61-141		04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	21.5	20.0	1	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP10-SURF

E504002-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.4 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	92.1 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2514065	
Diesel Range Organics (C10-C28)	602	25.0	1	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	580	50.0	1	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	125 %	61-141		04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	52.5	20.0	1	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP11-SURF

E504002-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		90.5 %	70-130	04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2514065	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
		103 %	61-141	04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	10900	200	10	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP12-SURF

E504002-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		88.5 %	70-130	04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2514065	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
		103 %	61-141	04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	18500	200	10	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP13-SURF

E504002-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.7 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.1 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2514065	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	107 %	61-141		04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	13900	200	10	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP14-SURF

E504002-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.4 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.0 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2514065	
Diesel Range Organics (C10-C28)	18000	125	5	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	10800	250	5	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	114 %	61-141		04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	333	20.0	1	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP15-SURF

E504002-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.8 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	84.7 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2514065	
Diesel Range Organics (C10-C28)	18300	125	5	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	11300	250	5	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	121 %	61-141		04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	8980	200	10	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP16-SURF

E504002-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		91.1 %	70-130	04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2514065	
Diesel Range Organics (C10-C28)	2160	50.0	2	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	2820	100	2	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
		118 %	61-141	04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	58.7	20.0	1	04/02/25	04/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP17-SURF

E504002-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	93.6 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.0 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2514065	
Diesel Range Organics (C10-C28)	6360	50.0	2	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	6040	100	2	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	125 %	61-141		04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	49.6	20.0	1	04/02/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP18-SURF

E504002-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2514062
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.9 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: RKS		Batch: 2514062
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	93.7 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: NV		Batch: 2514065
Diesel Range Organics (C10-C28)	1650	50.0	2	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	2080	100	2	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	125 %	61-141		04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2514070
Chloride	6510	40.0	2	04/02/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 5:35:19PM

SP19-SURF

E504002-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Benzene	ND	0.0250	1	04/02/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/03/25	
Toluene	ND	0.0250	1	04/02/25	04/03/25	
o-Xylene	ND	0.0250	1	04/02/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.4 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514062	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	85.7 %	70-130		04/02/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2514065	
Diesel Range Organics (C10-C28)	156	25.0	1	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	388	50.0	1	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	115 %	61-141		04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514070	
Chloride	3840	40.0	2	04/02/25	04/03/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/3/2025 5:35:19PM

Volatile Organics by EPA 8021B

Analyst: IY

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

Blank (2514062-BLK1) Prepared: 04/02/25 Analyzed: 04/03/25

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	7.24		8.00		90.5	70-130			

LCS (2514062-BS1) Prepared: 04/02/25 Analyzed: 04/03/25

Benzene	5.69	0.0250	5.00		114	70-130			
Ethylbenzene	5.45	0.0250	5.00		109	70-130			
Toluene	5.59	0.0250	5.00		112	70-130			
o-Xylene	5.41	0.0250	5.00		108	70-130			
p,m-Xylene	11.1	0.0500	10.0		111	70-130			
Total Xylenes	16.5	0.0250	15.0		110	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.14		8.00		89.2	70-130			

LCS Dup (2514062-BSD1) Prepared: 04/02/25 Analyzed: 04/03/25

Benzene	5.53	0.0250	5.00		111	70-130	2.96	20	
Ethylbenzene	5.30	0.0250	5.00		106	70-130	2.79	20	
Toluene	5.43	0.0250	5.00		109	70-130	2.89	20	
o-Xylene	5.26	0.0250	5.00		105	70-130	2.79	20	
p,m-Xylene	10.8	0.0500	10.0		108	70-130	2.78	20	
Total Xylenes	16.0	0.0250	15.0		107	70-130	2.78	20	
Surrogate: 4-Bromochlorobenzene-PID	7.11		8.00		88.9	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/3/2025 5:35:19PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2514062-BLK1) Prepared: 04/02/25 Analyzed: 04/03/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.06		8.00		88.3	70-130			

LCS (2514062-BS2) Prepared: 04/02/25 Analyzed: 04/03/25

Gasoline Range Organics (C6-C10)	45.2	20.0	50.0		90.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.40		8.00		92.4	70-130			

LCS Dup (2514062-BSD2) Prepared: 04/02/25 Analyzed: 04/03/25

Gasoline Range Organics (C6-C10)	47.3	20.0	50.0		94.5	70-130	4.39	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.39		8.00		92.4	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/3/2025 5:35:19PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: HM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2514065-BLK1)					Prepared: 04/02/25 Analyzed: 04/03/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	50.5		50.0		101	61-141			

LCS (2514065-BS1)					Prepared: 04/02/25 Analyzed: 04/03/25				
Diesel Range Organics (C10-C28)	268	25.0	250		107	66-144			
Surrogate: n-Nonane	51.3		50.0		103	61-141			

Matrix Spike (2514065-MS1)					Source: E504002-09		Prepared: 04/02/25 Analyzed: 04/03/25		
Diesel Range Organics (C10-C28)	9330	125	250	8590	297	56-156			M4
Surrogate: n-Nonane	58.6		50.0		117	61-141			

Matrix Spike Dup (2514065-MSD1)					Source: E504002-09		Prepared: 04/02/25 Analyzed: 04/03/25		
Diesel Range Organics (C10-C28)	10200	125	250	8590	663	56-156	9.32	20	M4
Surrogate: n-Nonane	58.6		50.0		117	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/3/2025 5:35:19PM

Anions by EPA 300.0/9056A

Analyst: DT

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2514070-BLK1)					Prepared: 04/02/25 Analyzed: 04/02/25				
Chloride	ND	20.0							
LCS (2514070-BS1)					Prepared: 04/02/25 Analyzed: 04/02/25				
Chloride	258	20.0	250		103	90-110			
Matrix Spike (2514070-MS1)					Source: E504002-03		Prepared: 04/02/25 Analyzed: 04/02/25		
Chloride	2920	40.0	250	2780	54.2	80-120			M4
Matrix Spike Dup (2514070-MSD1)					Source: E504002-03		Prepared: 04/02/25 Analyzed: 04/02/25		
Chloride	2940	40.0	250	2780	62.1	80-120	0.674	20	M4

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	04/03/25 17:35

- M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.

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

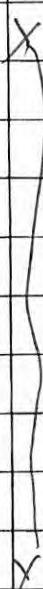
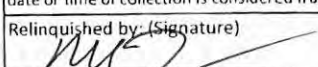
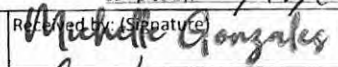
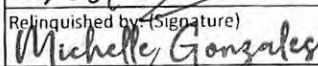
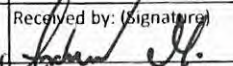
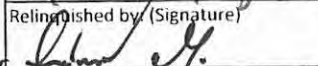
Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Project Information

Chain of Custody

Page 1 of 4

Client: <u>MACT ENERGY</u>				Bill To				Lab Use Only				TAT				EPA Program	
Project: <u>FEB MAB 64</u>				Attention: <u>ENERGY STAFFING SERVICES</u>				Lab WO# <u>E504002</u>		Job Number <u>20046-0001</u>		1D	2D	3D	Standard	CWA	SDWA
Project Manager:				Address: <u>2724 NW COUNTY RD</u>				Analysis and Method								RCRA	
Address:				City, State, Zip <u>HOBBS, NM 88240</u>													
City, State, Zip				Phone: <u>575-393-9048</u>				DRO/ORO by 8015 GRO/DRO by 8015 BTEX by 8021 VOC by 8260 Metals 6010 Chloride 300.0 BGDOC NM BGDOC TX								State	
Phone:				Email: <u>NATALIE@ENERGYSTAFFINGLLC.COM</u>												NM	CO
Email:				BRITTNEY@ENERGYSTAFFINGLLC.COM				Remarks									
Report due by:																	
Time Sampled	Date Sampled	Matrix	No of Containers	Sample ID	Lab Number												
	3/28/25	S	1	SP1 - SURF	1												
				SP2 - SURF	2												
				SP3 - SURF	3												
				SP4 - SURF	4												
				SP5 - SURF	5												
				SP6 - SURF	6												
				SP7 - SURF	7												
				SP8 - SURF	8												
				SP9 - SURF	9												
	3/28/25	S	1	SP10 - SURF	10												
Additional Instructions:																	
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.										Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.							
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	Lab Use Only									
		3/28/25				4-1-25	1330	Received on ice: ☒ Y / ☐ N									
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	T1 T2 T3									
		4-1-25	1615			4-1-25	1700										
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	AVG Temp °C									
		4-1-25	2245			4-2-25	0430	4									
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other										Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA							
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																	



Project Information

Chain of Custody

Page 2 of 4

Client: <u>MACK ENERGY</u>				Bill To				Lab Use Only				TAT				EPA Program									
Project: <u>FCC MAB 44</u>				Attention: <u>ENERGY STAFFING SERVICES</u>				Lab WO# <u>ES04002</u>		Job Number <u>20046-0001</u>		1D	2D	3D	Standard	CWA	SDWA								
Project Manager:				Address: <u>2724 NW COUNTY RD</u>				Analysis and Method								RCRA									
Address:				City, State, Zip <u>HOBBS, NM 88240</u>												CWA		SDWA							
City, State, Zip				Phone: <u>575-393-9048</u>				State								RCRA									
Phone:				Email: <u>NATALIE@ENERGYSTAFFINGLLC.COM</u>												NM		CO		UT		AZ		TX	
Email:				BRITTNEY@ENERGYSTAFFINGLLC.COM				Remarks								NM		CO		UT		AZ		TX	
Report due by:																BGDOC		TX							
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0			BGDOC NM	BGDOC TX										
	<u>3/29/25</u>	<u>S</u>	<u>1</u>	<u>SP11 - SURF</u>	<u>11</u>									<u>X</u>											
				<u>SP12 - SURF</u>	<u>12</u>																				
				<u>SP13 - SURF</u>	<u>13</u>																				
				<u>SP14 - SURF</u>	<u>14</u>																				
				<u>SP15 - SURF</u>	<u>15</u>																				
				<u>SP16 - SURF</u>	<u>16</u>																				
				<u>SP17 - SURF</u>	<u>17</u>																				
				<u>SP18 - SURF</u>	<u>18</u>																				
	<u>3/29/25</u>	<u>S</u>	<u>1</u>	<u>SP19 - SURF</u>	<u>19</u>									<u>X</u>											
Additional Instructions:																									
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.												Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.													
Relinquished by: (Signature) <u>[Signature]</u>				Date <u>3/29/25</u>		Time		Received by: (Signature) <u>Michelle Gonzales</u>				Date <u>4-1-25</u>		Time <u>1330</u>		Lab Use Only									
Relinquished by: (Signature) <u>Michelle Gonzales</u>				Date <u>4-1-25</u>		Time <u>1615</u>		Received by: (Signature) <u>[Signature]</u>				Date <u>4-1-25</u>		Time <u>1700</u>		Received on ice: <u>(Y) / N</u>									
Relinquished by: (Signature) <u>[Signature]</u>				Date <u>4-1-25</u>		Time <u>2245</u>		Received by: (Signature) <u>Keylyn R Heese</u>				Date <u>4-2-25</u>		Time <u>0430</u>		T1 _____ T2 _____ T3 _____									
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other												Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA													
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																									

Envirotech Analytical Laboratory

Printed: 4/2/2025 9:04:55AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	04/02/25 04:30	Work Order ID:	E504002
Phone:	(575) 390-6397	Date Logged In:	04/01/25 14:43	Logged In By:	Noe Soto
Email:	Natalie@energystaffingllc.com	Due Date:	04/03/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierSample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client InstructionComments/Resolution

Project manager and time sampled are not provided by client on COC. Project FEE MA B #4 has been separated into 2 WOs due to high sample volume.

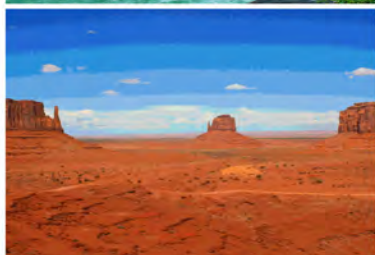
Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E504003

Job Number: 20046-0001

Received: 4/2/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
4/3/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 4/3/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E504003
Date Received: 4/2/2025 4:30:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/2/2025 4:30:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

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

Field Offices:

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Lynn Jarboe
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Cell: 505-320-4759
ljjarboe@envirotech-inc.com

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Client Representative
Office: 505-421-LABS(5227)
Cell: 505-947-8222
mgonzales@envirotech-inc.com

Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: FEE MAB #4 Project Number: 20046-0001 Project Manager: Natalie Gladden	Reported: 04/03/25 13:15
--	--	-----------------------------

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW1-SURF	E504003-01A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SW2-SURF	E504003-02A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SW3-SURF	E504003-03A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SW4-SURF	E504003-04A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SW5-SURF	E504003-05A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SW6-SURF	E504003-06A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SW7-SURF	E504003-07A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SW8-SURF	E504003-08A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SW9-SURF	E504003-09A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SW10-SURF	E504003-10A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SW11-SURF	E504003-11A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.
SW12-SURF	E504003-12A	Soil	03/28/25	04/02/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 1:15:07PM

SW1-SURF

E504003-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Benzene	ND	0.0250	1	04/02/25	04/02/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/02/25	
Toluene	ND	0.0250	1	04/02/25	04/02/25	
o-Xylene	ND	0.0250	1	04/02/25	04/02/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/02/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/02/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		101 %	70-130	04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/02/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		85.2 %	70-130	04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2514066	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/02/25	
<i>Surrogate: n-Nonane</i>		85.6 %	61-141	04/02/25	04/02/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2514071	
Chloride	6400	100	5	04/02/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 1:15:07PM

SW2-SURF

E504003-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Benzene	ND	0.0250	1	04/02/25	04/02/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/02/25	
Toluene	ND	0.0250	1	04/02/25	04/02/25	
o-Xylene	ND	0.0250	1	04/02/25	04/02/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/02/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/02/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.1 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/02/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	85.5 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514066	
Diesel Range Organics (C10-C28)	46.9	25.0	1	04/02/25	04/02/25	
Oil Range Organics (C28-C36)	54.6	50.0	1	04/02/25	04/02/25	
<i>Surrogate: n-Nonane</i>						
	65.8 %	61-141		04/02/25	04/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514071	
Chloride	2240	40.0	2	04/02/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 1:15:07PM

SW3-SURF

E504003-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Benzene	ND	0.0250	1	04/02/25	04/02/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/02/25	
Toluene	ND	0.0250	1	04/02/25	04/02/25	
o-Xylene	ND	0.0250	1	04/02/25	04/02/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/02/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/02/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.4 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/02/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	85.4 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514066	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/02/25	
<i>Surrogate: n-Nonane</i>						
	85.3 %	61-141		04/02/25	04/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514071	
Chloride	156	20.0	1	04/02/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 1:15:07PM

SW4-SURF

E504003-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Benzene	ND	0.0250	1	04/02/25	04/02/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/02/25	
Toluene	ND	0.0250	1	04/02/25	04/02/25	
o-Xylene	ND	0.0250	1	04/02/25	04/02/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/02/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/02/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.2 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/02/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	87.1 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514066	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/02/25	
<i>Surrogate: n-Nonane</i>						
	67.1 %	61-141		04/02/25	04/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514071	
Chloride	67.5	20.0	1	04/02/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 1:15:07PM

SW5-SURF

E504003-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Benzene	ND	0.0250	1	04/02/25	04/02/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/02/25	
Toluene	ND	0.0250	1	04/02/25	04/02/25	
o-Xylene	ND	0.0250	1	04/02/25	04/02/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/02/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/02/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	96.0 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/02/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	84.9 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2514066	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/02/25	
<i>Surrogate: n-Nonane</i>	94.3 %	61-141		04/02/25	04/02/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2514071	
Chloride	335	20.0	1	04/02/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 1:15:07PM

SW6-SURF

E504003-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Benzene	ND	0.0250	1	04/02/25	04/02/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/02/25	
Toluene	ND	0.0250	1	04/02/25	04/02/25	
o-Xylene	ND	0.0250	1	04/02/25	04/02/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/02/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/02/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.3 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/02/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	85.5 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514066	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/02/25	
<i>Surrogate: n-Nonane</i>						
	82.1 %	61-141		04/02/25	04/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514071	
Chloride	491	20.0	1	04/02/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 1:15:07PM

SW7-SURF

E504003-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Benzene	ND	0.0250	1	04/02/25	04/02/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/02/25	
Toluene	ND	0.0250	1	04/02/25	04/02/25	
o-Xylene	ND	0.0250	1	04/02/25	04/02/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/02/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/02/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.3 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/02/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	85.6 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514066	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/02/25	
<i>Surrogate: n-Nonane</i>						
	65.6 %	61-141		04/02/25	04/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514071	
Chloride	117	20.0	1	04/02/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 1:15:07PM

SW8-SURF

E504003-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Benzene	ND	0.0250	1	04/02/25	04/02/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/02/25	
Toluene	ND	0.0250	1	04/02/25	04/02/25	
o-Xylene	ND	0.0250	1	04/02/25	04/02/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/02/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/02/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.1 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/02/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	85.6 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514066	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/02/25	
<i>Surrogate: n-Nonane</i>						
	88.1 %	61-141		04/02/25	04/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514071	
Chloride	134	20.0	1	04/02/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 1:15:07PM

SW9-SURF

E504003-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Benzene	ND	0.0250	1	04/02/25	04/02/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/02/25	
Toluene	ND	0.0250	1	04/02/25	04/02/25	
o-Xylene	ND	0.0250	1	04/02/25	04/02/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/02/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/02/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.1 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/02/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	86.2 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514066	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/02/25	
<i>Surrogate: n-Nonane</i>						
	89.9 %	61-141		04/02/25	04/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514071	
Chloride	ND	20.0	1	04/02/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 1:15:07PM

SW10-SURF

E504003-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Benzene	ND	0.0250	1	04/02/25	04/02/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/02/25	
Toluene	ND	0.0250	1	04/02/25	04/02/25	
o-Xylene	ND	0.0250	1	04/02/25	04/02/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/02/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/02/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.7 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/02/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	86.2 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514066	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/02/25	
<i>Surrogate: n-Nonane</i>						
	90.7 %	61-141		04/02/25	04/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514071	
Chloride	ND	20.0	1	04/02/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 1:15:07PM

SW11-SURF

E504003-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Benzene	ND	0.0250	1	04/02/25	04/02/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/02/25	
Toluene	ND	0.0250	1	04/02/25	04/02/25	
o-Xylene	ND	0.0250	1	04/02/25	04/02/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/02/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/02/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.0 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/02/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	87.0 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514066	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/02/25	
<i>Surrogate: n-Nonane</i>						
	85.9 %	61-141		04/02/25	04/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514071	
Chloride	23.6	20.0	1	04/02/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/3/2025 1:15:07PM

SW12-SURF

E504003-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Benzene	ND	0.0250	1	04/02/25	04/02/25	
Ethylbenzene	ND	0.0250	1	04/02/25	04/02/25	
Toluene	ND	0.0250	1	04/02/25	04/02/25	
o-Xylene	ND	0.0250	1	04/02/25	04/02/25	
p,m-Xylene	ND	0.0500	1	04/02/25	04/02/25	
Total Xylenes	ND	0.0250	1	04/02/25	04/02/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.4 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514061	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/02/25	04/02/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	87.5 %	70-130		04/02/25	04/02/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514066	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/02/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/02/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	88.9 %	61-141		04/02/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2514071	
Chloride	179	20.0	1	04/02/25	04/03/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/3/2025 1:15:07PM

Volatile Organics by EPA 8021B

Analyst: IY

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

Blank (2514061-BLK1) Prepared: 04/02/25 Analyzed: 04/02/25

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	8.09		8.00		101	70-130			

LCS (2514061-BS1) Prepared: 04/02/25 Analyzed: 04/02/25

Benzene	5.63	0.0250	5.00		113	70-130			
Ethylbenzene	5.41	0.0250	5.00		108	70-130			
Toluene	5.55	0.0250	5.00		111	70-130			
o-Xylene	5.41	0.0250	5.00		108	70-130			
p,m-Xylene	11.0	0.0500	10.0		110	70-130			
Total Xylenes	16.4	0.0250	15.0		109	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.22		8.00		103	70-130			

LCS Dup (2514061-BSD1) Prepared: 04/02/25 Analyzed: 04/02/25

Benzene	5.65	0.0250	5.00		113	70-130	0.203	20	
Ethylbenzene	5.43	0.0250	5.00		109	70-130	0.333	20	
Toluene	5.57	0.0250	5.00		111	70-130	0.243	20	
o-Xylene	5.43	0.0250	5.00		109	70-130	0.523	20	
p,m-Xylene	11.0	0.0500	10.0		110	70-130	0.239	20	
Total Xylenes	16.4	0.0250	15.0		110	70-130	0.333	20	
Surrogate: 4-Bromochlorobenzene-PID	8.21		8.00		103	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/3/2025 1:15:07PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2514061-BLK1) Prepared: 04/02/25 Analyzed: 04/02/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.94		8.00		86.7	70-130			

LCS (2514061-BS2) Prepared: 04/02/25 Analyzed: 04/02/25

Gasoline Range Organics (C6-C10)	42.0	20.0	50.0		84.0	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.06		8.00		88.2	70-130			

LCS Dup (2514061-BSD2) Prepared: 04/02/25 Analyzed: 04/02/25

Gasoline Range Organics (C6-C10)	43.0	20.0	50.0		86.0	70-130	2.31	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.04		8.00		88.1	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/3/2025 1:15:07PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KH

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2514066-BLK1)					Prepared: 04/02/25 Analyzed: 04/02/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	45.0		50.0		90.1	61-141			

LCS (2514066-BS1)					Prepared: 04/02/25 Analyzed: 04/02/25				
Diesel Range Organics (C10-C28)	234	25.0	250		93.8	66-144			
Surrogate: n-Nonane	45.5		50.0		91.1	61-141			

Matrix Spike (2514066-MS1)					Source: E504003-09		Prepared: 04/02/25 Analyzed: 04/02/25		
Diesel Range Organics (C10-C28)	231	25.0	250	ND	92.3	56-156			
Surrogate: n-Nonane	45.5		50.0		91.1	61-141			

Matrix Spike Dup (2514066-MSD1)					Source: E504003-09		Prepared: 04/02/25 Analyzed: 04/02/25		
Diesel Range Organics (C10-C28)	227	25.0	250	ND	90.8	56-156	1.58	20	
Surrogate: n-Nonane	43.9		50.0		87.8	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/3/2025 1:15:07PM

Anions by EPA 300.0/9056A

Analyst: DT

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

Blank (2514071-BLK1)					Prepared: 04/02/25 Analyzed: 04/03/25				
Chloride	ND	20.0							
LCS (2514071-BS1)					Prepared: 04/02/25 Analyzed: 04/03/25				
Chloride	257	20.0	250		103	90-110			
Matrix Spike (2514071-MS1)					Source: E504003-02		Prepared: 04/02/25 Analyzed: 04/03/25		
Chloride	2390	40.0	250	2240	63.1	80-120			M4
Matrix Spike Dup (2514071-MSD1)					Source: E504003-02		Prepared: 04/02/25 Analyzed: 04/03/25		
Chloride	2460	40.0	250	2240	89.1	80-120	2.68	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	04/03/25 13:15

- M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.

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

Page 3 of 4

Client: <u>MACK ENERGY</u>		Project: <u>EE MA B#4</u>		Project Manager:		Address:		City, State, Zip		Phone:		Email:		Report due by:		Bill To Attention: <u>ENERGY STAFFING SERVICES</u> Address: <u>2724 NW COUNTY RD</u> City, State, Zip <u>HOBBS, NM 88240</u> Phone: <u>575-393-9048</u> Email: <u>NATALIE@ENERGYSTAFFINGLLC.COM</u> <u>BRITTNEY@ENERGYSTAFFINGLLC.COM</u>		Lab Use Only Lab WO# <u>E504003</u> Job Number <u>20046-0001</u>				TAT 1D ☒ 2D ☐ 3D ☐ Standard ☐				EPA Program CWA ☐ SDWA ☐ RCRA ☐	
Analysis and Method																State NM ☒ CO ☐ UT ☐ AZ ☐ TX ☐											
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0			BGDOC NM	BGDOC TX	Remarks											
	<u>3/28/25</u>	<u>S</u>	<u>1</u>	<u>SW1 - SURF</u>	<u>1</u>									☒													
				<u>SW2 - SURF</u>	<u>2</u>																						
				<u>SW3 - SURF</u>	<u>3</u>																						
				<u>SW4 - SURF</u>	<u>4</u>																						
				<u>SW5 - SURF</u>	<u>5</u>																						
				<u>SW6 - SURF</u>	<u>6</u>																						
				<u>SW7 - SURF</u>	<u>7</u>																						
				<u>SW8 - SURF</u>	<u>8</u>																						
				<u>SW9 - SURF</u>	<u>9</u>																						
	<u>3/28/25</u>	<u>S</u>	<u>1</u>	<u>SW10 - SURF</u>	<u>10</u>									☒													
Additional Instructions: I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: <u>M. RIVERA</u>																		Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.									
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	Lab Use Only Received on ice: ☒ Y / N																			
<u>[Signature]</u>		<u>3/28/25</u>		<u>Michelle Gonzales</u>		<u>4-1-25</u>	<u>1330</u>																				
<u>Michelle Gonzales</u>		<u>4-1-25</u>	<u>1615</u>	<u>[Signature]</u>		<u>4-1-25</u>	<u>1700</u>	T1		T2		T3															
<u>[Signature]</u>		<u>4-1-25</u>	<u>2243</u>	<u>[Signature]</u>		<u>4-2-25</u>	<u>0430</u>	AVG Temp °C <u>4</u>																			
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other										Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA																	
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																											

Chain of Custody



Envirotech Analytical Laboratory

Printed: 4/2/2025 9:11:00AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	04/02/25 04:30	Work Order ID:	E504003
Phone:	(575) 390-6397	Date Logged In:	04/01/25 14:45	Logged In By:	Noe Soto
Email:	Natalie@energystaffingllc.com	Due Date:	04/03/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierComments/Resolution

Project manager and time sampled are not provided by client on COC. Project FEE MA B #4 has been separated into 2 WOs due to high sample volume.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E504009

Job Number: 20046-0001

Received: 4/3/2025

Revision: 2

Report Reviewed By:

Walter Hinchman
Laboratory Director
4/4/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 4/4/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E504009
Date Received: 4/3/2025 6:00:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/3/2025 6:00:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

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Laboratory Administrator
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Sample Summary

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	04/04/25 15:21

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP1-2'	E504009-01A	Soil	04/01/25	04/03/25	Glass Jar, 2 oz.
SP3-3'	E504009-02A	Soil	04/01/25	04/03/25	Glass Jar, 2 oz.
SP4-4'	E504009-03A	Soil	04/01/25	04/03/25	Glass Jar, 2 oz.
SP5-3'	E504009-04A	Soil	04/01/25	04/03/25	Glass Jar, 2 oz.
SP7-2'	E504009-05A	Soil	04/01/25	04/03/25	Glass Jar, 2 oz.
SP8-2'	E504009-06A	Soil	04/01/25	04/03/25	Glass Jar, 2 oz.
SP9-2'	E504009-07A	Soil	04/01/25	04/03/25	Glass Jar, 2 oz.
SP10-2'	E504009-08A	Soil	04/01/25	04/03/25	Glass Jar, 2 oz.
SP12-4'	E504009-09A	Soil	04/01/25	04/03/25	Glass Jar, 2 oz.
SP13-2'	E504009-10A	Soil	04/01/25	04/03/25	Glass Jar, 2 oz.
SP14-2'	E504009-11A	Soil	04/01/25	04/03/25	Glass Jar, 2 oz.
SP15-2'	E504009-12A	Soil	04/01/25	04/03/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/4/2025 3:21:34PM

SP1-2'

E504009-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Benzene	ND	0.0250	1	04/03/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/03/25	04/03/25	
Toluene	ND	0.0250	1	04/03/25	04/03/25	
o-Xylene	ND	0.0250	1	04/03/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/03/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/03/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	99.3 %	70-130		04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/03/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	96.7 %	70-130		04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2514084	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/03/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/03/25	04/03/25	
<i>Surrogate: n-Nonane</i>	97.0 %	61-141		04/03/25	04/03/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: JM		Batch: 2514090	
Chloride	319	20.0	1	04/03/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/4/2025 3:21:34PM

SP3-3'

E504009-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2514091
Benzene	ND	0.0250	1	04/03/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/03/25	04/03/25	
Toluene	ND	0.0250	1	04/03/25	04/03/25	
o-Xylene	ND	0.0250	1	04/03/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/03/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/03/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		103 %	70-130	04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2514091
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/03/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		88.5 %	70-130	04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KH		Batch: 2514084
Diesel Range Organics (C10-C28)	ND	25.0	1	04/03/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/03/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
		86.5 %	61-141	04/03/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: JM		Batch: 2514090
Chloride	344	20.0	1	04/03/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/4/2025 3:21:34PM

SP4-4'

E504009-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Benzene	ND	0.0250	1	04/03/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/03/25	04/03/25	
Toluene	ND	0.0250	1	04/03/25	04/03/25	
o-Xylene	ND	0.0250	1	04/03/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/03/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/03/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.2 %	70-130		04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/03/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	95.7 %	70-130		04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514084	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/03/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/03/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	92.4 %	61-141		04/03/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: JM		Batch: 2514090	
Chloride	123	20.0	1	04/03/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/4/2025 3:21:34PM

SP5-3'

E504009-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Benzene	ND	0.0250	1	04/03/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/03/25	04/03/25	
Toluene	ND	0.0250	1	04/03/25	04/03/25	
o-Xylene	ND	0.0250	1	04/03/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/03/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/03/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/03/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		91.0 %	70-130	04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514084	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/03/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/03/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
		89.9 %	61-141	04/03/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: JM		Batch: 2514090	
Chloride	108	20.0	1	04/03/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/4/2025 3:21:34PM

SP7-2'

E504009-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Benzene	ND	0.0250	1	04/03/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/03/25	04/03/25	
Toluene	ND	0.0250	1	04/03/25	04/03/25	
o-Xylene	ND	0.0250	1	04/03/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/03/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/03/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.3 %	70-130		04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/03/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	103 %	70-130		04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514084	
Diesel Range Organics (C10-C28)	26.5	25.0	1	04/03/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/03/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	91.0 %	61-141		04/03/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: JM		Batch: 2514090	
Chloride	255	20.0	1	04/03/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/4/2025 3:21:34PM

SP8-2'

E504009-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Benzene	ND	0.0250	1	04/03/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/03/25	04/03/25	
Toluene	ND	0.0250	1	04/03/25	04/03/25	
o-Xylene	ND	0.0250	1	04/03/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/03/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/03/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		104 %	70-130	04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/03/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		90.4 %	70-130	04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514084	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/03/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/03/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
		92.6 %	61-141	04/03/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: JM		Batch: 2514090	
Chloride	96.8	20.0	1	04/03/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/4/2025 3:21:34PM

SP9-2'

E504009-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Benzene	ND	0.0250	1	04/03/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/03/25	04/03/25	
Toluene	ND	0.0250	1	04/03/25	04/03/25	
o-Xylene	ND	0.0250	1	04/03/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/03/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/03/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		104 %	70-130	04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/03/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		94.1 %	70-130	04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2514084	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/03/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/03/25	04/03/25	
<i>Surrogate: n-Nonane</i>		94.4 %	61-141	04/03/25	04/03/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: JM		Batch: 2514090	
Chloride	33.3	20.0	1	04/03/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/4/2025 3:21:34PM

SP10-2'

E504009-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Benzene	ND	0.0250	1	04/03/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/03/25	04/03/25	
Toluene	ND	0.0250	1	04/03/25	04/03/25	
o-Xylene	ND	0.0250	1	04/03/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/03/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/03/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.7 %	70-130		04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/03/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.6 %	70-130		04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514084	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/03/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/03/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	91.5 %	61-141		04/03/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: JM		Batch: 2514090	
Chloride	77.3	20.0	1	04/03/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/4/2025 3:21:34PM

SP12-4'

E504009-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Benzene	ND	0.0250	1	04/03/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/03/25	04/03/25	
Toluene	ND	0.0250	1	04/03/25	04/03/25	
o-Xylene	ND	0.0250	1	04/03/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/03/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/03/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		100 %	70-130	04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/03/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		96.9 %	70-130	04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514084	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/03/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/03/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
		96.5 %	61-141	04/03/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: JM		Batch: 2514090	
Chloride	181	20.0	1	04/03/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/4/2025 3:21:34PM

SP13-2'

E504009-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Benzene	ND	0.0250	1	04/03/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/03/25	04/03/25	
Toluene	ND	0.0250	1	04/03/25	04/03/25	
o-Xylene	ND	0.0250	1	04/03/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/03/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/03/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		101 %	70-130	04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/03/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		98.7 %	70-130	04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2514084	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/03/25	04/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/03/25	04/03/25	
<i>Surrogate: n-Nonane</i>		97.1 %	61-141	04/03/25	04/03/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: JM		Batch: 2514090	
Chloride	220	20.0	1	04/03/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/4/2025 3:21:34PM

SP14-2'

E504009-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2514091
Benzene	ND	0.0250	1	04/03/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/03/25	04/03/25	
Toluene	ND	0.0250	1	04/03/25	04/03/25	
o-Xylene	ND	0.0250	1	04/03/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/03/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/03/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2514091
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/03/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		100 %	70-130	04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KH		Batch: 2514084
Diesel Range Organics (C10-C28)	199	25.0	1	04/03/25	04/03/25	
Oil Range Organics (C28-C36)	236	50.0	1	04/03/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
		90.7 %	61-141	04/03/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: JM		Batch: 2514090
Chloride	147	20.0	1	04/03/25	04/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/4/2025 3:21:34PM

SP15-2'

E504009-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Benzene	ND	0.0250	1	04/03/25	04/03/25	
Ethylbenzene	ND	0.0250	1	04/03/25	04/03/25	
Toluene	ND	0.0250	1	04/03/25	04/03/25	
o-Xylene	ND	0.0250	1	04/03/25	04/03/25	
p,m-Xylene	ND	0.0500	1	04/03/25	04/03/25	
Total Xylenes	ND	0.0250	1	04/03/25	04/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.8 %	70-130		04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2514091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/03/25	04/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	100 %	70-130		04/03/25	04/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2514084	
Diesel Range Organics (C10-C28)	108	25.0	1	04/03/25	04/03/25	
Oil Range Organics (C28-C36)	86.3	50.0	1	04/03/25	04/03/25	
<i>Surrogate: n-Nonane</i>						
	92.9 %	61-141		04/03/25	04/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: JM		Batch: 2514090	
Chloride	759	20.0	1	04/03/25	04/03/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/4/2025 3:21:34PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2514091-BLK1)

Prepared: 04/03/25 Analyzed: 04/03/25

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	7.90		8.00		98.8	70-130			

LCS (2514091-BS1)

Prepared: 04/03/25 Analyzed: 04/03/25

Benzene	4.26	0.0250	5.00		85.2	70-130			
Ethylbenzene	4.09	0.0250	5.00		81.9	70-130			
Toluene	4.20	0.0250	5.00		84.0	70-130			
o-Xylene	4.10	0.0250	5.00		81.9	70-130			
p,m-Xylene	8.25	0.0500	10.0		82.5	70-130			
Total Xylenes	12.3	0.0250	15.0		82.3	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.06		8.00		101	70-130			

LCS Dup (2514091-BS1)

Prepared: 04/03/25 Analyzed: 04/03/25

Benzene	4.92	0.0250	5.00		98.4	70-130	14.4	20	
Ethylbenzene	4.74	0.0250	5.00		94.8	70-130	14.7	20	
Toluene	4.86	0.0250	5.00		97.3	70-130	14.6	20	
o-Xylene	4.74	0.0250	5.00		94.9	70-130	14.6	20	
p,m-Xylene	9.54	0.0500	10.0		95.4	70-130	14.5	20	
Total Xylenes	14.3	0.0250	15.0		95.2	70-130	14.5	20	
Surrogate: 4-Bromochlorobenzene-PID	8.17		8.00		102	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/4/2025 3:21:34PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2514091-BLK1) Prepared: 04/03/25 Analyzed: 04/03/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.54		8.00		94.2	70-130			

LCS (2514091-BS2) Prepared: 04/03/25 Analyzed: 04/03/25

Gasoline Range Organics (C6-C10)	50.8	20.0	50.0		102	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.02		8.00		100	70-130			

LCS Dup (2514091-BSD2) Prepared: 04/03/25 Analyzed: 04/03/25

Gasoline Range Organics (C6-C10)	52.5	20.0	50.0		105	70-130	3.40	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.16		8.00		102	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/4/2025 3:21:34PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KH

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2514084-BLK1)					Prepared: 04/03/25 Analyzed: 04/03/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	45.6		50.0		91.1	61-141			

LCS (2514084-BS1)					Prepared: 04/03/25 Analyzed: 04/03/25				
Diesel Range Organics (C10-C28)	237	25.0	250		94.7	66-144			
Surrogate: n-Nonane	47.9		50.0		95.7	61-141			

Matrix Spike (2514084-MS1)					Source: E504009-09		Prepared: 04/03/25 Analyzed: 04/03/25		
Diesel Range Organics (C10-C28)	236	25.0	250	ND	94.5	56-156			
Surrogate: n-Nonane	46.0		50.0		91.9	61-141			

Matrix Spike Dup (2514084-MSD1)					Source: E504009-09		Prepared: 04/03/25 Analyzed: 04/03/25		
Diesel Range Organics (C10-C28)	231	25.0	250	ND	92.4	56-156	2.29	20	
Surrogate: n-Nonane	46.8		50.0		93.6	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/4/2025 3:21:34PM

Anions by EPA 300.0/9056A

Analyst: JM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2514090-BLK1)					Prepared: 04/03/25 Analyzed: 04/03/25				
Chloride	ND	20.0							
LCS (2514090-BS1)					Prepared: 04/03/25 Analyzed: 04/03/25				
Chloride	255	20.0	250		102	90-110			
Matrix Spike (2514090-MS1)					Source: E504009-07		Prepared: 04/03/25 Analyzed: 04/03/25		
Chloride	286	20.0	250	33.3	101	80-120			
Matrix Spike Dup (2514090-MSD1)					Source: E504009-07		Prepared: 04/03/25 Analyzed: 04/03/25		
Chloride	285	20.0	250	33.3	101	80-120	0.287	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	04/04/25 15:21

- ND Analyte NOT DETECTED at or above the reporting limit
 - NR Not Reported
 - RPD Relative Percent Difference
 - DNI Did Not Ignite
 - DNR Did not react with the addition of acid or base.
- 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

Client: Mack Energy	Project: F&E M&B	Project Manager: F&E M&B
Report due by:		
Email:		
Phone:		
City, State, Zip		
Address:		
Attention: ENERGY STAFFING SERVICES		
Address: 2724 NW COUNTY RD		
City, State, Zip HOBBS, NM 88240		
Phone: 575-393-9048		
Email: NATALIE@ENERGYSTAFFINGLLC.COM		
BRITTNEY@ENERGYSTAFFINGLLC.COM		

Time	Date	Sampled	Matrix	No of Containers	Sample ID	Lab Number	ORO/ONO by 8015	GRO/DNO by 8015	BTEX by 8021	VOC by 8260	Metals 5010	Chloride 300 0	BGDOC NM	BGDOC TX	Remarks
4/1/25	5	1	SP1-2			1									
4/1/25	5		SP3-3			2									
			SP4-4			3									
			SP5-3			4									
			SP7-2			5									
			SP8-2			6									
			SP9-2			7									
			SP10-2			8									
			SP12-4			9									
4/1/25	5	1	SP13-2			10									

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: M. A. VECI

Relinquished by (Signature)	4/1/25	Time	Received by (Signature)	4-2-25	Time	Received by (Signature)	4-2-25	Time	Received by (Signature)	4-2-25	Time
M. A. VECI			Michelle Gonzales			Michelle Gonzales			Michelle Gonzales		
Relinquished by (Signature)	4-2-25	Time	Received by (Signature)	4-2-25	Time	Received by (Signature)	4-2-25	Time	Received by (Signature)	4-2-25	Time
Michelle Gonzales											
Relinquished by (Signature)	4-2-25	Time	Received by (Signature)	4-2-25	Time	Received by (Signature)	4-2-25	Time	Received by (Signature)	4-2-25	Time

Container Type: B - glass, P - poly/plastic, ag - amber glass, v - VOA

AVG Temp °C 4

Received on ice: Y / N

Lab Use Only

Additional Instructions:



Project Information

Chain of Custody

Page 2 of 2

Client: <u>MACC ENERGY</u>					Bill To					Lab Use Only					TAT				EPA Program					
Project: <u>FEC MAB #4</u>					Attention: ENERGY STAFFING SERVICES					Lab WO# <u>E 504009</u>		Job Number <u>20046-0001</u>			1D	2D	3D	Standard	CWA	SDWA				
Project Manager:					Address: 2724 NW COUNTY RD					Analysis and Method														
Address:					City, State, Zip <u>HOBBS, NM 88240</u>																	RCRA		
City, State, Zip					Phone: 575-393-9048															State				
Phone:					Email: NATALIE@ENERGYSTAFFINGLLC.COM															NM	CO	UT	AZ	TX
Email:					BRITTNEY@ENERGYSTAFFINGLLC.COM															Remarks				
Report due by:																								

Time Sampled	Date Sampled	Matrix	No of Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRQ by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 3000	BGDOC NM	BGDOC TX
	4/1/25	S	1	SP14-2	11							X	
	4/1/25	S	1	SP15-2	12							X	

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: M. Rivera

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

Relinquished by: (Signature) <u>[Signature]</u>	Date <u>4/1/25</u>	Time	Received by: (Signature) <u>Michelle Gonzales</u>	Date <u>4-2-25</u>	Time <u>1200</u>	Lab Use Only
Relinquished by: (Signature) <u>Michelle Gonzales</u>	Date <u>4-2-25</u>	Time <u>4515</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>4-2-25</u>	Time <u>1515</u>	Received on ice: <u>Y</u> / N
Relinquished by: (Signature) <u>[Signature]</u>	Date <u>4-2-25</u>	Time <u>2130</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>4-3-25</u>	Time <u>0600</u>	T1 _____ T2 _____ T3 _____
Sample Matrix: S - Soil, sd - Solid, Sg - Sludge, A - Aqueous, O - Other						AVG Temp °C <u>4</u>
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA						

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.



Envirotech Analytical Laboratory

Printed: 4/3/2025 9:59:39AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	04/03/25 06:00	Work Order ID:	E504009
Phone:	(575) 390-6397	Date Logged In:	04/02/25 16:09	Logged In By:	Noe Soto
Email:	Natalie@energystaffingllc.com	Due Date:	04/04/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierComments/Resolution

Project manager and time sampled not provided on COC by client.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E504030

Job Number: 20046-0001

Received: 4/5/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
4/8/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 4/8/25

Natalie Gladden
7 W. Compress Road
Artesia, NM 88210



Project Name: FEE MAB #4
Workorder: E504030
Date Received: 4/5/2025 8:00:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/5/2025 8:00:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

Walter Hinchman
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Cell: 775-287-1762
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Sample Summary

Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: FEE MAB #4 Project Number: 20046-0001 Project Manager: Natalie Gladden	Reported: 04/08/25 12:01
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Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP6-6'	E504030-01A	Soil	04/03/25	04/05/25	Glass Jar, 2 oz.
SP11-5'	E504030-02A	Soil	04/03/25	04/05/25	Glass Jar, 2 oz.
SP16-4'	E504030-03A	Soil	04/03/25	04/05/25	Glass Jar, 2 oz.
SP18-4'	E504030-04A	Soil	04/03/25	04/05/25	Glass Jar, 2 oz.
SP19-4'	E504030-05A	Soil	04/03/25	04/05/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/8/2025 12:01:30PM

SP6-6' E504030-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: IY		Batch: 2514115	
Benzene	ND	0.0250	1	04/05/25	04/05/25	
Ethylbenzene	ND	0.0250	1	04/05/25	04/05/25	
Toluene	ND	0.0250	1	04/05/25	04/05/25	
o-Xylene	ND	0.0250	1	04/05/25	04/05/25	
p,m-Xylene	ND	0.0500	1	04/05/25	04/05/25	
Total Xylenes	ND	0.0250	1	04/05/25	04/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		100 %	70-130	04/05/25	04/05/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2514115	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/05/25	04/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		95.0 %	70-130	04/05/25	04/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: HM		Batch: 2514119	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/05/25	04/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/05/25	04/05/25	
<i>Surrogate: n-Nonane</i>		109 %	61-141	04/05/25	04/05/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2515018	
Chloride	324	20.0	1	04/07/25	04/07/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/8/2025 12:01:30PM

SP11-5'

E504030-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B		mg/kg	mg/kg	Analyst: IY		Batch: 2514115
Benzene	ND	0.0250	1	04/05/25	04/05/25	
Ethylbenzene	ND	0.0250	1	04/05/25	04/05/25	
Toluene	ND	0.0250	1	04/05/25	04/05/25	
o-Xylene	ND	0.0250	1	04/05/25	04/05/25	
p,m-Xylene	ND	0.0500	1	04/05/25	04/05/25	
Total Xylenes	ND	0.0250	1	04/05/25	04/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		106 %	70-130	04/05/25	04/05/25	
Nonhalogenated Organics by EPA 8015D - GRO		mg/kg	mg/kg	Analyst: IY		Batch: 2514115
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/05/25	04/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		92.1 %	70-130	04/05/25	04/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO		mg/kg	mg/kg	Analyst: HM		Batch: 2514119
Diesel Range Organics (C10-C28)	ND	25.0	1	04/05/25	04/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/05/25	04/05/25	
<i>Surrogate: n-Nonane</i>		105 %	61-141	04/05/25	04/05/25	
Anions by EPA 300.0/9056A		mg/kg	mg/kg	Analyst: DT		Batch: 2515018
Chloride	469	20.0	1	04/07/25	04/07/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/8/2025 12:01:30PM

SP16-4'

E504030-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514115	
Benzene	ND	0.0250	1	04/05/25	04/05/25	
Ethylbenzene	ND	0.0250	1	04/05/25	04/05/25	
Toluene	ND	0.0250	1	04/05/25	04/05/25	
o-Xylene	ND	0.0250	1	04/05/25	04/05/25	
p,m-Xylene	ND	0.0500	1	04/05/25	04/05/25	
Total Xylenes	ND	0.0250	1	04/05/25	04/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		103 %	70-130	04/05/25	04/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514115	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/05/25	04/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		92.8 %	70-130	04/05/25	04/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2514119	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/05/25	04/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/05/25	04/05/25	
<i>Surrogate: n-Nonane</i>						
		108 %	61-141	04/05/25	04/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2515018	
Chloride	286	20.0	1	04/07/25	04/07/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/8/2025 12:01:30PM

SP18-4'

E504030-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514115	
Benzene	ND	0.0250	1	04/05/25	04/05/25	
Ethylbenzene	ND	0.0250	1	04/05/25	04/05/25	
Toluene	ND	0.0250	1	04/05/25	04/05/25	
o-Xylene	ND	0.0250	1	04/05/25	04/05/25	
p,m-Xylene	ND	0.0500	1	04/05/25	04/05/25	
Total Xylenes	ND	0.0250	1	04/05/25	04/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	04/05/25	04/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514115	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/05/25	04/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		94.2 %	70-130	04/05/25	04/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2514119	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/05/25	04/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/05/25	04/05/25	
<i>Surrogate: n-Nonane</i>						
		102 %	61-141	04/05/25	04/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2515018	
Chloride	330	20.0	1	04/07/25	04/07/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/8/2025 12:01:30PM

SP19-4'

E504030-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514115	
Benzene	ND	0.0250	1	04/05/25	04/05/25	
Ethylbenzene	ND	0.0250	1	04/05/25	04/05/25	
Toluene	ND	0.0250	1	04/05/25	04/05/25	
o-Xylene	ND	0.0250	1	04/05/25	04/05/25	
p,m-Xylene	ND	0.0500	1	04/05/25	04/05/25	
Total Xylenes	ND	0.0250	1	04/05/25	04/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.5 %	70-130		04/05/25	04/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2514115	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/05/25	04/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.3 %	70-130		04/05/25	04/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2514119	
Diesel Range Organics (C10-C28)	34.6	25.0	1	04/05/25	04/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/05/25	04/05/25	
<i>Surrogate: n-Nonane</i>						
	102 %	61-141		04/05/25	04/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2515018	
Chloride	82.6	20.0	1	04/07/25	04/07/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/8/2025 12:01:30PM

Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2514115-BLK1)

Prepared: 04/05/25 Analyzed: 04/05/25

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	7.82		8.00		97.8	70-130			

LCS (2514115-BS1)

Prepared: 04/05/25 Analyzed: 04/05/25

Benzene	4.20	0.0250	5.00		83.9	70-130			
Ethylbenzene	4.04	0.0250	5.00		80.8	70-130			
Toluene	4.15	0.0250	5.00		83.0	70-130			
o-Xylene	4.09	0.0250	5.00		81.9	70-130			
p,m-Xylene	8.16	0.0500	10.0		81.6	70-130			
Total Xylenes	12.3	0.0250	15.0		81.7	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.75		8.00		96.9	70-130			

LCS Dup (2514115-BS1)

Prepared: 04/05/25 Analyzed: 04/05/25

Benzene	4.77	0.0250	5.00		95.4	70-130	12.8	20	
Ethylbenzene	4.60	0.0250	5.00		92.0	70-130	12.9	20	
Toluene	4.72	0.0250	5.00		94.3	70-130	12.7	20	
o-Xylene	4.62	0.0250	5.00		92.3	70-130	12.0	20	
p,m-Xylene	9.25	0.0500	10.0		92.5	70-130	12.5	20	
Total Xylenes	13.9	0.0250	15.0		92.5	70-130	12.4	20	
Surrogate: 4-Bromochlorobenzene-PID	8.12		8.00		102	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/8/2025 12:01:30PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2514115-BLK1) Prepared: 04/05/25 Analyzed: 04/05/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.78		8.00		97.2	70-130			

LCS (2514115-BS2) Prepared: 04/05/25 Analyzed: 04/05/25

Gasoline Range Organics (C6-C10)	51.6	20.0	50.0		103	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.95		8.00		99.4	70-130			

LCS Dup (2514115-BSD2) Prepared: 04/05/25 Analyzed: 04/05/25

Gasoline Range Organics (C6-C10)	52.4	20.0	50.0		105	70-130	1.50	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.91		8.00		98.9	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/8/2025 12:01:30PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: HM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2514119-BLK1)					Prepared: 04/05/25 Analyzed: 04/05/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	49.3		50.0		98.6	61-141			

LCS (2514119-BS1)					Prepared: 04/05/25 Analyzed: 04/05/25				
Diesel Range Organics (C10-C28)	266	25.0	250		106	66-144			
Surrogate: n-Nonane	49.7		50.0		99.3	61-141			

Matrix Spike (2514119-MS1)					Source: E504032-01		Prepared: 04/05/25 Analyzed: 04/05/25		
Diesel Range Organics (C10-C28)	278	25.0	250	ND	111	56-156			
Surrogate: n-Nonane	52.9		50.0		106	61-141			

Matrix Spike Dup (2514119-MSD1)					Source: E504032-01		Prepared: 04/05/25 Analyzed: 04/05/25		
Diesel Range Organics (C10-C28)	277	25.0	250	ND	111	56-156	0.581	20	
Surrogate: n-Nonane	50.9		50.0		102	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/8/2025 12:01:30PM

Anions by EPA 300.0/9056A

Analyst: DT

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

Blank (2515018-BLK1)					Prepared: 04/07/25 Analyzed: 04/07/25				
Chloride	ND	20.0							
LCS (2515018-BS1)					Prepared: 04/07/25 Analyzed: 04/07/25				
Chloride	256	20.0	250		103	90-110			
Matrix Spike (2515018-MS1)					Source: E504030-03		Prepared: 04/07/25 Analyzed: 04/07/25		
Chloride	559	20.0	250	286	109	80-120			
Matrix Spike Dup (2515018-MSD1)					Source: E504030-03		Prepared: 04/07/25 Analyzed: 04/07/25		
Chloride	553	20.0	250	286	107	80-120	1.15	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	04/08/25 12:01

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.
- 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

Page 1 of 1

Client: <u>PACK ENERGY</u>					Bill To					Lab Use Only					TAT				EPA Program					
Project: <u>FEE M4B #4</u>					Attention: <u>ENERGY STAFFING SERVICES</u>					Lab WO# <u>E504030</u>					Job Number <u>20046-0001</u>				1D	2D	3D	Standard	CWA	SDWA
Project Manager:					Address: <u>2724 NW COUNTY RD</u>					Analysis and Method									RCRA					
Address:					City, State, Zip <u>HOBBS, NM 88240</u>																			
City, State, Zip					Phone: <u>575-393-9048</u>					DRO/ORO by 8015 GRO/DRO by 8015 BTEX by 8021 VOC by 8260 Metals 6010 Chloride 300.0 BGDOC NM BGDOC TX					NM ☒ CO ☐ UT ☐ AZ ☐ TX ☐				State					
Phone:					Email: <u>NATALIE@ENERGYSTAFFINGLLC.COM</u>																			
Email:					BRITTNEY@ENERGYSTAFFINGLLC.COM																			
Report due by:																								
Time Sampled	Date Sampled	Matrix	No of Containers	Sample ID	Lab Number													Remarks						
	4/3/25	S	1	SP 6 - 6"	1																			
				SP 11 - 5"	2																			
				SP 16 - 4"	3																			
				SP 18 - 4"	4																			
	4/3/25	S	1	SP 19 - 4"	5																			

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: A. Rivera

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

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only	
<u>[Signature]</u>	4/3/25		<u>Michelle Gonzales</u>	4-4-25	1200	Received on Ice: <u>Y / N</u>	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1 _____ T2 _____ T3 _____	
<u>Michelle Gonzales</u>	4.4.25	1430	<u>[Signature]</u>	4.4.25	1630		
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	AVG Temp °C <u>4</u>	
<u>[Signature]</u>	4.4.25	2300	<u>Caitlin Mann</u>	4.5.25	800		

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

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.



Envirotech Analytical Laboratory

Printed: 4/7/2025 8:22:55AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	04/05/25 08:00	Work Order ID:	E504030
Phone:	(575) 390-6397	Date Logged In:	04/04/25 14:21	Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	04/08/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierComments/Resolution

Project manager and time sampled not provided on COC.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

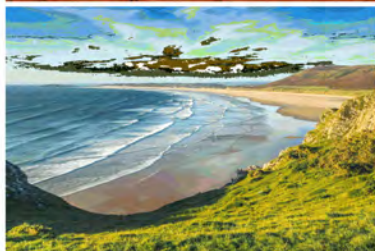
Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E504130

Job Number: 20046-0001

Received: 4/17/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
4/18/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 4/18/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E504130
Date Received: 4/17/2025 8:15:38AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/17/2025 8:15:38AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

Walter Hinchman
Laboratory Director
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Cell: 775-287-1762
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Laboratory Administrator
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Sample Summary

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	04/18/25 14:04

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP2-8'	E504130-01A	Soil	04/14/25	04/17/25	Glass Jar, 2 oz.
SP17-7'	E504130-02A	Soil	04/14/25	04/17/25	Glass Jar, 2 oz.
SW3-8'	E504130-03A	Soil	04/14/25	04/17/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/18/2025 2:04:40PM

SP2-8'

E504130-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2516063	
Benzene	ND	0.0250	1	04/17/25	04/17/25	
Ethylbenzene	ND	0.0250	1	04/17/25	04/17/25	
Toluene	ND	0.0250	1	04/17/25	04/17/25	
o-Xylene	ND	0.0250	1	04/17/25	04/17/25	
p,m-Xylene	ND	0.0500	1	04/17/25	04/17/25	
Total Xylenes	ND	0.0250	1	04/17/25	04/17/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		102 %	70-130	04/17/25	04/17/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2516063	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/17/25	04/17/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		89.8 %	70-130	04/17/25	04/17/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2516072	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/17/25	04/17/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/17/25	04/17/25	
<i>Surrogate: n-Nonane</i>		106 %	61-141	04/17/25	04/17/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2516061	
Chloride	336	20.0	1	04/17/25	04/17/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/18/2025 2:04:40PM

SP17-7'

E504130-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2516063	
Benzene	ND	0.0250	1	04/17/25	04/17/25	
Ethylbenzene	ND	0.0250	1	04/17/25	04/17/25	
Toluene	ND	0.0250	1	04/17/25	04/17/25	
o-Xylene	ND	0.0250	1	04/17/25	04/17/25	
p,m-Xylene	ND	0.0500	1	04/17/25	04/17/25	
Total Xylenes	ND	0.0250	1	04/17/25	04/17/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	04/17/25	04/17/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2516063	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/17/25	04/17/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		90.7 %	70-130	04/17/25	04/17/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2516072	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/17/25	04/17/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/17/25	04/17/25	
<i>Surrogate: n-Nonane</i>						
		113 %	61-141	04/17/25	04/17/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2516061	
Chloride	83.1	20.0	1	04/17/25	04/17/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/18/2025 2:04:40PM

SW3-8'

E504130-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2516063	
Benzene	ND	0.0250	1	04/17/25	04/17/25	
Ethylbenzene	ND	0.0250	1	04/17/25	04/17/25	
Toluene	ND	0.0250	1	04/17/25	04/17/25	
o-Xylene	ND	0.0250	1	04/17/25	04/17/25	
p,m-Xylene	ND	0.0500	1	04/17/25	04/17/25	
Total Xylenes	ND	0.0250	1	04/17/25	04/17/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/17/25	04/17/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2516063	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/17/25	04/17/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		89.7 %	70-130	04/17/25	04/17/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2516072	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/17/25	04/17/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/17/25	04/17/25	
<i>Surrogate: n-Nonane</i>						
		112 %	61-141	04/17/25	04/17/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2516061	
Chloride	65.9	20.0	1	04/17/25	04/17/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/18/2025 2:04:40PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2516063-BLK1)

Prepared: 04/17/25 Analyzed: 04/17/25

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	8.00		8.00		100	70-130			

LCS (2516063-BS1)

Prepared: 04/17/25 Analyzed: 04/17/25

Benzene	4.04	0.0250	5.00		80.8	70-130			
Ethylbenzene	4.01	0.0250	5.00		80.2	70-130			
Toluene	4.05	0.0250	5.00		80.9	70-130			
o-Xylene	4.02	0.0250	5.00		80.5	70-130			
p,m-Xylene	8.04	0.0500	10.0		80.4	70-130			
Total Xylenes	12.1	0.0250	15.0		80.4	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.09		8.00		101	70-130			

Matrix Spike (2516063-MS1)

Source: E504130-03

Prepared: 04/17/25 Analyzed: 04/17/25

Benzene	4.38	0.0250	5.00	ND	87.6	70-130			
Ethylbenzene	4.33	0.0250	5.00	ND	86.7	70-130			
Toluene	4.37	0.0250	5.00	ND	87.5	70-130			
o-Xylene	4.33	0.0250	5.00	ND	86.7	70-130			
p,m-Xylene	8.67	0.0500	10.0	ND	86.7	70-130			
Total Xylenes	13.0	0.0250	15.0	ND	86.7	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.02		8.00		100	70-130			

Matrix Spike Dup (2516063-MSD1)

Source: E504130-03

Prepared: 04/17/25 Analyzed: 04/17/25

Benzene	4.63	0.0250	5.00	ND	92.5	70-130	5.48	27	
Ethylbenzene	4.60	0.0250	5.00	ND	92.0	70-130	5.93	26	
Toluene	4.63	0.0250	5.00	ND	92.6	70-130	5.65	20	
o-Xylene	4.60	0.0250	5.00	ND	92.0	70-130	5.94	25	
p,m-Xylene	9.19	0.0500	10.0	ND	91.9	70-130	5.86	23	
Total Xylenes	13.8	0.0250	15.0	ND	91.9	70-130	5.89	26	
Surrogate: 4-Bromochlorobenzene-PID	8.06		8.00		101	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/18/2025 2:04:40PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2516063-BLK1) Prepared: 04/17/25 Analyzed: 04/17/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.90		8.00		98.8	70-130			

LCS (2516063-BS2) Prepared: 04/17/25 Analyzed: 04/17/25

Gasoline Range Organics (C6-C10)	50.1	20.0	50.0		100	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.76		8.00		97.0	70-130			

Matrix Spike (2516063-MS2) Source: E504130-03 Prepared: 04/17/25 Analyzed: 04/17/25

Gasoline Range Organics (C6-C10)	48.9	20.0	50.0	ND	97.9	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.30		8.00		91.2	70-130			

Matrix Spike Dup (2516063-MSD2) Source: E504130-03 Prepared: 04/17/25 Analyzed: 04/17/25

Gasoline Range Organics (C6-C10)	46.1	20.0	50.0	ND	92.2	70-130	5.97	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.69		8.00		96.1	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/18/2025 2:04:40PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KH

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2516072-BLK1)					Prepared: 04/17/25 Analyzed: 04/17/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	61.8		50.0		124	61-141			

LCS (2516072-BS1)					Prepared: 04/17/25 Analyzed: 04/17/25				
Diesel Range Organics (C10-C28)	297	25.0	250		119	66-144			
Surrogate: n-Nonane	53.9		50.0		108	61-141			

Matrix Spike (2516072-MS1)					Source: E504130-02		Prepared: 04/17/25 Analyzed: 04/17/25		
Diesel Range Organics (C10-C28)	293	25.0	250	ND	117	56-156			
Surrogate: n-Nonane	54.3		50.0		109	61-141			

Matrix Spike Dup (2516072-MSD1)					Source: E504130-02		Prepared: 04/17/25 Analyzed: 04/17/25		
Diesel Range Organics (C10-C28)	298	25.0	250	ND	119	56-156	1.67	20	
Surrogate: n-Nonane	54.6		50.0		109	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/18/2025 2:04:40PM

Anions by EPA 300.0/9056A

Analyst: DT

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

Blank (2516061-BLK1)					Prepared: 04/17/25 Analyzed: 04/17/25				
Chloride	ND	20.0							
LCS (2516061-BS1)					Prepared: 04/17/25 Analyzed: 04/17/25				
Chloride	254	20.0	250		101	90-110			
Matrix Spike (2516061-MS1)					Source: E504131-02		Prepared: 04/17/25 Analyzed: 04/17/25		
Chloride	257	20.0	250	ND	103	80-120			
Matrix Spike Dup (2516061-MSD1)					Source: E504131-02		Prepared: 04/17/25 Analyzed: 04/17/25		
Chloride	257	20.0	250	ND	103	80-120	0.213	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	04/18/25 14:04

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.
- Note (1): Methods marked with ** are non-accredited methods.
- Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Additional Instructions:

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Envirotech Analytical Laboratory

Printed: 4/17/2025 10:33:06AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	04/17/25 08:15	Work Order ID:	E504130
Phone:	(575) 390-6397	Date Logged In:	04/16/25 14:43	Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	04/18/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierComments/Resolution

Project manager not provided on COC.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E504158

Job Number: 20046-0001

Received: 4/21/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
4/22/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 4/22/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E504158
Date Received: 4/21/2025 7:30:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/21/2025 7:30:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
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Sample Summary

Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: FEE MAB #4 Project Number: 20046-0001 Project Manager: Natalie Gladden	Reported: 04/22/25 16:10
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Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW4-2'	E504158-01A	Soil	04/17/25	04/21/25	Glass Jar, 2 oz.
SW6-5'	E504158-02A	Soil	04/17/25	04/21/25	Glass Jar, 2 oz.
SW7-8'	E504158-03A	Soil	04/17/25	04/21/25	Glass Jar, 2 oz.
SW8-2'	E504158-04A	Soil	04/17/25	04/21/25	Glass Jar, 2 oz.
SW9-2'	E504158-05A	Soil	04/17/25	04/21/25	Glass Jar, 2 oz.
SW10-2'	E504158-06A	Soil	04/17/25	04/21/25	Glass Jar, 2 oz.
SW11-2'	E504158-07A	Soil	04/17/25	04/21/25	Glass Jar, 2 oz.
SW12-2'	E504158-08A	Soil	04/17/25	04/21/25	Glass Jar, 2 oz.
SP14-6'	E504158-09A	Soil	04/17/25	04/21/25	Glass Jar, 2 oz.
SP15-10'	E504158-10A	Soil	04/17/25	04/21/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/22/2025 4:10:03PM

SW4-2'

E504158-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2517005	
Benzene	ND	0.0250	1	04/21/25	04/21/25	
Ethylbenzene	ND	0.0250	1	04/21/25	04/21/25	
Toluene	ND	0.0250	1	04/21/25	04/21/25	
o-Xylene	ND	0.0250	1	04/21/25	04/21/25	
p,m-Xylene	ND	0.0500	1	04/21/25	04/21/25	
Total Xylenes	ND	0.0250	1	04/21/25	04/21/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		98.7 %	70-130	04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2517005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/21/25	04/21/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		94.6 %	70-130	04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2517009	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/21/25	04/21/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/21/25	04/21/25	
<i>Surrogate: n-Nonane</i>		101 %	61-141	04/21/25	04/21/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: JM		Batch: 2517008	
Chloride	193	20.0	1	04/21/25	04/21/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/22/2025 4:10:03PM

SW6-5'

E504158-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2517005
Benzene	ND	0.0250	1	04/21/25	04/21/25	
Ethylbenzene	ND	0.0250	1	04/21/25	04/21/25	
Toluene	ND	0.0250	1	04/21/25	04/21/25	
o-Xylene	ND	0.0250	1	04/21/25	04/21/25	
p,m-Xylene	ND	0.0500	1	04/21/25	04/21/25	
Total Xylenes	ND	0.0250	1	04/21/25	04/21/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.9 %	70-130		04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2517005
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/21/25	04/21/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	97.1 %	70-130		04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KH		Batch: 2517009
Diesel Range Organics (C10-C28)	ND	25.0	1	04/21/25	04/21/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/21/25	04/21/25	
<i>Surrogate: n-Nonane</i>						
	102 %	61-141		04/21/25	04/21/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: JM		Batch: 2517008
Chloride	31.3	20.0	1	04/21/25	04/21/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/22/2025 4:10:03PM

SW7-8'

E504158-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2517005	
Benzene	ND	0.0250	1	04/21/25	04/21/25	
Ethylbenzene	ND	0.0250	1	04/21/25	04/21/25	
Toluene	ND	0.0250	1	04/21/25	04/21/25	
o-Xylene	ND	0.0250	1	04/21/25	04/21/25	
p,m-Xylene	ND	0.0500	1	04/21/25	04/21/25	
Total Xylenes	ND	0.0250	1	04/21/25	04/21/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.3 %	70-130		04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2517005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/21/25	04/21/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.5 %	70-130		04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2517009	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/21/25	04/21/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/21/25	04/21/25	
<i>Surrogate: n-Nonane</i>						
	102 %	61-141		04/21/25	04/21/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: JM		Batch: 2517008	
Chloride	36.4	20.0	1	04/21/25	04/21/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/22/2025 4:10:03PM

SW8-2'

E504158-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2517005
Benzene	ND	0.0250	1	04/21/25	04/21/25	
Ethylbenzene	ND	0.0250	1	04/21/25	04/21/25	
Toluene	ND	0.0250	1	04/21/25	04/21/25	
o-Xylene	ND	0.0250	1	04/21/25	04/21/25	
p,m-Xylene	ND	0.0500	1	04/21/25	04/21/25	
Total Xylenes	ND	0.0250	1	04/21/25	04/21/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2517005
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/21/25	04/21/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		94.1 %	70-130	04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KH		Batch: 2517009
Diesel Range Organics (C10-C28)	ND	25.0	1	04/21/25	04/21/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/21/25	04/21/25	
<i>Surrogate: n-Nonane</i>						
		100 %	61-141	04/21/25	04/21/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: JM		Batch: 2517008
Chloride	65.1	20.0	1	04/21/25	04/21/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/22/2025 4:10:03PM

SW9-2'

E504158-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B		mg/kg	mg/kg	Analyst: SL		Batch: 2517005
Benzene	ND	0.0250	1	04/21/25	04/21/25	
Ethylbenzene	ND	0.0250	1	04/21/25	04/21/25	
Toluene	ND	0.0250	1	04/21/25	04/21/25	
o-Xylene	ND	0.0250	1	04/21/25	04/21/25	
p,m-Xylene	ND	0.0500	1	04/21/25	04/21/25	
Total Xylenes	ND	0.0250	1	04/21/25	04/21/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		97.0 %	70-130	04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - GRO		mg/kg	mg/kg	Analyst: SL		Batch: 2517005
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/21/25	04/21/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		101 %	70-130	04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO		mg/kg	mg/kg	Analyst: KH		Batch: 2517009
Diesel Range Organics (C10-C28)	ND	25.0	1	04/21/25	04/21/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/21/25	04/21/25	
<i>Surrogate: n-Nonane</i>		98.0 %	61-141	04/21/25	04/21/25	
Anions by EPA 300.0/9056A		mg/kg	mg/kg	Analyst: JM		Batch: 2517008
Chloride	ND	20.0	1	04/21/25	04/21/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/22/2025 4:10:03PM

SW10-2'

E504158-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2517005	
Benzene	ND	0.0250	1	04/21/25	04/21/25	
Ethylbenzene	ND	0.0250	1	04/21/25	04/21/25	
Toluene	ND	0.0250	1	04/21/25	04/21/25	
o-Xylene	ND	0.0250	1	04/21/25	04/21/25	
p,m-Xylene	ND	0.0500	1	04/21/25	04/21/25	
Total Xylenes	ND	0.0250	1	04/21/25	04/21/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.4 %	70-130		04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2517005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/21/25	04/21/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	93.2 %	70-130		04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2517009	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/21/25	04/21/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/21/25	04/21/25	
<i>Surrogate: n-Nonane</i>						
	97.2 %	61-141		04/21/25	04/21/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: JM		Batch: 2517008	
Chloride	ND	20.0	1	04/21/25	04/21/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/22/2025 4:10:03PM

SW11-2'

E504158-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B		mg/kg	mg/kg	Analyst: SL		Batch: 2517005
Benzene	ND	0.0250	1	04/21/25	04/21/25	
Ethylbenzene	ND	0.0250	1	04/21/25	04/21/25	
Toluene	ND	0.0250	1	04/21/25	04/21/25	
o-Xylene	ND	0.0250	1	04/21/25	04/21/25	
p,m-Xylene	ND	0.0500	1	04/21/25	04/21/25	
Total Xylenes	ND	0.0250	1	04/21/25	04/21/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		98.0 %	70-130	04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - GRO		mg/kg	mg/kg	Analyst: SL		Batch: 2517005
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/21/25	04/21/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		98.5 %	70-130	04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO		mg/kg	mg/kg	Analyst: KH		Batch: 2517009
Diesel Range Organics (C10-C28)	ND	25.0	1	04/21/25	04/21/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/21/25	04/21/25	
<i>Surrogate: n-Nonane</i>		96.4 %	61-141	04/21/25	04/21/25	
Anions by EPA 300.0/9056A		mg/kg	mg/kg	Analyst: JM		Batch: 2517008
Chloride	ND	20.0	1	04/21/25	04/21/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/22/2025 4:10:03PM

SW12-2'

E504158-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2517005
Benzene	ND	0.0250	1	04/21/25	04/21/25	
Ethylbenzene	ND	0.0250	1	04/21/25	04/21/25	
Toluene	ND	0.0250	1	04/21/25	04/21/25	
o-Xylene	ND	0.0250	1	04/21/25	04/21/25	
p,m-Xylene	ND	0.0500	1	04/21/25	04/21/25	
Total Xylenes	ND	0.0250	1	04/21/25	04/21/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.6 %	70-130		04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2517005
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/21/25	04/21/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	95.2 %	70-130		04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KH		Batch: 2517009
Diesel Range Organics (C10-C28)	ND	25.0	1	04/21/25	04/21/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/21/25	04/21/25	
<i>Surrogate: n-Nonane</i>						
	98.8 %	61-141		04/21/25	04/21/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: JM		Batch: 2517008
Chloride	ND	20.0	1	04/21/25	04/21/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/22/2025 4:10:03PM

SP14-6'

E504158-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2517005	
Benzene	ND	0.0250	1	04/21/25	04/21/25	
Ethylbenzene	ND	0.0250	1	04/21/25	04/21/25	
Toluene	ND	0.0250	1	04/21/25	04/21/25	
o-Xylene	ND	0.0250	1	04/21/25	04/21/25	
p,m-Xylene	ND	0.0500	1	04/21/25	04/21/25	
Total Xylenes	ND	0.0250	1	04/21/25	04/21/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.8 %	70-130		04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2517005	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/21/25	04/21/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	97.1 %	70-130		04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2517009	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/21/25	04/21/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/21/25	04/21/25	
<i>Surrogate: n-Nonane</i>						
	96.3 %	61-141		04/21/25	04/21/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: JM		Batch: 2517008	
Chloride	ND	20.0	1	04/21/25	04/21/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
4/22/2025 4:10:03PM

SP15-10'

E504158-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2517005
Benzene	ND	0.0250	1	04/21/25	04/21/25	
Ethylbenzene	ND	0.0250	1	04/21/25	04/21/25	
Toluene	ND	0.0250	1	04/21/25	04/21/25	
o-Xylene	ND	0.0250	1	04/21/25	04/21/25	
p,m-Xylene	ND	0.0500	1	04/21/25	04/21/25	
Total Xylenes	ND	0.0250	1	04/21/25	04/21/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.6 %	70-130		04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2517005
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/21/25	04/21/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	101 %	70-130		04/21/25	04/21/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KH		Batch: 2517009
Diesel Range Organics (C10-C28)	ND	25.0	1	04/21/25	04/21/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/21/25	04/21/25	
<i>Surrogate: n-Nonane</i>						
	97.2 %	61-141		04/21/25	04/21/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: JM		Batch: 2517008
Chloride	ND	20.0	1	04/21/25	04/21/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/22/2025 4:10:03PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2517005-BLK1)

Prepared: 04/21/25 Analyzed: 04/21/25

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

LCS (2517005-BS1)

Prepared: 04/21/25 Analyzed: 04/21/25

Benzene	3.94	0.0250	5.00		78.7	70-130			
Ethylbenzene	3.94	0.0250	5.00		78.9	70-130			
Toluene	3.97	0.0250	5.00		79.3	70-130			
o-Xylene	3.98	0.0250	5.00		79.6	70-130			
p,m-Xylene	7.92	0.0500	10.0		79.2	70-130			
Total Xylenes	11.9	0.0250	15.0		79.3	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.09		8.00		101	70-130			

Matrix Spike (2517005-MS1)

Source: E504158-04

Prepared: 04/21/25 Analyzed: 04/21/25

Benzene	4.40	0.0250	5.00	ND	88.0	70-130			
Ethylbenzene	4.44	0.0250	5.00	ND	88.8	70-130			
Toluene	4.44	0.0250	5.00	ND	88.8	70-130			
o-Xylene	4.42	0.0250	5.00	ND	88.4	70-130			
p,m-Xylene	8.87	0.0500	10.0	ND	88.7	70-130			
Total Xylenes	13.3	0.0250	15.0	ND	88.6	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.98		8.00		99.7	70-130			

Matrix Spike Dup (2517005-MSD1)

Source: E504158-04

Prepared: 04/21/25 Analyzed: 04/21/25

Benzene	4.81	0.0250	5.00	ND	96.3	70-130	9.01	27	
Ethylbenzene	4.85	0.0250	5.00	ND	97.1	70-130	8.90	26	
Toluene	4.86	0.0250	5.00	ND	97.2	70-130	8.97	20	
o-Xylene	4.83	0.0250	5.00	ND	96.6	70-130	8.87	25	
p,m-Xylene	9.70	0.0500	10.0	ND	97.0	70-130	8.94	23	
Total Xylenes	14.5	0.0250	15.0	ND	96.9	70-130	8.91	26	
Surrogate: 4-Bromochlorobenzene-PID	7.96		8.00		99.5	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/22/2025 4:10:03PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2517005-BLK1) Prepared: 04/21/25 Analyzed: 04/21/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.74		8.00		96.8	70-130			

LCS (2517005-BS2) Prepared: 04/21/25 Analyzed: 04/21/25

Gasoline Range Organics (C6-C10)	55.0	20.0	50.0		110	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.21		8.00		103	70-130			

Matrix Spike (2517005-MS2) Source: E504158-04 Prepared: 04/21/25 Analyzed: 04/21/25

Gasoline Range Organics (C6-C10)	50.7	20.0	50.0	ND	101	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.73		8.00		96.7	70-130			

Matrix Spike Dup (2517005-MSD2) Source: E504158-04 Prepared: 04/21/25 Analyzed: 04/21/25

Gasoline Range Organics (C6-C10)	51.7	20.0	50.0	ND	103	70-130	2.06	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.77		8.00		97.1	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/22/2025 4:10:03PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KH

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2517009-BLK1)					Prepared: 04/21/25 Analyzed: 04/21/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	52.0		50.0		104	61-141			

LCS (2517009-BS1)					Prepared: 04/21/25 Analyzed: 04/21/25				
Diesel Range Organics (C10-C28)	256	25.0	250		103	66-144			
Surrogate: n-Nonane	48.5		50.0		97.1	61-141			

Matrix Spike (2517009-MS1)					Source: E504158-01		Prepared: 04/21/25 Analyzed: 04/21/25		
Diesel Range Organics (C10-C28)	261	25.0	250	ND	104	56-156			
Surrogate: n-Nonane	50.4		50.0		101	61-141			

Matrix Spike Dup (2517009-MSD1)					Source: E504158-01		Prepared: 04/21/25 Analyzed: 04/21/25		
Diesel Range Organics (C10-C28)	262	25.0	250	ND	105	56-156	0.578	20	
Surrogate: n-Nonane	49.1		50.0		98.1	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	4/22/2025 4:10:03PM

Anions by EPA 300.0/9056A

Analyst: JM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2517008-BLK1)					Prepared: 04/21/25 Analyzed: 04/21/25				
Chloride	ND	20.0							
LCS (2517008-BS1)					Prepared: 04/21/25 Analyzed: 04/21/25				
Chloride	253	20.0	250		101	90-110			
Matrix Spike (2517008-MS1)					Source: E504158-08		Prepared: 04/21/25 Analyzed: 04/21/25		
Chloride	271	20.0	250	ND	108	80-120			
Matrix Spike Dup (2517008-MSD1)					Source: E504158-08		Prepared: 04/21/25 Analyzed: 04/21/25		
Chloride	272	20.0	250	ND	109	80-120	0.447	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	04/22/25 16:10

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.
- 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

Page 1 of 1

Client: <u>MAK ENERGY</u> Project: <u>PEE MAB #4</u> Project Manager: Address: City, State, Zip: Phone: Email: Report due by:					Bill To Attention: <u>ENERGY STAFFING SERVICES</u> Address: <u>2724 NW COUNTY RD</u> City, State, Zip: <u>HOBBS, NM 88240</u> Phone: <u>575-393-9048</u> Email: <u>NATALIE@ENERGYSTAFFINGLLC.COM</u> <u>BRITTNEY@ENERGYSTAFFINGLLC.COM</u>					Lab Use Only Lab WO# <u>E504158</u> Job Number <u>20046-0001</u> Analysis and Method					TAT 1D 2D 3D Standard				EPA Program CWA SDWA RCRA	
										State NM CO UT AZ TX										
										BGDOC NM BGDOC TX										
														Remarks						
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									
0735 4/17/25		S	1	SW 4-2'	1									X						
0926				SW 6-5'	2															
1035				SW 7-8'	3															
1048				SW 8-2'	4															
1056				SW 9-2'	5															
1105				SW 10-2'	6															
1120				SW 11-2'	7															
1130				SW 12-2'	8															
1156				SP 14-6'	9															
2:35 4/17/25		S	1	SP 15-10'	10									X						
Additional Instructions:																				
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.												Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.								
Relinquished by: (Signature) <u>[Signature]</u> Date <u>4/17/25</u> Time <u>1015</u> Received by: (Signature) <u>[Signature]</u> Date <u>4-18-25</u> Time <u>1015</u>																				
Relinquished by: (Signature) <u>[Signature]</u> Date <u>4-18-25</u> Time <u>1500</u> Received by: (Signature) <u>Michelle Gonzalez</u> Date <u>4-18-25</u> Time <u>1500</u>																				
Relinquished by: (Signature) <u>Michelle Gonzalez</u> Date <u>4-19-25</u> Time <u>0119</u> Received by: (Signature) <u>Noe Selt</u> Date <u>4-21-25</u> Time <u>730</u>																				
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other																				
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA																				
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																				

Envirotech Analytical Laboratory

Printed: 4/21/2025 2:11:18PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	04/21/25 07:30	Work Order ID:	E504158
Phone:	(575) 390-6397	Date Logged In:	04/18/25 15:53	Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	04/22/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierComments/Resolution

Project manager not provided on COC.
Individual sample temperatures listed on COC.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

13. If no visible ice, record the temperature. Actual sample temperature: 4.74°C

Sample Container

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

Field Label

20. Were field sample labels filled out with the minimum information:

Sample ID?	Yes
Date/Time Collected?	Yes
Collectors name?	No

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E504311

Job Number: 20046-0001

Received: 5/1/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
5/2/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 5/2/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E504311
Date Received: 5/1/2025 7:30:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 5/1/2025 7:30:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

Raina Schwanz
Laboratory Administrator
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Sample Summary

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/02/25 12:55

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP23-SURF	E504311-01A	Soil	04/29/25	05/01/25	Glass Jar, 2 oz.
SP23-4'	E504311-02A	Soil	04/29/25	05/01/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2025 12:55:09PM

SP23-SURF

E504311-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2518081	
Benzene	ND	0.0250	1	05/01/25	05/01/25	
Ethylbenzene	ND	0.0250	1	05/01/25	05/01/25	
Toluene	ND	0.0250	1	05/01/25	05/01/25	
o-Xylene	ND	0.0250	1	05/01/25	05/01/25	
p,m-Xylene	ND	0.0500	1	05/01/25	05/01/25	
Total Xylenes	ND	0.0250	1	05/01/25	05/01/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	86.3 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2518081	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/01/25	05/01/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	93.7 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV		Batch: 2518080	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/01/25	05/01/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/01/25	05/01/25	
<i>Surrogate: n-Nonane</i>	98.0 %	61-141		05/01/25	05/01/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2518086	
Chloride	9730	200	10	05/01/25	05/01/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2025 12:55:09PM

SP23-4'

E504311-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518081	
Benzene	ND	0.0250	1	05/01/25	05/01/25	
Ethylbenzene	ND	0.0250	1	05/01/25	05/01/25	
Toluene	ND	0.0250	1	05/01/25	05/01/25	
o-Xylene	ND	0.0250	1	05/01/25	05/01/25	
p,m-Xylene	ND	0.0500	1	05/01/25	05/01/25	
Total Xylenes	ND	0.0250	1	05/01/25	05/01/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	86.1 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518081	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/01/25	05/01/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.9 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2518080	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/01/25	05/01/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/01/25	05/01/25	
<i>Surrogate: n-Nonane</i>						
	101 %	61-141		05/01/25	05/01/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518086	
Chloride	434	20.0	1	05/01/25	05/01/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2025 12:55:09PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518081-BLK1) Prepared: 05/01/25 Analyzed: 05/01/25

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	7.32		8.00		91.5	70-130			

LCS (2518081-BS1) Prepared: 05/01/25 Analyzed: 05/01/25

Benzene	5.07	0.0250	5.00		101	70-130			
Ethylbenzene	5.09	0.0250	5.00		102	70-130			
Toluene	5.11	0.0250	5.00		102	70-130			
o-Xylene	5.05	0.0250	5.00		101	70-130			
p,m-Xylene	10.3	0.0500	10.0		103	70-130			
Total Xylenes	15.3	0.0250	15.0		102	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.13		8.00		89.1	70-130			

Matrix Spike (2518081-MS1) Source: E504310-01 Prepared: 05/01/25 Analyzed: 05/01/25

Benzene	5.16	0.0250	5.00	ND	103	70-130			
Ethylbenzene	5.14	0.0250	5.00	ND	103	70-130			
Toluene	5.18	0.0250	5.00	ND	104	70-130			
o-Xylene	5.10	0.0250	5.00	ND	102	70-130			
p,m-Xylene	10.3	0.0500	10.0	ND	103	70-130			
Total Xylenes	15.4	0.0250	15.0	ND	103	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.07		8.00		88.3	70-130			

Matrix Spike Dup (2518081-MSD1) Source: E504310-01 Prepared: 05/01/25 Analyzed: 05/01/25

Benzene	5.67	0.0250	5.00	ND	113	70-130	9.54	27	
Ethylbenzene	5.71	0.0250	5.00	ND	114	70-130	10.6	26	
Toluene	5.73	0.0250	5.00	ND	115	70-130	10.1	20	
o-Xylene	5.66	0.0250	5.00	ND	113	70-130	10.4	25	
p,m-Xylene	11.5	0.0500	10.0	ND	115	70-130	10.6	23	
Total Xylenes	17.2	0.0250	15.0	ND	114	70-130	10.6	26	
Surrogate: 4-Bromochlorobenzene-PID	7.03		8.00		87.9	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2025 12:55:09PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518081-BLK1) Prepared: 05/01/25 Analyzed: 05/01/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.48		8.00		93.5	70-130			

LCS (2518081-BS2) Prepared: 05/01/25 Analyzed: 05/01/25

Gasoline Range Organics (C6-C10)	42.1	20.0	50.0		84.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.04		8.00		100	70-130			

Matrix Spike (2518081-MS2) Source: E504310-01 Prepared: 05/01/25 Analyzed: 05/01/25

Gasoline Range Organics (C6-C10)	43.6	20.0	50.0	ND	87.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.58		8.00		94.7	70-130			

Matrix Spike Dup (2518081-MSD2) Source: E504310-01 Prepared: 05/01/25 Analyzed: 05/01/25

Gasoline Range Organics (C6-C10)	38.1	20.0	50.0	ND	76.2	70-130	13.4	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.43		8.00		92.9	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2025 12:55:09PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: NV

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518080-BLK1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	51.0		50.0		102	61-141			

LCS (2518080-BS1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Diesel Range Organics (C10-C28)	262	25.0	250		105	66-144			
Surrogate: n-Nonane	49.2		50.0		98.4	61-141			

Matrix Spike (2518080-MS1)					Source: E504310-08		Prepared: 05/01/25 Analyzed: 05/01/25		
Diesel Range Organics (C10-C28)	613	25.0	250	328	114	56-156			
Surrogate: n-Nonane	60.3		50.0		121	61-141			

Matrix Spike Dup (2518080-MSD1)					Source: E504310-08		Prepared: 05/01/25 Analyzed: 05/01/25		
Diesel Range Organics (C10-C28)	606	25.0	250	328	111	56-156	1.02	20	
Surrogate: n-Nonane	60.6		50.0		121	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2025 12:55:09PM

Anions by EPA 300.0/9056A

Analyst: DT

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

Blank (2518086-BLK1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Chloride	ND	20.0							
LCS (2518086-BS1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Chloride	259	20.0	250		104	90-110			
Matrix Spike (2518086-MS1)					Source: E504308-01		Prepared: 05/01/25 Analyzed: 05/01/25		
Chloride	318	20.0	250	56.5	105	80-120			
Matrix Spike Dup (2518086-MSD1)					Source: E504308-01		Prepared: 05/01/25 Analyzed: 05/01/25		
Chloride	316	20.0	250	56.5	104	80-120	0.802	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/02/25 12:55

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

DNR Did not react with the addition of acid or base.

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

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



Client: <u>MACC ENERGY</u>		Bill To		Lab Use Only				TAT			EPA Program			
Project: <u>FEE MA B 74</u>		Attention: <u>ENERGY STAFFING SERVICES</u>		Lab WO# <u>E.504311</u>		Job Number <u>20046-0001</u>		1D	2D	3D	Standard	CWA	SDWA	
Project Manager:		Address: <u>2724 NW COUNTY RD</u>		City, State, Zip <u>HOBBS, NM 88240</u>		Analysis and Method					RCRA			
Address:		Phone: <u>575-393-9048</u>												
City, State, Zip		Email: <u>NATALIE@ENERGYSTAFFINGLLC.COM</u>		BRITTNEY@ENERGYSTAFFINGLLC.COM							State			
Phone:														
Email:														
Report due by:														
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 NM	BGDOC TX	Remarks
745	4/29/25	S	1	SP23 - sure	1							X		1.2
805	4/29/25	S	1	SP23 - 4-	2							X		2.0
Additional Instructions:														
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.										Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.				
Relinquished by: (Signature) <u>M. Rivera</u>		Date <u>4/29/25</u>	Time	Received by: (Signature) <u>Michelle Gonzales</u>		Date <u>4-30-25</u>	Time <u>1300</u>	Received on ice: <u>(Y) N</u>						
Relinquished by: (Signature) <u>Michelle Gonzales</u>		Date <u>4-30-25</u>	Time <u>1540</u>	Received by: (Signature) <u>Richard Gonzales</u>		Date <u>4-30-25</u>	Time <u>1540</u>	T1 T2 T3						
Relinquished by: (Signature) <u>Richard Gonzales</u>		Date <u>4-30-25</u>	Time <u>2130</u>	Received by: (Signature) <u>Carth Mar</u>		Date <u>5-1-25</u>	Time <u>730</u>	AVG Temp °C						
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other										Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA				
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.														

Envirotech Analytical Laboratory

Printed: 5/1/2025 8:26:49AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	05/01/25 07:30	Work Order ID:	E504311
Phone:	(575) 390-6397	Date Logged In:	04/30/25 14:26	Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	05/02/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

Carrier: Courier

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

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

13. See COC for individual sample temps. Samples outside of 0°C-6°C will be recorded in comments.

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client InstructionComments/Resolution

Project manager not provided on COC.

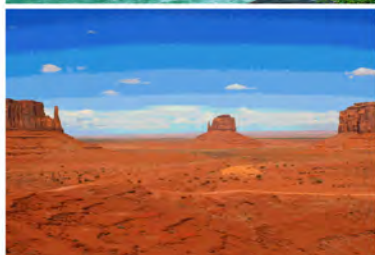
Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E504311

Job Number: 20046-0001

Received: 5/1/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
5/2/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 5/2/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E504311
Date Received: 5/1/2025 7:30:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 5/1/2025 7:30:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

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Sample Summary

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/02/25 12:55

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP23-SURF	E504311-01A	Soil	04/29/25	05/01/25	Glass Jar, 2 oz.
SP23-4'	E504311-02A	Soil	04/29/25	05/01/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2025 12:55:09PM

SP23-SURF

E504311-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2518081	
Benzene	ND	0.0250	1	05/01/25	05/01/25	
Ethylbenzene	ND	0.0250	1	05/01/25	05/01/25	
Toluene	ND	0.0250	1	05/01/25	05/01/25	
o-Xylene	ND	0.0250	1	05/01/25	05/01/25	
p,m-Xylene	ND	0.0500	1	05/01/25	05/01/25	
Total Xylenes	ND	0.0250	1	05/01/25	05/01/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	86.3 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2518081	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/01/25	05/01/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	93.7 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV		Batch: 2518080	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/01/25	05/01/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/01/25	05/01/25	
<i>Surrogate: n-Nonane</i>	98.0 %	61-141		05/01/25	05/01/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2518086	
Chloride	9730	200	10	05/01/25	05/01/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2025 12:55:09PM

SP23-4'

E504311-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518081	
Benzene	ND	0.0250	1	05/01/25	05/01/25	
Ethylbenzene	ND	0.0250	1	05/01/25	05/01/25	
Toluene	ND	0.0250	1	05/01/25	05/01/25	
o-Xylene	ND	0.0250	1	05/01/25	05/01/25	
p,m-Xylene	ND	0.0500	1	05/01/25	05/01/25	
Total Xylenes	ND	0.0250	1	05/01/25	05/01/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	86.1 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518081	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/01/25	05/01/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.9 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2518080	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/01/25	05/01/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/01/25	05/01/25	
<i>Surrogate: n-Nonane</i>						
	101 %	61-141		05/01/25	05/01/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518086	
Chloride	434	20.0	1	05/01/25	05/01/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2025 12:55:09PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518081-BLK1) Prepared: 05/01/25 Analyzed: 05/01/25

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	7.32		8.00		91.5	70-130			

LCS (2518081-BS1) Prepared: 05/01/25 Analyzed: 05/01/25

Benzene	5.07	0.0250	5.00		101	70-130			
Ethylbenzene	5.09	0.0250	5.00		102	70-130			
Toluene	5.11	0.0250	5.00		102	70-130			
o-Xylene	5.05	0.0250	5.00		101	70-130			
p,m-Xylene	10.3	0.0500	10.0		103	70-130			
Total Xylenes	15.3	0.0250	15.0		102	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.13		8.00		89.1	70-130			

Matrix Spike (2518081-MS1) Source: E504310-01 Prepared: 05/01/25 Analyzed: 05/01/25

Benzene	5.16	0.0250	5.00	ND	103	70-130			
Ethylbenzene	5.14	0.0250	5.00	ND	103	70-130			
Toluene	5.18	0.0250	5.00	ND	104	70-130			
o-Xylene	5.10	0.0250	5.00	ND	102	70-130			
p,m-Xylene	10.3	0.0500	10.0	ND	103	70-130			
Total Xylenes	15.4	0.0250	15.0	ND	103	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.07		8.00		88.3	70-130			

Matrix Spike Dup (2518081-MSD1) Source: E504310-01 Prepared: 05/01/25 Analyzed: 05/01/25

Benzene	5.67	0.0250	5.00	ND	113	70-130	9.54	27	
Ethylbenzene	5.71	0.0250	5.00	ND	114	70-130	10.6	26	
Toluene	5.73	0.0250	5.00	ND	115	70-130	10.1	20	
o-Xylene	5.66	0.0250	5.00	ND	113	70-130	10.4	25	
p,m-Xylene	11.5	0.0500	10.0	ND	115	70-130	10.6	23	
Total Xylenes	17.2	0.0250	15.0	ND	114	70-130	10.6	26	
Surrogate: 4-Bromochlorobenzene-PID	7.03		8.00		87.9	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2025 12:55:09PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518081-BLK1) Prepared: 05/01/25 Analyzed: 05/01/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.48		8.00		93.5	70-130			

LCS (2518081-BS2) Prepared: 05/01/25 Analyzed: 05/01/25

Gasoline Range Organics (C6-C10)	42.1	20.0	50.0		84.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.04		8.00		100	70-130			

Matrix Spike (2518081-MS2) Source: E504310-01 Prepared: 05/01/25 Analyzed: 05/01/25

Gasoline Range Organics (C6-C10)	43.6	20.0	50.0	ND	87.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.58		8.00		94.7	70-130			

Matrix Spike Dup (2518081-MSD2) Source: E504310-01 Prepared: 05/01/25 Analyzed: 05/01/25

Gasoline Range Organics (C6-C10)	38.1	20.0	50.0	ND	76.2	70-130	13.4	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.43		8.00		92.9	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2025 12:55:09PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: NV

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518080-BLK1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	51.0		50.0		102	61-141			

LCS (2518080-BS1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Diesel Range Organics (C10-C28)	262	25.0	250		105	66-144			
Surrogate: n-Nonane	49.2		50.0		98.4	61-141			

Matrix Spike (2518080-MS1)					Source: E504310-08		Prepared: 05/01/25 Analyzed: 05/01/25		
Diesel Range Organics (C10-C28)	613	25.0	250	328	114	56-156			
Surrogate: n-Nonane	60.3		50.0		121	61-141			

Matrix Spike Dup (2518080-MSD1)					Source: E504310-08		Prepared: 05/01/25 Analyzed: 05/01/25		
Diesel Range Organics (C10-C28)	606	25.0	250	328	111	56-156	1.02	20	
Surrogate: n-Nonane	60.6		50.0		121	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2025 12:55:09PM

Anions by EPA 300.0/9056A

Analyst: DT

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

Blank (2518086-BLK1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Chloride	ND	20.0							
LCS (2518086-BS1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Chloride	259	20.0	250		104	90-110			
Matrix Spike (2518086-MS1)					Source: E504308-01		Prepared: 05/01/25 Analyzed: 05/01/25		
Chloride	318	20.0	250	56.5	105	80-120			
Matrix Spike Dup (2518086-MSD1)					Source: E504308-01		Prepared: 05/01/25 Analyzed: 05/01/25		
Chloride	316	20.0	250	56.5	104	80-120	0.802	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/02/25 12:55

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

DNR Did not react with the addition of acid or base.

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

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



Client: MACK ENERGY						Bill To Attention: ENERGY STAFFING SERVICES Address: 2724 NW COUNTY RD City, State, Zip HOBBS, NM 88240 Phone: 575-393-9048 Email: NATALIE@ENERGYSTAFFINGLLC.COM BRITTNEY@ENERGYSTAFFINGLLC.COM							Lab Use Only Lab WO# E504311 Job Number 20046-0001							TAT 1D 2D 3D Standard				EPA Program CWA SDWA	
Project: FEE MA B #4																									
Project Manager:																									
Address:																									
City, State, Zip																									
Phone:																									
Email:																									
Report due by:																									
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 NM	BGDOC TX	State NM CO UT AZ TX				Remarks							
745	4/29/25	S	1	SP23 - SURF	1							X		1.2											
805	4/29/25	S	1	SP23 - Y-	2							X		2.0											
Additional Instructions:																									
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.												Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.													
Relinquished by: (Signature) [Signature]						Date 4/29/25		Time 1540		Received by: (Signature) Michelle Gonzales						Date 4-30-25		Time 1300		Received on ice: (Y) N					
Relinquished by: (Signature) Michelle Gonzales						Date 4-30-25		Time 1540		Received by: (Signature) Richard Gonzalez						Date 4-30-25		Time 1540		T1 T2 T3					
Relinquished by: (Signature) Richard Gonzalez						Date 4-30-25		Time 2130		Received by: (Signature) Cathi Mar						Date 5-1-25		Time 730		AVG Temp °C					
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other												Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA													
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																									

Envirotech Analytical Laboratory

Printed: 5/1/2025 8:26:49AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	05/01/25 07:30	Work Order ID:	E504311
Phone:	(575) 390-6397	Date Logged In:	04/30/25 14:26	Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	05/02/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

Carrier: Courier

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

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

13. See COC for individual sample temps. Samples outside of 0°C-6°C will be recorded in comments.

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client InstructionComments/Resolution

Project manager not provided on COC.

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

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E504312

Job Number: 20046-0001

Received: 5/1/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
5/2/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 5/2/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E504312
Date Received: 5/1/2025 7:30:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 5/1/2025 7:30:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

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Laboratory Administrator
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Sample Summary

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/02/25 12:56

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP21-SURF	E504312-01A	Soil	04/28/25	05/01/25	Glass Jar, 2 oz.
SP21-4'	E504312-02A	Soil	04/28/25	05/01/25	Glass Jar, 2 oz.
SW14-SURF	E504312-03A	Soil	04/28/25	05/01/25	Glass Jar, 2 oz.
SP22-SURF	E504312-04A	Soil	04/28/25	05/01/25	Glass Jar, 2 oz.
SP22-3'	E504312-05A	Soil	04/28/25	05/01/25	Glass Jar, 2 oz.
SW15-SURF	E504312-06A	Soil	04/28/25	05/01/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2025 12:56:41PM

SP21-SURF

E504312-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518081	
Benzene	ND	0.0250	1	05/01/25	05/01/25	
Ethylbenzene	ND	0.0250	1	05/01/25	05/01/25	
Toluene	ND	0.0250	1	05/01/25	05/01/25	
o-Xylene	ND	0.0250	1	05/01/25	05/01/25	
p,m-Xylene	ND	0.0500	1	05/01/25	05/01/25	
Total Xylenes	ND	0.0250	1	05/01/25	05/01/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	86.1 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518081	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/01/25	05/01/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	93.6 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2518080	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/01/25	05/01/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/01/25	05/01/25	
<i>Surrogate: n-Nonane</i>						
	102 %	61-141		05/01/25	05/01/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518086	
Chloride	1310	40.0	2	05/01/25	05/01/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2025 12:56:41PM

SP21-4'

E504312-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518081	
Benzene	ND	0.0250	1	05/01/25	05/01/25	
Ethylbenzene	ND	0.0250	1	05/01/25	05/01/25	
Toluene	ND	0.0250	1	05/01/25	05/01/25	
o-Xylene	ND	0.0250	1	05/01/25	05/01/25	
p,m-Xylene	ND	0.0500	1	05/01/25	05/01/25	
Total Xylenes	ND	0.0250	1	05/01/25	05/01/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	85.6 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518081	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/01/25	05/01/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	93.1 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2518080	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/01/25	05/01/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/01/25	05/01/25	
<i>Surrogate: n-Nonane</i>						
	102 %	61-141		05/01/25	05/01/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518086	
Chloride	26.2	20.0	1	05/01/25	05/01/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2025 12:56:41PM

SW14-SURF

E504312-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518081
Benzene	ND	0.0250	1	05/01/25	05/01/25	
Ethylbenzene	ND	0.0250	1	05/01/25	05/01/25	
Toluene	ND	0.0250	1	05/01/25	05/01/25	
o-Xylene	ND	0.0250	1	05/01/25	05/01/25	
p,m-Xylene	ND	0.0500	1	05/01/25	05/01/25	
Total Xylenes	ND	0.0250	1	05/01/25	05/01/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	87.0 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518081
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/01/25	05/01/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	93.3 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: NV		Batch: 2518080
Diesel Range Organics (C10-C28)	ND	25.0	1	05/01/25	05/01/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/01/25	05/01/25	
<i>Surrogate: n-Nonane</i>						
	97.3 %	61-141		05/01/25	05/01/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2518086
Chloride	3470	40.0	2	05/01/25	05/01/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2025 12:56:41PM

SP22-SURF

E504312-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518081	
Benzene	ND	0.0250	1	05/01/25	05/01/25	
Ethylbenzene	ND	0.0250	1	05/01/25	05/01/25	
Toluene	ND	0.0250	1	05/01/25	05/01/25	
o-Xylene	ND	0.0250	1	05/01/25	05/01/25	
p,m-Xylene	ND	0.0500	1	05/01/25	05/01/25	
Total Xylenes	ND	0.0250	1	05/01/25	05/01/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	85.5 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518081	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/01/25	05/01/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	92.4 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2518080	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/01/25	05/01/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/01/25	05/01/25	
<i>Surrogate: n-Nonane</i>						
	101 %	61-141		05/01/25	05/01/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518086	
Chloride	1930	20.0	1	05/01/25	05/01/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2025 12:56:41PM

SP22-3'

E504312-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518081
Benzene	ND	0.0250	1	05/01/25	05/01/25	
Ethylbenzene	ND	0.0250	1	05/01/25	05/01/25	
Toluene	ND	0.0250	1	05/01/25	05/01/25	
o-Xylene	ND	0.0250	1	05/01/25	05/01/25	
p,m-Xylene	ND	0.0500	1	05/01/25	05/01/25	
Total Xylenes	ND	0.0250	1	05/01/25	05/01/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	86.4 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518081
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/01/25	05/01/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	93.3 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: NV		Batch: 2518080
Diesel Range Organics (C10-C28)	ND	25.0	1	05/01/25	05/01/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/01/25	05/01/25	
<i>Surrogate: n-Nonane</i>						
	96.8 %	61-141		05/01/25	05/01/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2518086
Chloride	144	20.0	1	05/01/25	05/01/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/2/2025 12:56:41PM

SW15-SURF

E504312-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518081
Benzene	ND	0.0250	1	05/01/25	05/01/25	
Ethylbenzene	ND	0.0250	1	05/01/25	05/01/25	
Toluene	ND	0.0250	1	05/01/25	05/01/25	
o-Xylene	ND	0.0250	1	05/01/25	05/01/25	
p,m-Xylene	ND	0.0500	1	05/01/25	05/01/25	
Total Xylenes	ND	0.0250	1	05/01/25	05/01/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	85.7 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518081
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/01/25	05/01/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	93.7 %	70-130		05/01/25	05/01/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: NV		Batch: 2518080
Diesel Range Organics (C10-C28)	ND	25.0	1	05/01/25	05/01/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/01/25	05/01/25	
<i>Surrogate: n-Nonane</i>						
	102 %	61-141		05/01/25	05/01/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2518086
Chloride	7730	100	5	05/01/25	05/01/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2025 12:56:41PM

Volatile Organics by EPA 8021B

Analyst: SL

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

Blank (2518081-BLK1) Prepared: 05/01/25 Analyzed: 05/01/25

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	7.32		8.00		91.5	70-130			

LCS (2518081-BS1) Prepared: 05/01/25 Analyzed: 05/01/25

Benzene	5.07	0.0250	5.00		101	70-130			
Ethylbenzene	5.09	0.0250	5.00		102	70-130			
Toluene	5.11	0.0250	5.00		102	70-130			
o-Xylene	5.05	0.0250	5.00		101	70-130			
p,m-Xylene	10.3	0.0500	10.0		103	70-130			
Total Xylenes	15.3	0.0250	15.0		102	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.13		8.00		89.1	70-130			

Matrix Spike (2518081-MS1) Source: E504310-01 Prepared: 05/01/25 Analyzed: 05/01/25

Benzene	5.16	0.0250	5.00	ND	103	70-130			
Ethylbenzene	5.14	0.0250	5.00	ND	103	70-130			
Toluene	5.18	0.0250	5.00	ND	104	70-130			
o-Xylene	5.10	0.0250	5.00	ND	102	70-130			
p,m-Xylene	10.3	0.0500	10.0	ND	103	70-130			
Total Xylenes	15.4	0.0250	15.0	ND	103	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.07		8.00		88.3	70-130			

Matrix Spike Dup (2518081-MSD1) Source: E504310-01 Prepared: 05/01/25 Analyzed: 05/01/25

Benzene	5.67	0.0250	5.00	ND	113	70-130	9.54	27	
Ethylbenzene	5.71	0.0250	5.00	ND	114	70-130	10.6	26	
Toluene	5.73	0.0250	5.00	ND	115	70-130	10.1	20	
o-Xylene	5.66	0.0250	5.00	ND	113	70-130	10.4	25	
p,m-Xylene	11.5	0.0500	10.0	ND	115	70-130	10.6	23	
Total Xylenes	17.2	0.0250	15.0	ND	114	70-130	10.6	26	
Surrogate: 4-Bromochlorobenzene-PID	7.03		8.00		87.9	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2025 12:56:41PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518081-BLK1) Prepared: 05/01/25 Analyzed: 05/01/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.48		8.00		93.5	70-130			

LCS (2518081-BS2) Prepared: 05/01/25 Analyzed: 05/01/25

Gasoline Range Organics (C6-C10)	42.1	20.0	50.0		84.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.04		8.00		100	70-130			

Matrix Spike (2518081-MS2) Source: E504310-01 Prepared: 05/01/25 Analyzed: 05/01/25

Gasoline Range Organics (C6-C10)	43.6	20.0	50.0	ND	87.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.58		8.00		94.7	70-130			

Matrix Spike Dup (2518081-MSD2) Source: E504310-01 Prepared: 05/01/25 Analyzed: 05/01/25

Gasoline Range Organics (C6-C10)	38.1	20.0	50.0	ND	76.2	70-130	13.4	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.43		8.00		92.9	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2025 12:56:41PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: NV

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518080-BLK1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	51.0		50.0		102	61-141			

LCS (2518080-BS1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Diesel Range Organics (C10-C28)	262	25.0	250		105	66-144			
Surrogate: n-Nonane	49.2		50.0		98.4	61-141			

Matrix Spike (2518080-MS1)					Source: E504310-08		Prepared: 05/01/25 Analyzed: 05/01/25		
Diesel Range Organics (C10-C28)	613	25.0	250	328	114	56-156			
Surrogate: n-Nonane	60.3		50.0		121	61-141			

Matrix Spike Dup (2518080-MSD1)					Source: E504310-08		Prepared: 05/01/25 Analyzed: 05/01/25		
Diesel Range Organics (C10-C28)	606	25.0	250	328	111	56-156	1.02	20	
Surrogate: n-Nonane	60.6		50.0		121	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/2/2025 12:56:41PM

Anions by EPA 300.0/9056A

Analyst: DT

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518086-BLK1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Chloride	ND	20.0							
LCS (2518086-BS1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Chloride	259	20.0	250		104	90-110			
Matrix Spike (2518086-MS1)					Source: E504308-01		Prepared: 05/01/25 Analyzed: 05/01/25		
Chloride	318	20.0	250	56.5	105	80-120			
Matrix Spike Dup (2518086-MSD1)					Source: E504308-01		Prepared: 05/01/25 Analyzed: 05/01/25		
Chloride	316	20.0	250	56.5	104	80-120	0.802	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/02/25 12:56

- ND Analyte NOT DETECTED at or above the reporting limit
 - NR Not Reported
 - RPD Relative Percent Difference
 - DNI Did Not Ignite
 - DNR Did not react with the addition of acid or base.
- 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

Page 1 of 1



Envirotech Analytical Laboratory

Printed: 5/1/2025 8:28:26AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.**If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.**

Client:	Mack Energy	Date Received:	05/01/25 07:30	Work Order ID:	E504312
Phone:	(575) 390-6397	Date Logged In:	04/30/25 14:29	Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	05/02/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: Courier**Comments/Resolution**

Project manager not provided on COC.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

13. See COC for individual sample temps. Samples outside of 0°C-6°C will be recorded in comments.

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

Report to:

Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E505008

Job Number: 20046-0001

Received: 5/2/2025

Revision: 2

Report Reviewed By:

Walter Hinchman
Laboratory Director
5/5/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 5/5/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E505008
Date Received: 5/2/2025 7:00:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 5/2/2025 7:00:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

Walter Hinchman
Laboratory Director
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Cell: 775-287-1762
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Sample Summary

Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: FEE MAB #4 Project Number: 20046-0001 Project Manager: Natalie Gladden	Reported: 05/05/25 17:01
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Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP24-SURF	E505008-01A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP24-3'	E505008-02A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP25-SURF	E505008-03A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP25-3'	E505008-04A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP26-SURF	E505008-05A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP26-3'	E505008-06A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP27-SURF	E505008-07A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP27-3'	E505008-08A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP28-SURF	E505008-09A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP28-4'	E505008-10A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP29-SURF	E505008-11A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP29-3'	E505008-12A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP30-SURF	E505008-13A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP30-2'	E505008-14A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP31-SURF	E505008-15A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP31-2'	E505008-16A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP32-SURF	E505008-17A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP32-2'	E505008-18A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP33-SURF	E505008-19A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.
SP33-2'	E505008-20A	Soil	04/30/25	05/02/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP24-SURF

E505008-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	<i>98.4 %</i>	<i>70-130</i>		<i>05/02/25</i>	<i>05/03/25</i>	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	<i>98.4 %</i>	<i>70-130</i>		<i>05/02/25</i>	<i>05/03/25</i>	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2518100	
Diesel Range Organics (C10-C28)	3680	25.0	1	05/02/25	05/02/25	
Oil Range Organics (C28-C36)	2980	50.0	1	05/02/25	05/02/25	
<i>Surrogate: n-Nonane</i>	<i>94.1 %</i>	<i>61-141</i>		<i>05/02/25</i>	<i>05/02/25</i>	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2518111	
Chloride	289	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP24-3'

E505008-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518105
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.8 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518105
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	101 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: NV		Batch: 2518100
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/05/25	
<i>Surrogate: n-Nonane</i>						
	93.5 %	61-141		05/02/25	05/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2518111
Chloride	212	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP25-SURF

E505008-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		103 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		93.2 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2518100	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/02/25	
<i>Surrogate: n-Nonane</i>						
		93.8 %	61-141	05/02/25	05/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518111	
Chloride	95.7	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP25-3'

E505008-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518105
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518105
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		96.3 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KH		Batch: 2518100
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/02/25	
<i>Surrogate: n-Nonane</i>						
		92.1 %	61-141	05/02/25	05/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2518111
Chloride	136	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP26-SURF

E505008-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.8 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	97.9 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2518100	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/02/25	
<i>Surrogate: n-Nonane</i>						
	91.4 %	61-141		05/02/25	05/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518111	
Chloride	60.6	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP26-3'

E505008-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518105
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.4 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518105
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	101 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KH		Batch: 2518100
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/02/25	
<i>Surrogate: n-Nonane</i>						
	92.1 %	61-141		05/02/25	05/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2518111
Chloride	392	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP27-SURF

E505008-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		92.8 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2518100	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/02/25	
<i>Surrogate: n-Nonane</i>						
		92.7 %	61-141	05/02/25	05/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518111	
Chloride	850	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP27-3'

E505008-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518105
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		103 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518105
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		100 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KH		Batch: 2518100
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/02/25	
<i>Surrogate: n-Nonane</i>						
		96.5 %	61-141	05/02/25	05/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2518111
Chloride	40.8	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP28-SURF

E505008-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.2 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	99.3 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2518100	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/02/25	
<i>Surrogate: n-Nonane</i>						
	95.1 %	61-141		05/02/25	05/02/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518111	
Chloride	684	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP28-4'

E505008-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		95.3 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2518100	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/03/25	
<i>Surrogate: n-Nonane</i>						
		94.4 %	61-141	05/02/25	05/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518111	
Chloride	44.1	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP29-SURF

E505008-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518105
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.9 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518105
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	99.8 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KH		Batch: 2518100
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/03/25	
<i>Surrogate: n-Nonane</i>						
	94.6 %	61-141		05/02/25	05/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2518111
Chloride	511	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP29-3'

E505008-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		98.8 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2518100	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/03/25	
<i>Surrogate: n-Nonane</i>						
		93.4 %	61-141	05/02/25	05/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518111	
Chloride	442	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP30-SURF

E505008-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		94.0 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2518100	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/03/25	
<i>Surrogate: n-Nonane</i>						
		98.1 %	61-141	05/02/25	05/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518111	
Chloride	112	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP30-2'

E505008-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518105
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		103 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518105
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		97.3 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KH		Batch: 2518100
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/03/25	
<i>Surrogate: n-Nonane</i>						
		93.4 %	61-141	05/02/25	05/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2518111
Chloride	ND	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP31-SURF

E505008-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518105
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.2 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2518105
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	102 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KH		Batch: 2518100
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/03/25	
<i>Surrogate: n-Nonane</i>						
	94.7 %	61-141		05/02/25	05/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2518111
Chloride	24.2	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP31-2'

E505008-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		97.4 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2518100	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/03/25	
<i>Surrogate: n-Nonane</i>						
		95.7 %	61-141	05/02/25	05/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518111	
Chloride	179	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP32-SURF

E505008-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		103 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		95.2 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2518100	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/03/25	
<i>Surrogate: n-Nonane</i>						
		92.4 %	61-141	05/02/25	05/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518111	
Chloride	811	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP32-2'

E505008-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.0 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	98.2 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2518100	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/03/25	
<i>Surrogate: n-Nonane</i>						
	92.6 %	61-141		05/02/25	05/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518111	
Chloride	144	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP33-SURF

E505008-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	100 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	93.2 %	70-130		05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2518100	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/03/25	
<i>Surrogate: n-Nonane</i>						
	95.8 %	61-141		05/02/25	05/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518111	
Chloride	ND	20.0	1	05/02/25	05/02/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/5/2025 5:01:11PM

SP33-2'

E505008-20

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Benzene	ND	0.0250	1	05/02/25	05/03/25	
Ethylbenzene	ND	0.0250	1	05/02/25	05/03/25	
Toluene	ND	0.0250	1	05/02/25	05/03/25	
o-Xylene	ND	0.0250	1	05/02/25	05/03/25	
p,m-Xylene	ND	0.0500	1	05/02/25	05/03/25	
Total Xylenes	ND	0.0250	1	05/02/25	05/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2518105	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/02/25	05/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		98.8 %	70-130	05/02/25	05/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2518100	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/02/25	05/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/02/25	05/03/25	
<i>Surrogate: n-Nonane</i>						
		97.7 %	61-141	05/02/25	05/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2518111	
Chloride	135	20.0	1	05/02/25	05/02/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/5/2025 5:01:11PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518105-BLK1)

Prepared: 05/02/25 Analyzed: 05/02/25

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	7.75		8.00		96.9	70-130			

LCS (2518105-BS1)

Prepared: 05/02/25 Analyzed: 05/03/25

Benzene	4.73	0.0250	5.00		94.7	70-130			
Ethylbenzene	4.63	0.0250	5.00		92.6	70-130			
Toluene	4.71	0.0250	5.00		94.2	70-130			
o-Xylene	4.64	0.0250	5.00		92.8	70-130			
p,m-Xylene	9.26	0.0500	10.0		92.6	70-130			
Total Xylenes	13.9	0.0250	15.0		92.7	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.76		8.00		97.0	70-130			

Matrix Spike (2518105-MS1)

Source: E505008-04

Prepared: 05/02/25 Analyzed: 05/03/25

Benzene	4.31	0.0250	5.00	ND	86.1	70-130			
Ethylbenzene	4.21	0.0250	5.00	ND	84.1	70-130			
Toluene	4.28	0.0250	5.00	ND	85.6	70-130			
o-Xylene	4.25	0.0250	5.00	ND	85.0	70-130			
p,m-Xylene	8.42	0.0500	10.0	ND	84.2	70-130			
Total Xylenes	12.7	0.0250	15.0	ND	84.5	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.99		8.00		99.9	70-130			

Matrix Spike Dup (2518105-MSD1)

Source: E505008-04

Prepared: 05/02/25 Analyzed: 05/03/25

Benzene	4.02	0.0250	5.00	ND	80.4	70-130	6.85	27	
Ethylbenzene	3.94	0.0250	5.00	ND	78.9	70-130	6.46	26	
Toluene	4.00	0.0250	5.00	ND	80.0	70-130	6.85	20	
o-Xylene	3.95	0.0250	5.00	ND	78.9	70-130	7.46	25	
p,m-Xylene	7.89	0.0500	10.0	ND	78.9	70-130	6.53	23	
Total Xylenes	11.8	0.0250	15.0	ND	78.9	70-130	6.84	26	
Surrogate: 4-Bromochlorobenzene-PID	7.66		8.00		95.7	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/5/2025 5:01:11PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518105-BLK1)

Prepared: 05/02/25 Analyzed: 05/02/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.13		8.00		102	70-130			

LCS (2518105-BS2)

Prepared: 05/02/25 Analyzed: 05/03/25

Gasoline Range Organics (C6-C10)	48.7	20.0	50.0		97.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.32		8.00		104	70-130			

Matrix Spike (2518105-MS2)

Source: E505008-04

Prepared: 05/02/25 Analyzed: 05/03/25

Gasoline Range Organics (C6-C10)	50.1	20.0	50.0	ND	100	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.06		8.00		101	70-130			

Matrix Spike Dup (2518105-MSD2)

Source: E505008-04

Prepared: 05/02/25 Analyzed: 05/03/25

Gasoline Range Organics (C6-C10)	47.9	20.0	50.0	ND	95.7	70-130	4.65	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.32		8.00		104	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/5/2025 5:01:11PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KH

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518100-BLK1)

Prepared: 05/02/25 Analyzed: 05/02/25

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: <i>n</i> -Nonane	47.6		50.0		95.3	61-141			

LCS (2518100-BS1)

Prepared: 05/02/25 Analyzed: 05/02/25

Diesel Range Organics (C10-C28)	248	25.0	250		99.2	66-144			
Surrogate: <i>n</i> -Nonane	45.2		50.0		90.4	61-141			

Matrix Spike (2518100-MS1)

Source: E505008-16

Prepared: 05/02/25 Analyzed: 05/02/25

Diesel Range Organics (C10-C28)	257	25.0	250	ND	103	56-156			
Surrogate: <i>n</i> -Nonane	45.9		50.0		91.9	61-141			

Matrix Spike Dup (2518100-MSD1)

Source: E505008-16

Prepared: 05/02/25 Analyzed: 05/02/25

Diesel Range Organics (C10-C28)	259	25.0	250	ND	103	56-156	0.817	20	
Surrogate: <i>n</i> -Nonane	47.1		50.0		94.2	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/5/2025 5:01:11PM

Anions by EPA 300.0/9056A

Analyst: DT

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518111-BLK1)					Prepared: 05/02/25 Analyzed: 05/02/25				
Chloride	ND	20.0							
LCS (2518111-BS1)					Prepared: 05/02/25 Analyzed: 05/02/25				
Chloride	258	20.0	250		103	90-110			
Matrix Spike (2518111-MS1)					Source: E505008-08		Prepared: 05/02/25 Analyzed: 05/02/25		
Chloride	301	20.0	250	40.8	104	80-120			
Matrix Spike Dup (2518111-MSD1)					Source: E505008-08		Prepared: 05/02/25 Analyzed: 05/02/25		
Chloride	302	20.0	250	40.8	105	80-120	0.336	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/05/25 17:01

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.
- Note (1): Methods marked with ** are non-accredited methods.
- Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Client: <u>MAEK ENERGY</u>		Bill To		Lab Use Only				TAT				EPA Program							
Project: <u>FEE MA B #4</u>		Attention: <u>ENERGY STAFFING SERVICES</u>		Lab WO# <u>E505008</u>		Job Number <u>20460001</u>		1D	2D	3D	Standard	CWA	SDWA						
Project Manager:		Address: <u>2724 NW COUNTY RD</u>							☒										
Address:		City, State, Zip <u>HOBBS, NM 88240</u>						Analysis and Method					RCRA						
City, State, Zip		Phone: <u>575-393-9048</u>										State							
Phone:		Email: <u>NATALIE@ENERGYSTAFFINGLLC.COM</u>										NM		CO	UT	AZ	TX		
Email:		BRITTNEY@ENERGYSTAFFINGLLC.COM										☒							
Report due by:																Remarks			
Time Sampled	Date Sampled	Matrix	No of Containers	Sample ID	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	BGDOC TX						
7:35	4/30/25	S	1	SP24-S4RF	1							☒		1.1					
7:50				SP24-3"	2									1.4					
8:05				SP25-S4RF	3									1.7					
8:20				SP25-3"	4									2.3					
8:25				SP26-S4RF	5									2.0					
8:40				SP26-3"	6									2.5					
8:45				SP27-S4RF	7									1.2					
9:00				SP27-3"	8									2.9					
9:15				SP28-S4RF	9									3.0					
9:35	4/30/25	S	1	SP28-4"	10							☒		2.0					
Additional Instructions:																			
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.												Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6°C on subsequent days.							
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		Lab Use Only							
<u>M. Gonzalez</u>		4/30/25		1630		<u>Michelle Gonzalez</u>		5-1-25		1330		Received on ice: ☒ Y / N							
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		T1						T2	T3
<u>Michelle Gonzalez</u>		5-1-25		1630		<u>John M.</u>		5-1-25		1630									
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		AVG Temp °C							
<u>John M.</u>		5-1-25		2315		<u>Carla Mar</u>		5-2-25		700									
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other												Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA							
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																			

Project Information

Chain of Custody

Page 2 of 2

Client: <u>MACC ENERGY</u> Project: <u>FEE MA B #4</u> Project Manager: Address: City, State, Zip: Phone: Email: Report due by:					Bill To Attention: <u>ENERGY STAFFING SERVICES</u> Address: <u>2724 NW COUNTY RD</u> City, State, Zip: <u>HOBBS, NM 88240</u> Phone: <u>575-393-9048</u> Email: <u>NATALIE@ENERGYSTAFFINGLLC.COM</u> <u>BRITTNEY@ENERGYSTAFFINGLLC.COM</u>					Lab Use Only Lab WO# <u>E605008</u> Job Number <u>200410-0001</u> Analysis and Method					TAT 1D ☒ 2D ☐ 3D ☐ Standard ☐				EPA Program CWA ☐ SDWA ☐ RCRA ☐	
										State NM ☒ CO ☐ UT ☐ AZ ☐ TX ☐										
Time Sampled	Date Sampled	Matrix	No of Containers	Sample ID	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0		BGDOC NM	BGDOC TX		Remarks				
9:40	4/30/25	S	1	SP29 - SYRF	11								☒			1.1				
9:55				SP29 - 3"	12											1.4				
10:15				SP30 - SYRF	13											2.7				
10:25				SP30 - 2"	14											1.8				
11:00				SP31 - SYRF	15											3.4				
11:10				SP31 - 2"	16											1.8				
1:25				SP32 - SYRF	17											3.2				
1:35				SP32 - 2"	18											3.9				
1:55				SP33 - SYRF	19											2.9				
2:05				SP33 - 2"	20											3.5				
Additional Instructions: I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: <u>M. RIVERA</u> Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.																				
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	Lab Use Only Received on ice: ☒ Y ☐ N												
Michelle Gonzales		5-1-25	1630	Michelle Gonzales		5-1-25	1630	T1 _____ T2 _____ T3 _____												
Cuth M.		5-1-25	2315	Cuth M.		5-2-25	700	AVG Temp °C _____												
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____							Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA													
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																				


enviro+ech

Envirotech Analytical Laboratory

Printed: 5/2/2025 8:50:08AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	05/02/25 07:00	Work Order ID:	E505008
Phone:	(575) 390-6397	Date Logged In:	05/01/25 15:09	Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	05/05/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierComments/Resolution

Project manager not provided on COC.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

13. See COC for individual sample temps. Samples outside of 0°C-6°C will be recorded in comments.

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E505019

Job Number: 20046-0001

Received: 5/5/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
5/6/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 5/6/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E505019
Date Received: 5/5/2025 7:45:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 5/5/2025 7:45:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
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Envirotech Web Address: www.envirotech-inc.com

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Chain of Custody etc.

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Sample Summary

Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: FEE MAB #4 Project Number: 20046-0001 Project Manager: Natalie Gladden	Reported: 05/06/25 15:01
--	--	-----------------------------

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP34-SURF	E505019-01A	Soil	05/01/25	05/05/25	Glass Jar, 2 oz.
SP34-2'	E505019-02A	Soil	05/01/25	05/05/25	Glass Jar, 2 oz.
SP35-SURF	E505019-03A	Soil	05/01/25	05/05/25	Glass Jar, 2 oz.
SP35-2'	E505019-04A	Soil	05/01/25	05/05/25	Glass Jar, 2 oz.
SP36-SURF	E505019-05A	Soil	05/01/25	05/05/25	Glass Jar, 2 oz.
SP36-2'	E505019-06A	Soil	05/01/25	05/05/25	Glass Jar, 2 oz.
SW16-SURF	E505019-07A	Soil	05/01/25	05/05/25	Glass Jar, 2 oz.
SW17-SURF	E505019-08A	Soil	05/01/25	05/05/25	Glass Jar, 2 oz.
SW18-SURF	E505019-09A	Soil	05/01/25	05/05/25	Glass Jar, 2 oz.
SW18-2'	E505019-10A	Soil	05/01/25	05/05/25	Glass Jar, 2 oz.
SW19-SURF	E505019-11A	Soil	05/01/25	05/05/25	Glass Jar, 2 oz.
SW19-3'	E505019-12A	Soil	05/01/25	05/05/25	Glass Jar, 2 oz.
SW20-SURF	E505019-13A	Soil	05/01/25	05/05/25	Glass Jar, 2 oz.
SW20-3'	E505019-14A	Soil	05/01/25	05/05/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/6/2025 3:01:18PM

SP34-SURF

E505019-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Benzene	ND	0.0250	1	05/05/25	05/05/25	
Ethylbenzene	ND	0.0250	1	05/05/25	05/05/25	
Toluene	ND	0.0250	1	05/05/25	05/05/25	
o-Xylene	ND	0.0250	1	05/05/25	05/05/25	
p,m-Xylene	ND	0.0500	1	05/05/25	05/05/25	
Total Xylenes	ND	0.0250	1	05/05/25	05/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	86.4 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/05/25	05/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	95.9 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2519001	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/05/25	05/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/05/25	05/05/25	
<i>Surrogate: n-Nonane</i>						
	93.6 %	61-141		05/05/25	05/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2519007	
Chloride	132	20.0	1	05/05/25	05/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/6/2025 3:01:18PM

SP34-2'

E505019-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2519008
Benzene	ND	0.0250	1	05/05/25	05/05/25	
Ethylbenzene	ND	0.0250	1	05/05/25	05/05/25	
Toluene	ND	0.0250	1	05/05/25	05/05/25	
o-Xylene	ND	0.0250	1	05/05/25	05/05/25	
p,m-Xylene	ND	0.0500	1	05/05/25	05/05/25	
Total Xylenes	ND	0.0250	1	05/05/25	05/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	87.5 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2519008
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/05/25	05/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	95.6 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: HM		Batch: 2519001
Diesel Range Organics (C10-C28)	ND	25.0	1	05/05/25	05/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/05/25	05/05/25	
<i>Surrogate: n-Nonane</i>						
	91.9 %	61-141		05/05/25	05/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2519007
Chloride	241	20.0	1	05/05/25	05/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/6/2025 3:01:18PM

SP35-SURF

E505019-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Benzene	ND	0.0250	1	05/05/25	05/05/25	
Ethylbenzene	ND	0.0250	1	05/05/25	05/05/25	
Toluene	ND	0.0250	1	05/05/25	05/05/25	
o-Xylene	ND	0.0250	1	05/05/25	05/05/25	
p,m-Xylene	ND	0.0500	1	05/05/25	05/05/25	
Total Xylenes	ND	0.0250	1	05/05/25	05/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	86.2 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/05/25	05/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.8 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2519001	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/05/25	05/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/05/25	05/05/25	
<i>Surrogate: n-Nonane</i>						
	98.2 %	61-141		05/05/25	05/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2519007	
Chloride	ND	20.0	1	05/05/25	05/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/6/2025 3:01:18PM

SP35-2'

E505019-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2519008
Benzene	ND	0.0250	1	05/05/25	05/05/25	
Ethylbenzene	ND	0.0250	1	05/05/25	05/05/25	
Toluene	ND	0.0250	1	05/05/25	05/05/25	
o-Xylene	ND	0.0250	1	05/05/25	05/05/25	
p,m-Xylene	ND	0.0500	1	05/05/25	05/05/25	
Total Xylenes	ND	0.0250	1	05/05/25	05/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	88.3 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2519008
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/05/25	05/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.3 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: HM		Batch: 2519001
Diesel Range Organics (C10-C28)	ND	25.0	1	05/05/25	05/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/05/25	05/05/25	
<i>Surrogate: n-Nonane</i>						
	95.2 %	61-141		05/05/25	05/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2519007
Chloride	327	20.0	1	05/05/25	05/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/6/2025 3:01:18PM

SP36-SURF

E505019-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Benzene	ND	0.0250	1	05/05/25	05/05/25	
Ethylbenzene	ND	0.0250	1	05/05/25	05/05/25	
Toluene	ND	0.0250	1	05/05/25	05/05/25	
o-Xylene	ND	0.0250	1	05/05/25	05/05/25	
p,m-Xylene	ND	0.0500	1	05/05/25	05/05/25	
Total Xylenes	ND	0.0250	1	05/05/25	05/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	84.8 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/05/25	05/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	95.0 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2519001	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/05/25	05/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/05/25	05/05/25	
<i>Surrogate: n-Nonane</i>						
	94.5 %	61-141		05/05/25	05/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2519007	
Chloride	ND	20.0	1	05/05/25	05/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/6/2025 3:01:18PM

SP36-2'

E505019-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2519008
Benzene	ND	0.0250	1	05/05/25	05/05/25	
Ethylbenzene	ND	0.0250	1	05/05/25	05/05/25	
Toluene	ND	0.0250	1	05/05/25	05/05/25	
o-Xylene	ND	0.0250	1	05/05/25	05/05/25	
p,m-Xylene	ND	0.0500	1	05/05/25	05/05/25	
Total Xylenes	ND	0.0250	1	05/05/25	05/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	86.7 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2519008
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/05/25	05/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	95.1 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: HM		Batch: 2519001
Diesel Range Organics (C10-C28)	ND	25.0	1	05/05/25	05/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/05/25	05/05/25	
<i>Surrogate: n-Nonane</i>						
	93.9 %	61-141		05/05/25	05/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2519007
Chloride	ND	20.0	1	05/05/25	05/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/6/2025 3:01:18PM

SW16-SURF

E505019-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Benzene	ND	0.0250	1	05/05/25	05/05/25	
Ethylbenzene	ND	0.0250	1	05/05/25	05/05/25	
Toluene	ND	0.0250	1	05/05/25	05/05/25	
o-Xylene	ND	0.0250	1	05/05/25	05/05/25	
p,m-Xylene	ND	0.0500	1	05/05/25	05/05/25	
Total Xylenes	ND	0.0250	1	05/05/25	05/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	88.3 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/05/25	05/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	95.7 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2519001	
Diesel Range Organics (C10-C28)	148	25.0	1	05/05/25	05/05/25	
Oil Range Organics (C28-C36)	245	50.0	1	05/05/25	05/05/25	
<i>Surrogate: n-Nonane</i>						
	88.5 %	61-141		05/05/25	05/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2519007	
Chloride	180	20.0	1	05/05/25	05/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/6/2025 3:01:18PM

SW17-SURF

E505019-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Benzene	ND	0.0250	1	05/05/25	05/05/25	
Ethylbenzene	ND	0.0250	1	05/05/25	05/05/25	
Toluene	ND	0.0250	1	05/05/25	05/05/25	
o-Xylene	ND	0.0250	1	05/05/25	05/05/25	
p,m-Xylene	ND	0.0500	1	05/05/25	05/05/25	
Total Xylenes	ND	0.0250	1	05/05/25	05/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	88.5 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/05/25	05/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	95.6 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2519001	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/05/25	05/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/05/25	05/05/25	
<i>Surrogate: n-Nonane</i>						
	92.5 %	61-141		05/05/25	05/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2519007	
Chloride	55.2	20.0	1	05/05/25	05/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/6/2025 3:01:18PM

SW18-SURF

E505019-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Benzene	ND	0.0250	1	05/05/25	05/05/25	
Ethylbenzene	ND	0.0250	1	05/05/25	05/05/25	
Toluene	ND	0.0250	1	05/05/25	05/05/25	
o-Xylene	ND	0.0250	1	05/05/25	05/05/25	
p,m-Xylene	ND	0.0500	1	05/05/25	05/05/25	
Total Xylenes	ND	0.0250	1	05/05/25	05/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	89.9 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/05/25	05/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.3 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2519001	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/05/25	05/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/05/25	05/05/25	
<i>Surrogate: n-Nonane</i>						
	93.3 %	61-141		05/05/25	05/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2519007	
Chloride	40.8	20.0	1	05/05/25	05/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/6/2025 3:01:18PM

SW18-2'

E505019-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Benzene	ND	0.0250	1	05/05/25	05/05/25	
Ethylbenzene	ND	0.0250	1	05/05/25	05/05/25	
Toluene	ND	0.0250	1	05/05/25	05/05/25	
o-Xylene	ND	0.0250	1	05/05/25	05/05/25	
p,m-Xylene	ND	0.0500	1	05/05/25	05/05/25	
Total Xylenes	ND	0.0250	1	05/05/25	05/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	90.4 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/05/25	05/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	93.6 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2519001	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/05/25	05/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/05/25	05/05/25	
<i>Surrogate: n-Nonane</i>						
	96.8 %	61-141		05/05/25	05/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2519007	
Chloride	24.8	20.0	1	05/05/25	05/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/6/2025 3:01:18PM

SW19-SURF

E505019-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Benzene	ND	0.0250	1	05/05/25	05/05/25	
Ethylbenzene	ND	0.0250	1	05/05/25	05/05/25	
Toluene	ND	0.0250	1	05/05/25	05/05/25	
o-Xylene	ND	0.0250	1	05/05/25	05/05/25	
p,m-Xylene	ND	0.0500	1	05/05/25	05/05/25	
Total Xylenes	ND	0.0250	1	05/05/25	05/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	88.9 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/05/25	05/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	93.4 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: HM		Batch: 2519001	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/05/25	05/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/05/25	05/05/25	
<i>Surrogate: n-Nonane</i>	98.4 %	61-141		05/05/25	05/05/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2519007	
Chloride	3640	40.0	2	05/05/25	05/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/6/2025 3:01:18PM

SW19-3'

E505019-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Benzene	ND	0.0250	1	05/05/25	05/05/25	
Ethylbenzene	ND	0.0250	1	05/05/25	05/05/25	
Toluene	ND	0.0250	1	05/05/25	05/05/25	
o-Xylene	ND	0.0250	1	05/05/25	05/05/25	
p,m-Xylene	ND	0.0500	1	05/05/25	05/05/25	
Total Xylenes	ND	0.0250	1	05/05/25	05/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	85.7 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/05/25	05/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	92.8 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2519001	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/05/25	05/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/05/25	05/05/25	
<i>Surrogate: n-Nonane</i>						
	96.3 %	61-141		05/05/25	05/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2519007	
Chloride	23.6	20.0	1	05/05/25	05/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/6/2025 3:01:18PM

SW20-SURF

E505019-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Benzene	ND	0.0250	1	05/05/25	05/05/25	
Ethylbenzene	ND	0.0250	1	05/05/25	05/05/25	
Toluene	ND	0.0250	1	05/05/25	05/05/25	
o-Xylene	ND	0.0250	1	05/05/25	05/05/25	
p,m-Xylene	ND	0.0500	1	05/05/25	05/05/25	
Total Xylenes	ND	0.0250	1	05/05/25	05/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	87.4 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2519008	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/05/25	05/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	93.9 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2519001	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/05/25	05/06/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/05/25	05/06/25	
<i>Surrogate: n-Nonane</i>						
	93.4 %	61-141		05/05/25	05/06/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2519007	
Chloride	ND	20.0	1	05/05/25	05/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
5/6/2025 3:01:18PM

SW20-3'

E505019-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2519008
Benzene	ND	0.0250	1	05/05/25	05/05/25	
Ethylbenzene	ND	0.0250	1	05/05/25	05/05/25	
Toluene	ND	0.0250	1	05/05/25	05/05/25	
o-Xylene	ND	0.0250	1	05/05/25	05/05/25	
p,m-Xylene	ND	0.0500	1	05/05/25	05/05/25	
Total Xylenes	ND	0.0250	1	05/05/25	05/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	87.7 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2519008
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/05/25	05/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	93.2 %	70-130		05/05/25	05/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: HM		Batch: 2519001
Diesel Range Organics (C10-C28)	ND	25.0	1	05/05/25	05/06/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/05/25	05/06/25	
<i>Surrogate: n-Nonane</i>						
	96.0 %	61-141		05/05/25	05/06/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2519007
Chloride	269	20.0	1	05/05/25	05/05/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/6/2025 3:01:18PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2519008-BLK1)

Prepared: 05/05/25 Analyzed: 05/06/25

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	6.90		8.00		86.3	70-130			

LCS (2519008-BS1)

Prepared: 05/05/25 Analyzed: 05/05/25

Benzene	5.19	0.0250	5.00		104	70-130			
Ethylbenzene	5.15	0.0250	5.00		103	70-130			
Toluene	5.19	0.0250	5.00		104	70-130			
o-Xylene	5.11	0.0250	5.00		102	70-130			
p,m-Xylene	10.4	0.0500	10.0		104	70-130			
Total Xylenes	15.5	0.0250	15.0		104	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.21		8.00		90.1	70-130			

Matrix Spike (2519008-MS1)

Source: E505019-04

Prepared: 05/05/25 Analyzed: 05/05/25

Benzene	5.36	0.0250	5.00	ND	107	70-130			
Ethylbenzene	5.32	0.0250	5.00	ND	106	70-130			
Toluene	5.35	0.0250	5.00	ND	107	70-130			
o-Xylene	5.25	0.0250	5.00	ND	105	70-130			
p,m-Xylene	10.8	0.0500	10.0	ND	108	70-130			
Total Xylenes	16.0	0.0250	15.0	ND	107	70-130			
Surrogate: 4-Bromochlorobenzene-PID	6.94		8.00		86.7	70-130			

Matrix Spike Dup (2519008-MSD1)

Source: E505019-04

Prepared: 05/05/25 Analyzed: 05/05/25

Benzene	5.28	0.0250	5.00	ND	106	70-130	1.55	27	
Ethylbenzene	5.23	0.0250	5.00	ND	105	70-130	1.79	26	
Toluene	5.26	0.0250	5.00	ND	105	70-130	1.66	20	
o-Xylene	5.17	0.0250	5.00	ND	103	70-130	1.72	25	
p,m-Xylene	10.6	0.0500	10.0	ND	106	70-130	1.72	23	
Total Xylenes	15.7	0.0250	15.0	ND	105	70-130	1.72	26	
Surrogate: 4-Bromochlorobenzene-PID	6.75		8.00		84.4	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/6/2025 3:01:18PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2519008-BLK1)

Prepared: 05/05/25 Analyzed: 05/06/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.43		8.00		92.8	70-130			

LCS (2519008-BS2)

Prepared: 05/05/25 Analyzed: 05/05/25

Gasoline Range Organics (C6-C10)	44.6	20.0	50.0		89.1	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.75		8.00		96.8	70-130			

Matrix Spike (2519008-MS2)

Source: E505019-04

Prepared: 05/05/25 Analyzed: 05/05/25

Gasoline Range Organics (C6-C10)	44.1	20.0	50.0	ND	88.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.79		8.00		97.3	70-130			

Matrix Spike Dup (2519008-MSD2)

Source: E505019-04

Prepared: 05/05/25 Analyzed: 05/05/25

Gasoline Range Organics (C6-C10)	44.6	20.0	50.0	ND	89.2	70-130	1.14	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.89		8.00		98.6	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/6/2025 3:01:18PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: HM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2519001-BLK1)					Prepared: 05/05/25 Analyzed: 05/05/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	39.9		50.0		79.8	61-141			

LCS (2519001-BS1)					Prepared: 05/05/25 Analyzed: 05/05/25				
Diesel Range Organics (C10-C28)	226	25.0	250		90.4	66-144			
Surrogate: n-Nonane	41.1		50.0		82.3	61-141			

Matrix Spike (2519001-MS1)					Source: E504285-06RE1 Prepared: 05/05/25 Analyzed: 05/05/25				
Diesel Range Organics (C10-C28)	234	25.0	250	ND	93.8	56-156			
Surrogate: n-Nonane	41.7		50.0		83.4	61-141			

Matrix Spike Dup (2519001-MSD1)					Source: E504285-06RE1 Prepared: 05/05/25 Analyzed: 05/05/25				
Diesel Range Organics (C10-C28)	238	25.0	250	ND	95.3	56-156	1.60	20	
Surrogate: n-Nonane	43.6		50.0		87.2	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	5/6/2025 3:01:18PM

Anions by EPA 300.0/9056A

Analyst: DT

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

Blank (2519007-BLK1)					Prepared: 05/05/25 Analyzed: 05/05/25				
Chloride	ND	20.0							
LCS (2519007-BS1)					Prepared: 05/05/25 Analyzed: 05/05/25				
Chloride	252	20.0	250		101	90-110			
Matrix Spike (2519007-MS1)					Source: E505019-04		Prepared: 05/05/25 Analyzed: 05/05/25		
Chloride	580	20.0	250	327	101	80-120			
Matrix Spike Dup (2519007-MSD1)					Source: E505019-04		Prepared: 05/05/25 Analyzed: 05/05/25		
Chloride	579	20.0	250	327	101	80-120	0.123	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	05/06/25 15:01

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.
- 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

Client: MACT Energy	Project: FEA MA 844
Project Manager:	
Address:	
City, State, Zip	
Phone:	
Email:	
Report due by:	

Attention: ENERGY STAFFING SERVICES	Address: 2724 NW COUNTY RD	City, State, Zip: HOBBS, NM 88240	Phone: 575-393-9048	Email: NATALIE@ENERGYSTAFFINGLLC.COM	BRITTNEY@ENERGYSTAFFINGLLC.COM
--	-----------------------------------	--	----------------------------	---	--------------------------------

Lab WO# ES05019	Job Number 20446.001	Analysis and Method	
Lab Use Only			
EPA Program			
CWA	Standard		
SDWA			
State			
NM	CO	UT	AZ
TX			
Remarks			

Time	Date	Sampled	Matrix	No of Containers	Sample ID	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BODOC NM	BODOC TX	Remarks
745	5/01/25	5		1	SP34.542	1							X		34
755					SP34.2	2									3.2
805					SP35.542	3									33
815					SP35.2	4									3.1
820					SP36.542	5									2.8
830	5/01/25	5		1	SP36.2	6							X		4.0

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: **M. RUSSELL**

Received by: (Signature) [Signature]	Date 5/01/25	Time
Received by: (Signature) [Signature]	Date 5-2-25	Time 1745
Received by: (Signature) [Signature]	Date 5-2-25	Time 1745
Received by: (Signature) [Signature]	Date 5-5-25	Time 1745

Received on ice: **(Y) N**

AVG Temp °C **T1 T2 T3**

Container Type: **G - glass, P - poly/plastic, ag - amber glass, V - VOA**

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.



Project Information

Chain of Custody

Page 2 of 2

Client: <u>MACK ENERGY</u>				Bill To				Lab Use Only				TAT				EPA Program			
Project: <u>FEB MAB #4</u>				Attention: ENERGY STAFFING SERVICES				Lab WO# <u>E505019</u>				Job Number <u>200460001</u>				1D 2D 3D Standard			
Project Manager:				Address: 2724 NW COUNTY RD												CWA SDWA			
Address:				City, State, Zip HOBBS, NM 88240												RCRA			
City, State, Zip				Phone: 575-393-9048												State			
Phone:				Email: NATALIE@ENERGYSTAFFINGLLC.COM												NM CO UT AZ TX			
Email:				BRITTNEY@ENERGYSTAFFINGLLC.COM															
Report due by:																			

Time Sampled	Date Sampled	Matrix	No of Containers	Sample ID	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	BGDOC TX	Remarks
9:00	5/01/25	S	1	SW16-SYRF	7							X		4.4
935				SW17-SYRF	8									3.9
1045				SW18-SYRF	9									3.7
1055				SW18-2-	10									3.6
1115				SW19-SYRF	11									3.2
1130				SW19-3-	12									3.8
1:15				SW20-SYRF	13									4.0
1:30	5/01/25	S	1	SW20-3-	14							X		3.7

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: M. RIVERA

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

Relinquished by: (Signature) <u>MRE</u>	Date <u>5/01/25</u>	Time	Received by: (Signature) <u>Michelle Gonzales</u>	Date <u>5.2.25</u>	Time <u>1300</u>	Lab Use Only Received on ice: <u>(Y)</u> N T1 _____ T2 _____ T3 _____ AVG Temp °C _____
Relinquished by: (Signature) <u>Michelle Gonzales</u>	Date <u>5-2-25</u>	Time <u>1745</u>	Received by: (Signature) <u>L.H.</u>	Date <u>5.2.25</u>	Time <u>1745</u>	
Relinquished by: (Signature) <u>L.H.</u>	Date <u>5.2.25</u>	Time <u>2345</u>	Received by: (Signature) <u>Carla</u>	Date <u>5.5.25</u>	Time <u>1745</u>	

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

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Envirotech Analytical Laboratory

Printed: 5/5/2025 9:12:56AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	05/05/25 07:45	Work Order ID:	E505019
Phone:	(575) 390-6397	Date Logged In:	05/02/25 14:48	Logged In By:	Noe Soto
Email:	Natalie@energystaffingllc.com	Due Date:	05/06/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierComments/Resolution

Project manager not listed on COC.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

13. See COC for individual sample temps. Samples outside of 0°C-6°C will be recorded in comments.

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

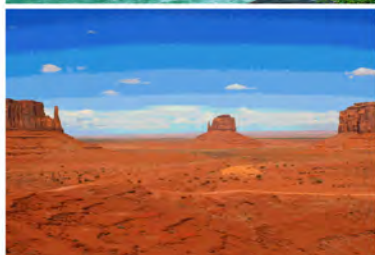
Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E506278

Job Number: 20046-0001

Received: 6/28/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
7/1/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 7/1/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E506278
Date Received: 6/28/2025 9:30:58AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 6/28/2025 9:30:58AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

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

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Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: FEE MAB #4 Project Number: 20046-0001 Project Manager: Natalie Gladden	Reported: 07/01/25 11:15
--	--	------------------------------------

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP20 SURF	E506278-01A	Soil	06/25/25	06/28/25	Glass Jar, 2 oz.
SP20-3'	E506278-02A	Soil	06/25/25	06/28/25	Glass Jar, 2 oz.
SW5-10'	E506278-03A	Soil	06/25/25	06/28/25	Glass Jar, 2 oz.
SW13-SURF	E506278-04A	Soil	06/25/25	06/28/25	Glass Jar, 2 oz.
SW13-10'	E506278-05A	Soil	06/25/25	06/28/25	Glass Jar, 2 oz.
SW14-10'	E506278-06A	Soil	06/25/25	06/28/25	Glass Jar, 2 oz.
SW15-10'	E506278-07A	Soil	06/25/25	06/28/25	Glass Jar, 2 oz.
SW16-8'	E506278-08A	Soil	06/25/25	06/28/25	Glass Jar, 2 oz.
SW17-9'	E506278-09A	Soil	06/25/25	06/28/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
7/1/2025 11:15:40AM

SP20 SURF

E506278-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2526165	
Benzene	ND	0.0250	1	06/28/25	06/29/25	
Ethylbenzene	ND	0.0250	1	06/28/25	06/29/25	
Toluene	ND	0.0250	1	06/28/25	06/29/25	
o-Xylene	ND	0.0250	1	06/28/25	06/29/25	
p,m-Xylene	ND	0.0500	1	06/28/25	06/29/25	
Total Xylenes	ND	0.0250	1	06/28/25	06/29/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	85.4 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2526165	
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/28/25	06/29/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	89.5 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV		Batch: 2527006	
Diesel Range Organics (C10-C28)	ND	25.0	1	06/29/25	06/30/25	
Oil Range Organics (C28-C36)	ND	50.0	1	06/29/25	06/30/25	
<i>Surrogate: n-Nonane</i>	92.2 %	61-141		06/29/25	06/30/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY		Batch: 2527002	
Chloride	6380	100	5	06/29/25	06/29/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
7/1/2025 11:15:40AM

SP20-3'

E506278-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2526165
Benzene	ND	0.0250	1	06/28/25	06/29/25	
Ethylbenzene	ND	0.0250	1	06/28/25	06/29/25	
Toluene	ND	0.0250	1	06/28/25	06/29/25	
o-Xylene	ND	0.0250	1	06/28/25	06/29/25	
p,m-Xylene	ND	0.0500	1	06/28/25	06/29/25	
Total Xylenes	ND	0.0250	1	06/28/25	06/29/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	84.3 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2526165
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/28/25	06/29/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.1 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: NV		Batch: 2527006
Diesel Range Organics (C10-C28)	ND	25.0	1	06/29/25	06/30/25	
Oil Range Organics (C28-C36)	ND	50.0	1	06/29/25	06/30/25	
<i>Surrogate: n-Nonane</i>						
	91.2 %	61-141		06/29/25	06/30/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: IY		Batch: 2527002
Chloride	46.5	20.0	1	06/29/25	06/29/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
7/1/2025 11:15:40AM

SW5-10'

E506278-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2526165
Benzene	ND	0.0250	1	06/28/25	06/29/25	
Ethylbenzene	ND	0.0250	1	06/28/25	06/29/25	
Toluene	ND	0.0250	1	06/28/25	06/29/25	
o-Xylene	ND	0.0250	1	06/28/25	06/29/25	
p,m-Xylene	ND	0.0500	1	06/28/25	06/29/25	
Total Xylenes	ND	0.0250	1	06/28/25	06/29/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	84.9 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2526165
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/28/25	06/29/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.2 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: NV		Batch: 2527006
Diesel Range Organics (C10-C28)	ND	25.0	1	06/29/25	06/30/25	
Oil Range Organics (C28-C36)	ND	50.0	1	06/29/25	06/30/25	
<i>Surrogate: n-Nonane</i>						
	91.7 %	61-141		06/29/25	06/30/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: IY		Batch: 2527002
Chloride	ND	20.0	1	06/29/25	06/29/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
7/1/2025 11:15:40AM

SW13-SURF

E506278-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2526165	
Benzene	ND	0.0250	1	06/28/25	06/29/25	
Ethylbenzene	ND	0.0250	1	06/28/25	06/29/25	
Toluene	ND	0.0250	1	06/28/25	06/29/25	
o-Xylene	ND	0.0250	1	06/28/25	06/29/25	
p,m-Xylene	ND	0.0500	1	06/28/25	06/29/25	
Total Xylenes	ND	0.0250	1	06/28/25	06/29/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	85.6 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2526165	
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/28/25	06/29/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	91.5 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2527006	
Diesel Range Organics (C10-C28)	ND	25.0	1	06/29/25	06/30/25	
Oil Range Organics (C28-C36)	ND	50.0	1	06/29/25	06/30/25	
<i>Surrogate: n-Nonane</i>						
	93.4 %	61-141		06/29/25	06/30/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: IY		Batch: 2527002	
Chloride	8600	100	5	06/29/25	06/29/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
7/1/2025 11:15:40AM

SW13-10'

E506278-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2526165	
Benzene	ND	0.0250	1	06/28/25	06/29/25	
Ethylbenzene	ND	0.0250	1	06/28/25	06/29/25	
Toluene	ND	0.0250	1	06/28/25	06/29/25	
o-Xylene	ND	0.0250	1	06/28/25	06/29/25	
p,m-Xylene	ND	0.0500	1	06/28/25	06/29/25	
Total Xylenes	ND	0.0250	1	06/28/25	06/29/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	86.5 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2526165	
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/28/25	06/29/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.8 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2527006	
Diesel Range Organics (C10-C28)	ND	25.0	1	06/29/25	06/30/25	
Oil Range Organics (C28-C36)	ND	50.0	1	06/29/25	06/30/25	
<i>Surrogate: n-Nonane</i>						
	90.5 %	61-141		06/29/25	06/30/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: IY		Batch: 2527002	
Chloride	20.1	20.0	1	06/29/25	06/29/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
7/1/2025 11:15:40AM

SW14-10'

E506278-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2526165
Benzene	ND	0.0250	1	06/28/25	06/29/25	
Ethylbenzene	ND	0.0250	1	06/28/25	06/29/25	
Toluene	ND	0.0250	1	06/28/25	06/29/25	
o-Xylene	ND	0.0250	1	06/28/25	06/29/25	
p,m-Xylene	ND	0.0500	1	06/28/25	06/29/25	
Total Xylenes	ND	0.0250	1	06/28/25	06/29/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	84.8 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2526165
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/28/25	06/29/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.2 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: NV		Batch: 2527006
Diesel Range Organics (C10-C28)	ND	25.0	1	06/29/25	06/30/25	
Oil Range Organics (C28-C36)	ND	50.0	1	06/29/25	06/30/25	
<i>Surrogate: n-Nonane</i>						
	91.9 %	61-141		06/29/25	06/30/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: IY		Batch: 2527002
Chloride	ND	20.0	1	06/29/25	06/29/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
7/1/2025 11:15:40AM

SW15-10'

E506278-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2526165
Benzene	ND	0.0250	1	06/28/25	06/29/25	
Ethylbenzene	ND	0.0250	1	06/28/25	06/29/25	
Toluene	ND	0.0250	1	06/28/25	06/29/25	
o-Xylene	ND	0.0250	1	06/28/25	06/29/25	
p,m-Xylene	ND	0.0500	1	06/28/25	06/29/25	
Total Xylenes	ND	0.0250	1	06/28/25	06/29/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	83.5 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2526165
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/28/25	06/29/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.5 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: NV		Batch: 2527006
Diesel Range Organics (C10-C28)	ND	25.0	1	06/29/25	06/30/25	
Oil Range Organics (C28-C36)	ND	50.0	1	06/29/25	06/30/25	
<i>Surrogate: n-Nonane</i>						
	91.8 %	61-141		06/29/25	06/30/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: IY		Batch: 2527002
Chloride	20.2	20.0	1	06/29/25	06/29/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
7/1/2025 11:15:40AM

SW16-8'

E506278-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2526165
Benzene	ND	0.0250	1	06/28/25	06/29/25	
Ethylbenzene	ND	0.0250	1	06/28/25	06/29/25	
Toluene	ND	0.0250	1	06/28/25	06/29/25	
o-Xylene	ND	0.0250	1	06/28/25	06/29/25	
p,m-Xylene	ND	0.0500	1	06/28/25	06/29/25	
Total Xylenes	ND	0.0250	1	06/28/25	06/29/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	85.7 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2526165
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/28/25	06/29/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.6 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: NV		Batch: 2527006
Diesel Range Organics (C10-C28)	ND	25.0	1	06/29/25	06/30/25	
Oil Range Organics (C28-C36)	ND	50.0	1	06/29/25	06/30/25	
<i>Surrogate: n-Nonane</i>						
	92.6 %	61-141		06/29/25	06/30/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: IY		Batch: 2527002
Chloride	20.4	20.0	1	06/29/25	06/29/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
7/1/2025 11:15:40AM

SW17-9'

E506278-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2526165
Benzene	ND	0.0250	1	06/28/25	06/29/25	
Ethylbenzene	ND	0.0250	1	06/28/25	06/29/25	
Toluene	ND	0.0250	1	06/28/25	06/29/25	
o-Xylene	ND	0.0250	1	06/28/25	06/29/25	
p,m-Xylene	ND	0.0500	1	06/28/25	06/29/25	
Total Xylenes	ND	0.0250	1	06/28/25	06/29/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	84.4 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2526165
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/28/25	06/29/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	90.0 %	70-130		06/28/25	06/29/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: NV		Batch: 2527006
Diesel Range Organics (C10-C28)	ND	25.0	1	06/29/25	06/30/25	
Oil Range Organics (C28-C36)	ND	50.0	1	06/29/25	06/30/25	
<i>Surrogate: n-Nonane</i>						
	93.9 %	61-141		06/29/25	06/30/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: IY		Batch: 2527002
Chloride	20.4	20.0	1	06/29/25	06/29/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/1/2025 11:15:40AM

Volatile Organics by EPA 8021B

Analyst: SL

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

Blank (2526165-BLK1) Prepared: 06/28/25 Analyzed: 06/29/25

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	6.98		8.00		87.3	70-130			

LCS (2526165-BS1) Prepared: 06/28/25 Analyzed: 06/29/25

Benzene	4.66	0.0250	5.00		93.3	70-130			
Ethylbenzene	4.68	0.0250	5.00		93.6	70-130			
Toluene	4.70	0.0250	5.00		94.0	70-130			
o-Xylene	4.67	0.0250	5.00		93.4	70-130			
p,m-Xylene	9.48	0.0500	10.0		94.8	70-130			
Total Xylenes	14.2	0.0250	15.0		94.4	70-130			
Surrogate: 4-Bromochlorobenzene-PID	6.90		8.00		86.2	70-130			

Matrix Spike (2526165-MS1) Source: E506278-01 Prepared: 06/28/25 Analyzed: 06/29/25

Benzene	4.77	0.0250	5.00	ND	95.5	70-130			
Ethylbenzene	4.75	0.0250	5.00	ND	95.0	70-130			
Toluene	4.80	0.0250	5.00	ND	96.0	70-130			
o-Xylene	4.78	0.0250	5.00	ND	95.5	70-130			
p,m-Xylene	9.66	0.0500	10.0	ND	96.6	70-130			
Total Xylenes	14.4	0.0250	15.0	ND	96.2	70-130			
Surrogate: 4-Bromochlorobenzene-PID	6.91		8.00		86.4	70-130			

Matrix Spike Dup (2526165-MSD1) Source: E506278-01 Prepared: 06/28/25 Analyzed: 06/29/25

Benzene	4.41	0.0250	5.00	ND	88.3	70-130	7.83	27	
Ethylbenzene	4.40	0.0250	5.00	ND	88.0	70-130	7.64	26	
Toluene	4.43	0.0250	5.00	ND	88.7	70-130	7.93	20	
o-Xylene	4.39	0.0250	5.00	ND	87.9	70-130	8.33	25	
p,m-Xylene	8.93	0.0500	10.0	ND	89.3	70-130	7.79	23	
Total Xylenes	13.3	0.0250	15.0	ND	88.8	70-130	7.97	26	
Surrogate: 4-Bromochlorobenzene-PID	6.90		8.00		86.2	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/1/2025 11:15:40AM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2526165-BLK1) Prepared: 06/28/25 Analyzed: 06/29/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.28		8.00		91.1	70-130			

LCS (2526165-BS2) Prepared: 06/28/25 Analyzed: 06/29/25

Gasoline Range Organics (C6-C10)	38.3	20.0	50.0		76.6	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.34		8.00		91.8	70-130			

Matrix Spike (2526165-MS2) Source: E506278-01 Prepared: 06/28/25 Analyzed: 06/29/25

Gasoline Range Organics (C6-C10)	40.7	20.0	50.0	ND	81.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.30		8.00		91.2	70-130			

Matrix Spike Dup (2526165-MSD2) Source: E506278-01 Prepared: 06/28/25 Analyzed: 06/29/25

Gasoline Range Organics (C6-C10)	43.3	20.0	50.0	ND	86.6	70-130	6.06	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.33		8.00		91.7	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/1/2025 11:15:40AM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: NV

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2527006-BLK1)					Prepared: 06/29/25 Analyzed: 06/29/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	45.7		50.0		91.4	61-141			

LCS (2527006-BS1)					Prepared: 06/29/25 Analyzed: 06/29/25				
Diesel Range Organics (C10-C28)	278	25.0	250		111	66-144			
Surrogate: n-Nonane	46.9		50.0		93.8	61-141			

Matrix Spike (2527006-MS1)					Source: E506291-05		Prepared: 06/29/25 Analyzed: 06/29/25		
Diesel Range Organics (C10-C28)	306	25.0	250	43.7	105	56-156			
Surrogate: n-Nonane	47.1		50.0		94.2	61-141			

Matrix Spike Dup (2527006-MSD1)					Source: E506291-05		Prepared: 06/29/25 Analyzed: 06/29/25		
Diesel Range Organics (C10-C28)	314	25.0	250	43.7	108	56-156	2.55	20	
Surrogate: n-Nonane	47.0		50.0		93.9	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	7/1/2025 11:15:40AM

Anions by EPA 300.0/9056A

Analyst: IY

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

Blank (2527002-BLK1)					Prepared: 06/29/25 Analyzed: 06/29/25				
Chloride	ND	20.0							
LCS (2527002-BS1)					Prepared: 06/29/25 Analyzed: 06/29/25				
Chloride	253	20.0	250		101	90-110			
Matrix Spike (2527002-MS1)					Source: E506291-01		Prepared: 06/29/25 Analyzed: 06/29/25		
Chloride	251	20.0	250	ND	100	80-120			
Matrix Spike Dup (2527002-MSD1)					Source: E506291-01		Prepared: 06/29/25 Analyzed: 06/29/25		
Chloride	252	20.0	250	ND	101	80-120	0.494	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	07/01/25 11:15

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.
- 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

Page 1 of 1

Client: <u>Mack Energy</u> Project: <u>FER MAB 4</u> Project Manager: Address: City, State, Zip: Phone: Email: Report due by:				Bill To Attention: <u>ENERGY STAFFING SERVICES</u> Address: <u>2724 NW COUNTY RD</u> City, State, Zip: <u>HOBBS, NM 88240</u> Phone: <u>575-393-9048</u> Email: <u>NATALIE@ENERGYSTAFFINGLLC.COM</u> <u>BRITTNEY@ENERGYSTAFFINGLLC.COM</u>				Lab Use Only Lab WO# <u>E500278</u> Job Number <u>200400001</u> Analysis and Method						TAT 1D 2D 3D Standard Y				EPA Program CWA SDWA RCRA	
								State NM CO UT AZ TX X						Remarks					
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 NM	BGDOC TX						
805	6/25/25	S	1	SP20 S4RF	1							X				2.8			
810				SP20-3-	2											2.6			
825				SW5-10'	3											2.0			
835				SW13-S4RF	4											3.0			
840				SW13-10'	5											3.0			
855				SW14-10'	6											3.4			
910				SW15-10'	7											3.1			
920				SW16 8'	8											2.8			
930	6/25/25	S	1	SW17-9'	9							X				2.4			
Additional Instructions:																			
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.																			
Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.																			
Relinquished by: (Signature) <u>M. RIVERO</u> Date <u>6/25/25</u> Time <u>1400</u> Received by: (Signature) <u>Michelle Gonzales</u> Date <u>6.27.25</u> Time <u>1730</u> Lab Use Only <u>Y</u> / N																			
Relinquished by: (Signature) <u>Michelle Gonzales</u> Date <u>6.27.25</u> Time <u>1645</u> Received by: (Signature) <u>John M.</u> Date <u>6.27.25</u> Time <u>1730</u> T1 T2 T3																			
Relinquished by: (Signature) <u>John M.</u> Date <u>6.27.25</u> Time <u>2400</u> Received by: (Signature) <u>Cathy Man</u> Date <u>6.28.25</u> Time <u>930</u> AVG Temp °C																			
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other																			
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																			


enviro+ech

Envirotech Analytical Laboratory

Printed: 6/30/2025 9:12:29AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	06/28/25 09:30	Work Order ID:	E506278
Phone:	(575) 390-6397	Date Logged In:	06/27/25 14:40	Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	07/01/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierComments/Resolution

Project manager not provided on COC.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

13. See COC for individual sample temps. Samples outside of 0°C-6°C will be recorded in comments.

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

Natalie Gladden

From: OCDOnline@state.nm.us
Sent: Monday, November 17, 2025 3:37 PM
To: Natalie Gladden
Subject: The Oil Conservation Division (OCD) has accepted the application, Application ID: 527335

To whom it may concern (c/o Natalie Gladden for MACK ENERGY CORP),

The OCD has received the submitted *Notification for (Final) Sampling of a Release* (C-141N), for incident ID (n#) nOY1818639026.

The sampling event is expected to take place:

When: 11/19/2025 @ 07:00

Where: H-31-17S-33E 1650 FNL 990 FEL (32.7936935,-103.6971054)

Additional Information: MARK RIVERA 505-604-7371

Additional Instructions: NATALIE GLADDEN 575-390-6397

An OCD representative may be available onsite at the date and time reported. In the absence or presence of an OCD representative, sampling pursuant to 19.15.29.12.D NMAC is required. Sampling must be performed following an approved sampling plan or pursuant to 19.15.29.12.D.(1).(c) NMAC. Should there be a change in the scheduled date and time of the sampling event, then another notification should be resubmitted through OCD permitting as soon as possible.

- **Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.**
- **If confirmation sampling is going to take place over multiple days, individual C-141N applications must be submitted for each sampling date. Date ranges are not currently accepted on the C-141N application.**

If you have any questions regarding this application, or don't know why you have received this email, please contact us.

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

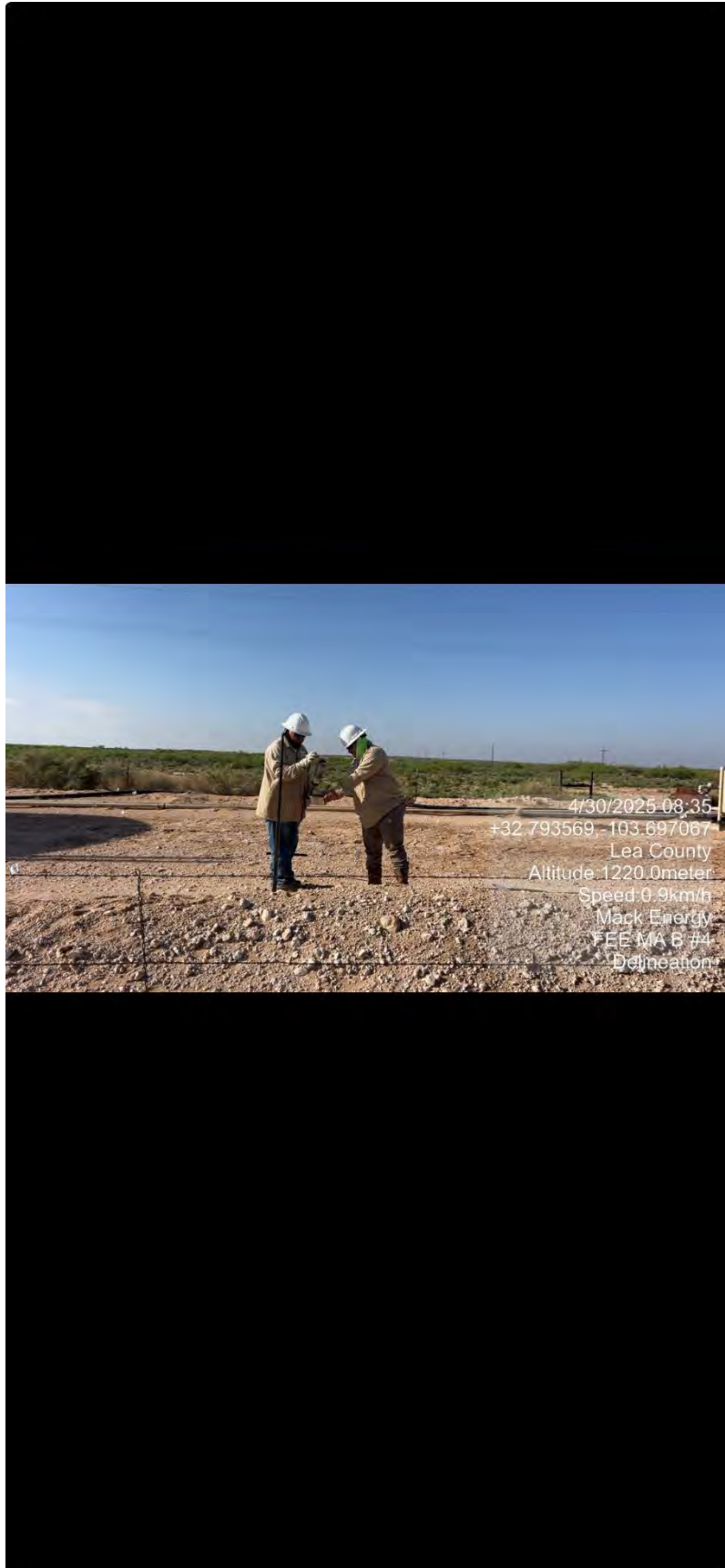




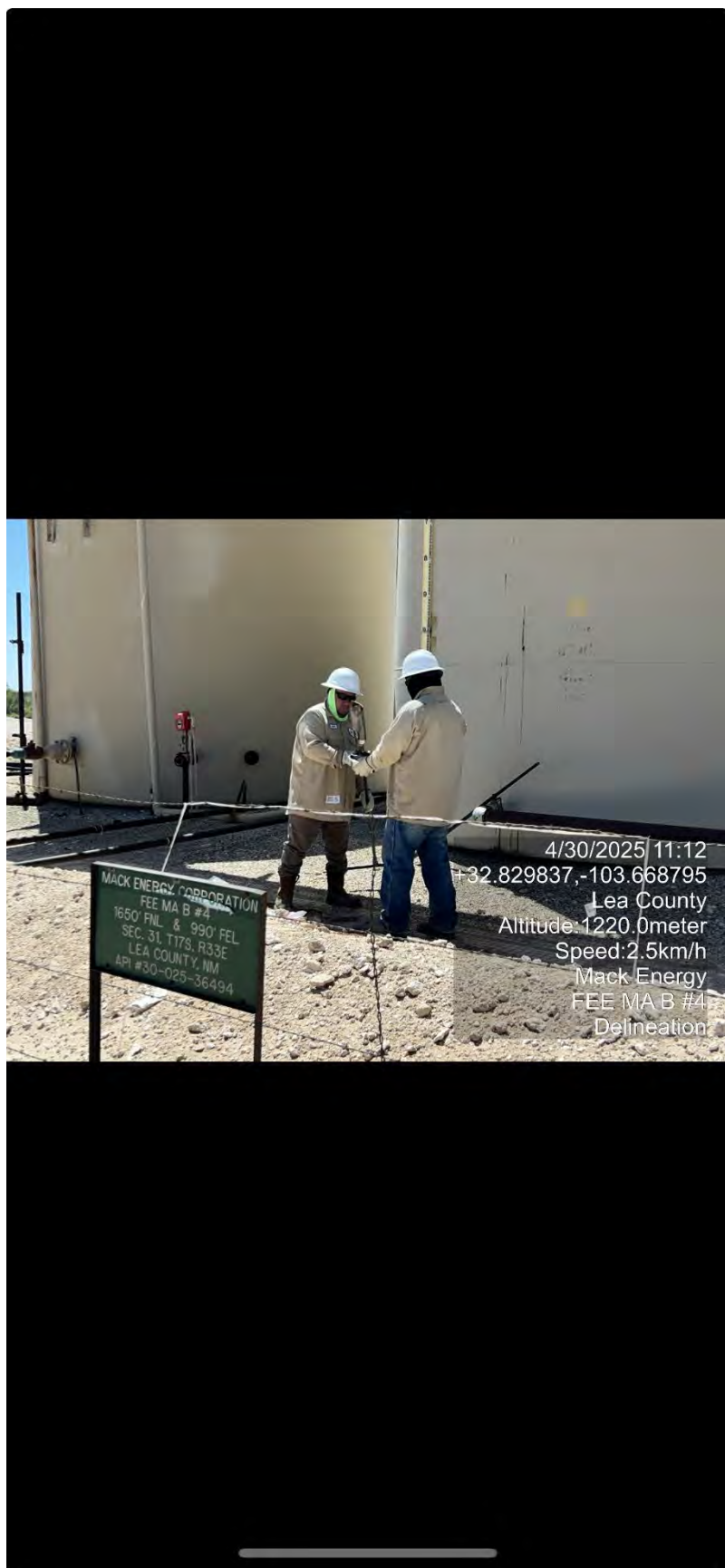


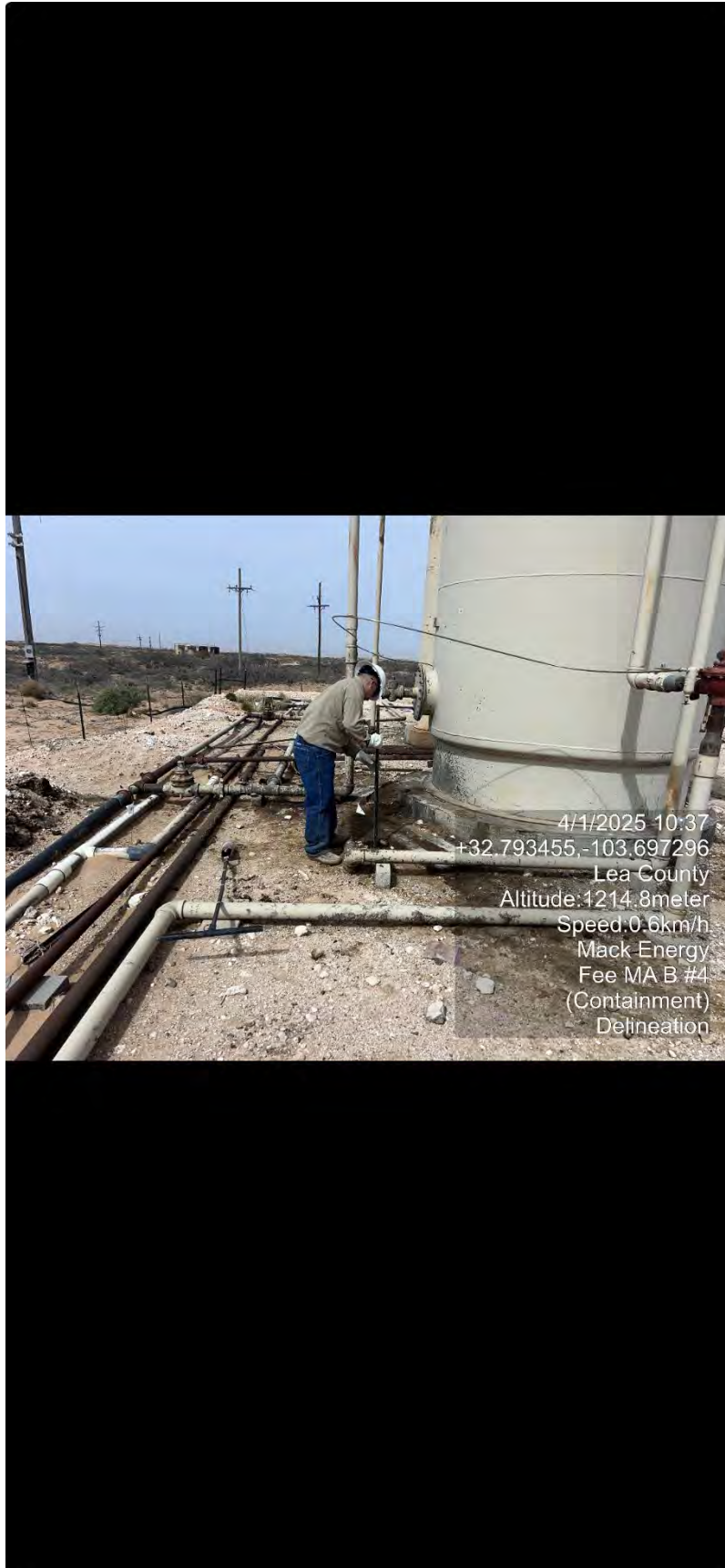
















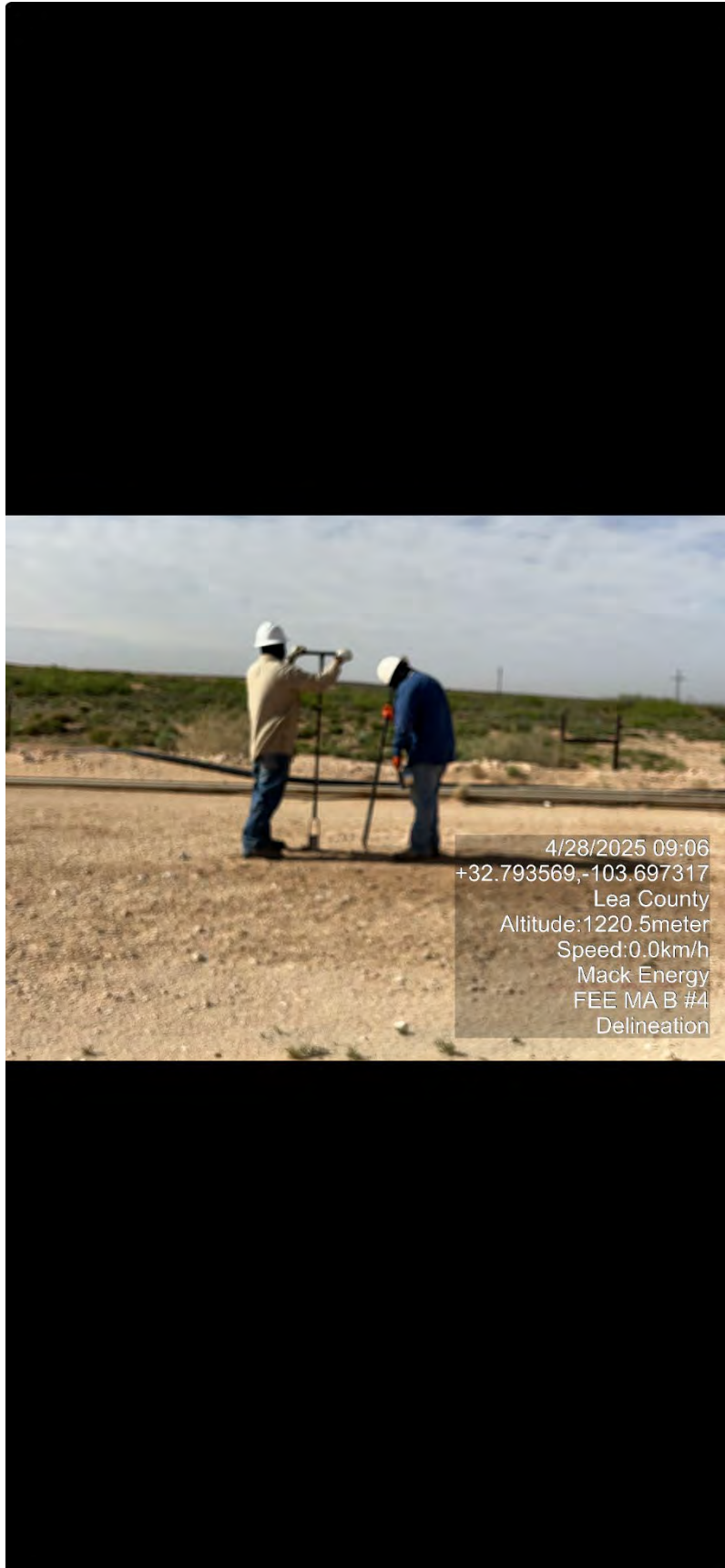






































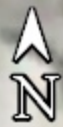
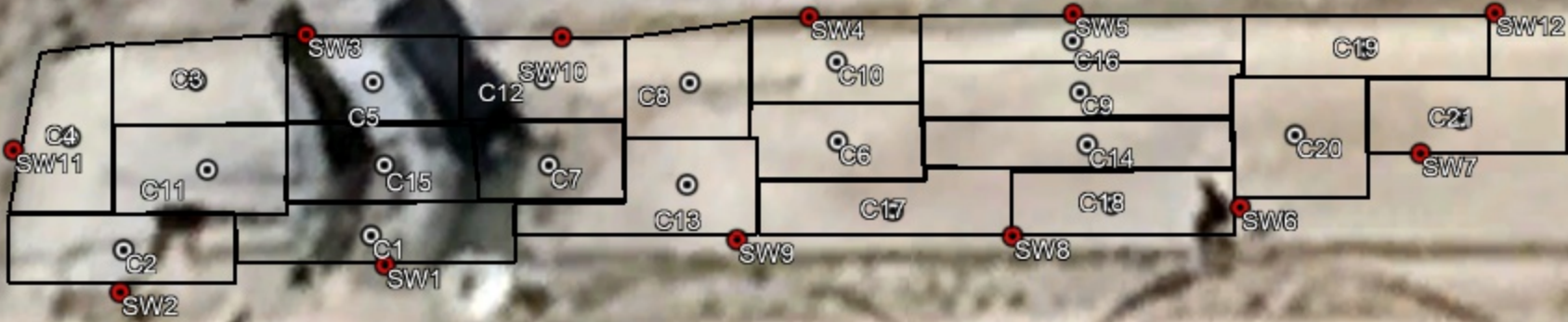
MACK ENERGY

MAB 4 BTY
COMPOSITE MAP

Legend

- BTM COMPOSITES
- MAB #4 WELL/FACILITY PAD
- SW COMPOSITES

MA B #4 WELL/FACILITY PAD



Company Name: **MACK ENERGY** Location Name: **MA B #4**

CONTAINMENT COMPOSITE SAMPLE DATA										
SP ID	Depth	Titr	PID	L-BTEX	L-GRO	L-DRO	L-ORO	L-TPH	L-CHL	Dates
COMP1	4'	100	ND	ND	ND	ND	ND	ND	97.7	12/1/2025
COMP2	4'	20	ND	ND	ND	ND	ND	ND	28.1	12/1/2025
COMP3	5'	80	ND	ND	ND	ND	ND	ND	69.8	12/1/2025
COMP4	3'	360	ND	ND	ND	ND	ND	ND	341	12/1/2025
COMP5	5'	120	ND	ND	ND	32	ND	32	143	12/1/2025
COMP6	3'	200	ND	ND	ND	ND	ND	ND	195	12/1/2025
COMP7	6'	100	ND	ND	ND	ND	ND	ND	83.1	12/2/2025
COMP8	6'	297	ND	ND	ND	ND	ND	ND	297	12/2/2025
COMP9	7'	100	ND	ND	ND	ND	ND	ND	106	12/2/2025
COMP10	8'	200	ND	ND	ND	ND	ND	ND	193	12/2/2025
COMP11	12'	180	ND	ND	ND	ND	ND	ND	166	12/2/2025
COMP12	12'	400	ND	ND	ND	ND	ND	ND	412	12/2/2025
COMP13	12'	280	ND	ND	ND	ND	ND	ND	265	12/3/2025
COMP14	8'	500	ND	ND	ND	ND	ND	ND	481	12/3/2025
COMP15	6'	400	ND	ND	ND	ND	ND	ND	392	12/3/2025
COMP16	10'	244	ND	ND	ND	ND	ND	ND	244	12/3/2025
COMP17	7'	400	ND	ND	ND	ND	ND	ND	418	12/3/2025
COMP18	2'	100	ND	ND	ND	ND	ND	ND	106	12/4/2025
COMP19	1'	200	ND	ND	ND	ND	ND	ND	203	12/4/2025
COMP20	1'	100	ND	ND	ND	ND	ND	ND	133	12/4/2025
COMP21	1'	400	ND	ND	ND	ND	ND	ND	363	12/4/2025
SWCOMP1	4'	200	ND	ND	ND	ND	ND	ND	204	12/8/2025
SWCOMP2	4'	100	ND	ND	ND	ND	ND	ND	109	12/8/2025
SWCOMP3	5'	400	ND	ND	ND	ND	ND	ND	365	12/8/2025
SWCOMP4	8'	240	ND	ND	ND	ND	ND	ND	221	12/8/2025
SWCOMP5	10'	200	ND	ND	ND	ND	ND	ND	201	12/8/2025
SWCOMP6	4'	240	ND	ND	ND	ND	ND	ND	229	12/8/2025
SWCOMP7	2'	100	ND	ND	ND	ND	ND	ND	111	12/9/2025
SWCOMP8	5'	260	ND	ND	ND	ND	ND	ND	249	12/9/2025
SWCOMP9	12'	300	ND	ND	ND	ND	ND	ND	273	12/9/2025

[illegible]

CLIENTS MACK ENERGY
LOCATION MA B #4 FACILITY AREA
 COMPOSITE GPS

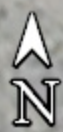
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COMP1	32.793438°	-103.697396°
COMP2	32.793434°	-103.697484°
COMP3	32.793488°	-103.697467°
COMP4	32.793470°	-103.697510°
COMP5	32.793487°	-103.697402°
COMP6	32.793468°	-103.697232°
COMP7	32.793460°	-103.697335°
COMP8	32.793487°	-103.697287°
COMP9	32.793484°	-103.697145°
COMP10	32.793494°	-103.697234°
COMP11	32.793459°	-103.697458°
COMP12	32.793488°	-103.697340°
COMP13	32.793454°	-103.697285°
COMP14	32.793467°	-103.697142°
COMP15	32.793460°	-103.697394°
COMP16	32.793501°	-103.697148°
COMP17	32.793446°	-103.697211°
COMP18	32.793448°	-103.697133°
COMP19	32.793498°	-103.697041°
COMP20	32.793470°	-103.697067°
COMP21	32.793475°	-103.697007°
SWCOMP1	32.793429°	-103.697390°
SWCOMP2	32.793421°	-103.697483°
SWCOMP3	32.793503°	-103.697429°
SWCOMP4	32.793509°	-103.697245°
SWCOMP5	32.793510°	-103.697148°
SWCOMP6	32.793447°	-103.697087°
SWCOMP7	32.793464°	-103.697022°
SWCOMP8	32.793438°	-103.697168°
SWCOMP9	32.793437°	-103.697266°
SWCOMP10	32.793502°	-103.697335°
SWCOMP11	32.793466°	-103.697530°
SWCOMP12	32.793510°	-103.696993°
BF SURF 1	32.796024°	-103.697159°
BF SURF 2	32.795902°	-103.697310°
BF SURF 3	32.795893°	-103.696948°
BF SURF 4	32.795831°	-103.697077°
BF SURF 5	32.795751°	-103.697281°
BF SURF 6	32.795746°	-103.697050°
BF SURF 7	32.795788°	-103.696832°
BF SURF 8	32.795625°	-103.697085°
BF SURF 9	32.795651°	-103.696884°

MACK ENERGY

MA B 7 FACILITY
BACKFILL COMPOSITE MAP

Legend

- BF SURF
- 📌 MAB 7



Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E512012

Job Number: 20046-0001

Received: 12/3/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
12/4/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 12/4/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E512012
Date Received: 12/3/2025 8:00:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/3/2025 8:00:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

Raina Schwanz
Laboratory Administrator
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Sample Summary

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/04/25 12:21

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
COMP 1-4'	E512012-01A	Soil	12/01/25	12/03/25	Glass Jar, 2 oz.
COMP 2-4'	E512012-02A	Soil	12/01/25	12/03/25	Glass Jar, 2 oz.
COMP 3-5'	E512012-03A	Soil	12/01/25	12/03/25	Glass Jar, 2 oz.
COMP 4-3'	E512012-04A	Soil	12/01/25	12/03/25	Glass Jar, 2 oz.
COMP 5-5'	E512012-05A	Soil	12/01/25	12/03/25	Glass Jar, 2 oz.
COMP 6-3'	E512012-06A	Soil	12/01/25	12/03/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/4/2025 12:21:00PM

COMP 1-4'

E512012-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549051	
Benzene	ND	0.0250	1	12/03/25	12/03/25	
Ethylbenzene	ND	0.0250	1	12/03/25	12/03/25	
Toluene	ND	0.0250	1	12/03/25	12/03/25	
o-Xylene	ND	0.0250	1	12/03/25	12/03/25	
p,m-Xylene	ND	0.0500	1	12/03/25	12/03/25	
Total Xylenes	ND	0.0250	1	12/03/25	12/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.5 %	70-130		12/03/25	12/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549051	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/03/25	12/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	109 %	70-130		12/03/25	12/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549048	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/03/25	12/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/03/25	12/03/25	
<i>Surrogate: n-Nonane</i>						
	93.7 %	61-141		12/03/25	12/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2549053	
Chloride	97.7	20.0	1	12/03/25	12/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/4/2025 12:21:00PM

COMP 2-4'

E512012-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549051	
Benzene	ND	0.0250	1	12/03/25	12/03/25	
Ethylbenzene	ND	0.0250	1	12/03/25	12/03/25	
Toluene	ND	0.0250	1	12/03/25	12/03/25	
o-Xylene	ND	0.0250	1	12/03/25	12/03/25	
p,m-Xylene	ND	0.0500	1	12/03/25	12/03/25	
Total Xylenes	ND	0.0250	1	12/03/25	12/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.3 %	70-130		12/03/25	12/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549051	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/03/25	12/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	109 %	70-130		12/03/25	12/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549048	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/03/25	12/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/03/25	12/03/25	
<i>Surrogate: n-Nonane</i>						
	95.6 %	61-141		12/03/25	12/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2549053	
Chloride	28.1	20.0	1	12/03/25	12/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/4/2025 12:21:00PM

COMP 3-5'

E512012-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549051	
Benzene	ND	0.0250	1	12/03/25	12/03/25	
Ethylbenzene	ND	0.0250	1	12/03/25	12/03/25	
Toluene	ND	0.0250	1	12/03/25	12/03/25	
o-Xylene	ND	0.0250	1	12/03/25	12/03/25	
p,m-Xylene	ND	0.0500	1	12/03/25	12/03/25	
Total Xylenes	ND	0.0250	1	12/03/25	12/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.6 %	70-130		12/03/25	12/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549051	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/03/25	12/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	106 %	70-130		12/03/25	12/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549048	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/03/25	12/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/03/25	12/03/25	
<i>Surrogate: n-Nonane</i>						
	92.2 %	61-141		12/03/25	12/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2549053	
Chloride	69.8	20.0	1	12/03/25	12/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/4/2025 12:21:00PM

COMP 4-3'

E512012-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549051	
Benzene	ND	0.0250	1	12/03/25	12/03/25	
Ethylbenzene	ND	0.0250	1	12/03/25	12/03/25	
Toluene	ND	0.0250	1	12/03/25	12/03/25	
o-Xylene	ND	0.0250	1	12/03/25	12/03/25	
p,m-Xylene	ND	0.0500	1	12/03/25	12/03/25	
Total Xylenes	ND	0.0250	1	12/03/25	12/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.3 %	70-130		12/03/25	12/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549051	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/03/25	12/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	109 %	70-130		12/03/25	12/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549048	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/03/25	12/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/03/25	12/03/25	
<i>Surrogate: n-Nonane</i>						
	93.5 %	61-141		12/03/25	12/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2549053	
Chloride	341	20.0	1	12/03/25	12/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/4/2025 12:21:00PM

COMP 5-5'

E512012-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549051	
Benzene	ND	0.0250	1	12/03/25	12/03/25	
Ethylbenzene	ND	0.0250	1	12/03/25	12/03/25	
Toluene	ND	0.0250	1	12/03/25	12/03/25	
o-Xylene	ND	0.0250	1	12/03/25	12/03/25	
p,m-Xylene	ND	0.0500	1	12/03/25	12/03/25	
Total Xylenes	ND	0.0250	1	12/03/25	12/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.0 %	70-130		12/03/25	12/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549051	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/03/25	12/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	107 %	70-130		12/03/25	12/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549048	
Diesel Range Organics (C10-C28)	32.0	25.0	1	12/03/25	12/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/03/25	12/03/25	
<i>Surrogate: n-Nonane</i>						
	105 %	61-141		12/03/25	12/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2549053	
Chloride	143	20.0	1	12/03/25	12/03/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/4/2025 12:21:00PM

COMP 6-3'

E512012-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549051	
Benzene	ND	0.0250	1	12/03/25	12/03/25	
Ethylbenzene	ND	0.0250	1	12/03/25	12/03/25	
Toluene	ND	0.0250	1	12/03/25	12/03/25	
o-Xylene	ND	0.0250	1	12/03/25	12/03/25	
p,m-Xylene	ND	0.0500	1	12/03/25	12/03/25	
Total Xylenes	ND	0.0250	1	12/03/25	12/03/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.1 %	70-130		12/03/25	12/03/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549051	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/03/25	12/03/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	109 %	70-130		12/03/25	12/03/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549048	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/03/25	12/03/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/03/25	12/03/25	
<i>Surrogate: n-Nonane</i>						
	96.5 %	61-141		12/03/25	12/03/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2549053	
Chloride	195	20.0	1	12/03/25	12/03/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/4/2025 12:21:00PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2549051-BLK1)

Prepared: 12/03/25 Analyzed: 12/03/25

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	7.67		8.00		95.9	70-130			

LCS (2549051-BS1)

Prepared: 12/03/25 Analyzed: 12/03/25

Benzene	4.61	0.0250	5.00		92.3	70-130			
Ethylbenzene	4.36	0.0250	5.00		87.2	70-130			
Toluene	4.54	0.0250	5.00		90.8	70-130			
o-Xylene	4.41	0.0250	5.00		88.3	70-130			
p,m-Xylene	8.91	0.0500	10.0		89.1	70-130			
Total Xylenes	13.3	0.0250	15.0		88.9	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.70		8.00		96.2	70-130			

Matrix Spike (2549051-MS1)

Source: E512012-04

Prepared: 12/03/25 Analyzed: 12/03/25

Benzene	4.89	0.0250	5.00	ND	97.8	70-130			
Ethylbenzene	4.60	0.0250	5.00	ND	92.0	70-130			
Toluene	4.80	0.0250	5.00	ND	95.9	70-130			
o-Xylene	4.69	0.0250	5.00	ND	93.9	70-130			
p,m-Xylene	9.41	0.0500	10.0	ND	94.1	70-130			
Total Xylenes	14.1	0.0250	15.0	ND	94.0	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.76		8.00		96.9	70-130			

Matrix Spike Dup (2549051-MSD1)

Source: E512012-04

Prepared: 12/03/25 Analyzed: 12/03/25

Benzene	5.29	0.0250	5.00	ND	106	70-130	7.79	27	
Ethylbenzene	5.00	0.0250	5.00	ND	100	70-130	8.34	26	
Toluene	5.20	0.0250	5.00	ND	104	70-130	8.03	20	
o-Xylene	5.07	0.0250	5.00	ND	101	70-130	7.80	25	
p,m-Xylene	10.2	0.0500	10.0	ND	102	70-130	8.23	23	
Total Xylenes	15.3	0.0250	15.0	ND	102	70-130	8.09	26	
Surrogate: 4-Bromochlorobenzene-PID	7.77		8.00		97.1	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/4/2025 12:21:00PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2549051-BLK1) Prepared: 12/03/25 Analyzed: 12/03/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.69		8.00		109	70-130			

LCS (2549051-BS2) Prepared: 12/03/25 Analyzed: 12/03/25

Gasoline Range Organics (C6-C10)	39.7	20.0	50.0		79.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.74		8.00		109	70-130			

Matrix Spike (2549051-MS2) Source: E512012-04 Prepared: 12/03/25 Analyzed: 12/03/25

Gasoline Range Organics (C6-C10)	44.9	20.0	50.0	ND	89.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.64		8.00		108	70-130			

Matrix Spike Dup (2549051-MSD2) Source: E512012-04 Prepared: 12/03/25 Analyzed: 12/03/25

Gasoline Range Organics (C6-C10)	47.1	20.0	50.0	ND	94.2	70-130	4.71	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.63		8.00		108	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/4/2025 12:21:00PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KH

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2549048-BLK1)					Prepared: 12/03/25 Analyzed: 12/03/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	46.4		50.0		92.8	61-141			

LCS (2549048-BS1)					Prepared: 12/03/25 Analyzed: 12/03/25				
Diesel Range Organics (C10-C28)	256	25.0	250		102	66-144			
Surrogate: n-Nonane	47.4		50.0		94.9	61-141			

Matrix Spike (2549048-MS1)					Source: E512010-01		Prepared: 12/03/25 Analyzed: 12/03/25		
Diesel Range Organics (C10-C28)	262	25.0	250	ND	105	56-156			
Surrogate: n-Nonane	48.3		50.0		96.7	61-141			

Matrix Spike Dup (2549048-MSD1)					Source: E512010-01		Prepared: 12/03/25 Analyzed: 12/03/25		
Diesel Range Organics (C10-C28)	260	25.0	250	ND	104	56-156	0.767	20	
Surrogate: n-Nonane	48.7		50.0		97.4	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/4/2025 12:21:00PM

Anions by EPA 300.0/9056A

Analyst: TP

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2549053-BLK1)					Prepared: 12/03/25 Analyzed: 12/03/25				
Chloride	ND	20.0							
LCS (2549053-BS1)					Prepared: 12/03/25 Analyzed: 12/03/25				
Chloride	254	20.0	250		102	90-110			
Matrix Spike (2549053-MS1)					Source: E512012-04		Prepared: 12/03/25 Analyzed: 12/03/25		
Chloride	597	20.0	250	341	102	80-120			
Matrix Spike Dup (2549053-MSD1)					Source: E512012-04		Prepared: 12/03/25 Analyzed: 12/03/25		
Chloride	595	20.0	250	341	102	80-120	0.313	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/04/25 12:21

- ND Analyte NOT DETECTED at or above the reporting limit
 - NR Not Reported
 - RPD Relative Percent Difference
 - DNI Did Not Ignite
 - DNR Did not react with the addition of acid or base.
- Note (1): Methods marked with ** are non-accredited methods.
- Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Envirotech Analytical Laboratory

Printed: 12/3/2025 8:32:45AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	12/03/25 08:00	Work Order ID:	E512012
Phone:	(575) 390-6397	Date Logged In:	12/02/25 15:02	Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	12/04/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

Carrier: Courier

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

Comments/ResolutionSample Turn Around Time (TAT)

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

Sample Cooler

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

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

13. See COC for individual sample temps. Samples outside of 0°C-6°C will be recorded in comments.

Sample Container

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

Field Label

20. Were field sample labels filled out with the minimum information:

Sample ID?	Yes
Date/Time Collected?	No
Collectors name?	No

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

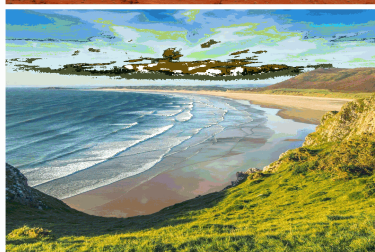
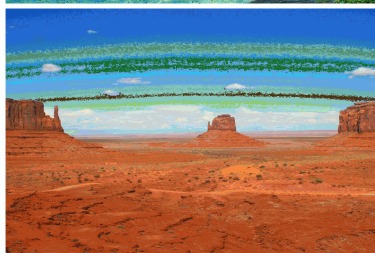
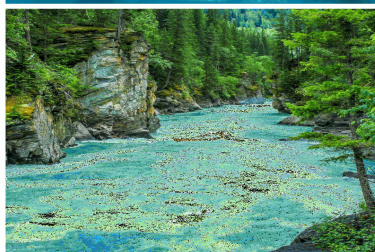
Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E512023

Job Number: 20046-0001

Received: 12/4/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
12/5/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 12/5/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E512023
Date Received: 12/4/2025 9:20:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/4/2025 9:20:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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Sample Summary

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/05/25 11:32

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
COMP 7-6'	E512023-01A	Soil	12/02/25	12/04/25	Glass Jar, 2 oz.
COMP 8-6'	E512023-02A	Soil	12/02/25	12/04/25	Glass Jar, 2 oz.
COMP 9-7'	E512023-03A	Soil	12/02/25	12/04/25	Glass Jar, 2 oz.
COMP 10-8'	E512023-04A	Soil	12/02/25	12/04/25	Glass Jar, 2 oz.
COMP 11-12'	E512023-05A	Soil	12/02/25	12/04/25	Glass Jar, 2 oz.
COMP 12-12'	E512023-06A	Soil	12/02/25	12/04/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/5/2025 11:32:26AM

COMP 7-6'

E512023-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549075	
Benzene	ND	0.0250	1	12/04/25	12/04/25	
Ethylbenzene	ND	0.0250	1	12/04/25	12/04/25	
Toluene	ND	0.0250	1	12/04/25	12/04/25	
o-Xylene	ND	0.0250	1	12/04/25	12/04/25	
p,m-Xylene	ND	0.0500	1	12/04/25	12/04/25	
Total Xylenes	ND	0.0250	1	12/04/25	12/04/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.3 %	70-130		12/04/25	12/04/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549075	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/04/25	12/04/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	107 %	70-130		12/04/25	12/04/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549068	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/04/25	12/04/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/04/25	12/04/25	
<i>Surrogate: n-Nonane</i>						
	99.1 %	61-141		12/04/25	12/04/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2549081	
Chloride	83.1	20.0	1	12/04/25	12/04/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/5/2025 11:32:26AM

COMP 8-6'

E512023-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549075	
Benzene	ND	0.0250	1	12/04/25	12/04/25	
Ethylbenzene	ND	0.0250	1	12/04/25	12/04/25	
Toluene	ND	0.0250	1	12/04/25	12/04/25	
o-Xylene	ND	0.0250	1	12/04/25	12/04/25	
p,m-Xylene	ND	0.0500	1	12/04/25	12/04/25	
Total Xylenes	ND	0.0250	1	12/04/25	12/04/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.6 %	70-130		12/04/25	12/04/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549075	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/04/25	12/04/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	108 %	70-130		12/04/25	12/04/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549068	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/04/25	12/04/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/04/25	12/04/25	
<i>Surrogate: n-Nonane</i>						
	94.5 %	61-141		12/04/25	12/04/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2549081	
Chloride	297	20.0	1	12/04/25	12/04/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/5/2025 11:32:26AM

COMP 9-7'

E512023-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549075	
Benzene	ND	0.0250	1	12/04/25	12/04/25	
Ethylbenzene	ND	0.0250	1	12/04/25	12/04/25	
Toluene	ND	0.0250	1	12/04/25	12/04/25	
o-Xylene	ND	0.0250	1	12/04/25	12/04/25	
p,m-Xylene	ND	0.0500	1	12/04/25	12/04/25	
Total Xylenes	ND	0.0250	1	12/04/25	12/04/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.9 %	70-130		12/04/25	12/04/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549075	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/04/25	12/04/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	108 %	70-130		12/04/25	12/04/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549068	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/04/25	12/04/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/04/25	12/04/25	
<i>Surrogate: n-Nonane</i>						
	94.8 %	61-141		12/04/25	12/04/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2549081	
Chloride	106	20.0	1	12/04/25	12/04/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/5/2025 11:32:26AM

COMP 10-8'

E512023-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549075	
Benzene	ND	0.0250	1	12/04/25	12/04/25	
Ethylbenzene	ND	0.0250	1	12/04/25	12/04/25	
Toluene	ND	0.0250	1	12/04/25	12/04/25	
o-Xylene	ND	0.0250	1	12/04/25	12/04/25	
p,m-Xylene	ND	0.0500	1	12/04/25	12/04/25	
Total Xylenes	ND	0.0250	1	12/04/25	12/04/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.1 %	70-130		12/04/25	12/04/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549075	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/04/25	12/04/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	106 %	70-130		12/04/25	12/04/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549068	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/04/25	12/04/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/04/25	12/04/25	
<i>Surrogate: n-Nonane</i>						
	105 %	61-141		12/04/25	12/04/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2549081	
Chloride	193	20.0	1	12/04/25	12/04/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/5/2025 11:32:26AM

COMP 11-12'

E512023-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549075	
Benzene	ND	0.0250	1	12/04/25	12/04/25	
Ethylbenzene	ND	0.0250	1	12/04/25	12/04/25	
Toluene	ND	0.0250	1	12/04/25	12/04/25	
o-Xylene	ND	0.0250	1	12/04/25	12/04/25	
p,m-Xylene	ND	0.0500	1	12/04/25	12/04/25	
Total Xylenes	ND	0.0250	1	12/04/25	12/04/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.5 %	70-130		12/04/25	12/04/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2549075	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/04/25	12/04/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	109 %	70-130		12/04/25	12/04/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549068	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/04/25	12/04/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/04/25	12/04/25	
<i>Surrogate: n-Nonane</i>						
	95.1 %	61-141		12/04/25	12/04/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2549081	
Chloride	166	20.0	1	12/04/25	12/04/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/5/2025 11:32:26AM

COMP 12-12'

E512023-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2549075
Benzene	ND	0.0250	1	12/04/25	12/04/25	
Ethylbenzene	ND	0.0250	1	12/04/25	12/04/25	
Toluene	ND	0.0250	1	12/04/25	12/04/25	
o-Xylene	ND	0.0250	1	12/04/25	12/04/25	
p,m-Xylene	ND	0.0500	1	12/04/25	12/04/25	
Total Xylenes	ND	0.0250	1	12/04/25	12/04/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.0 %	70-130		12/04/25	12/04/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2549075
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/04/25	12/04/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	109 %	70-130		12/04/25	12/04/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KH		Batch: 2549068
Diesel Range Organics (C10-C28)	ND	25.0	1	12/04/25	12/04/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/04/25	12/04/25	
<i>Surrogate: n-Nonane</i>						
	104 %	61-141		12/04/25	12/04/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2549081
Chloride	412	20.0	1	12/04/25	12/04/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/5/2025 11:32:26AM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2549075-BLK1)

Prepared: 12/04/25 Analyzed: 12/04/25

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	7.79		8.00		97.4	70-130			

LCS (2549075-BS1)

Prepared: 12/04/25 Analyzed: 12/04/25

Benzene	4.31	0.0250	5.00		86.2	70-130			
Ethylbenzene	4.07	0.0250	5.00		81.4	70-130			
Toluene	4.23	0.0250	5.00		84.7	70-130			
o-Xylene	4.15	0.0250	5.00		83.0	70-130			
p,m-Xylene	8.33	0.0500	10.0		83.3	70-130			
Total Xylenes	12.5	0.0250	15.0		83.2	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.64		8.00		95.5	70-130			

Matrix Spike (2549075-MS1)

Source: E512024-02

Prepared: 12/04/25 Analyzed: 12/04/25

Benzene	4.71	0.0250	5.00	ND	94.2	70-130			
Ethylbenzene	4.46	0.0250	5.00	ND	89.1	70-130			
Toluene	4.63	0.0250	5.00	ND	92.7	70-130			
o-Xylene	4.51	0.0250	5.00	ND	90.2	70-130			
p,m-Xylene	9.12	0.0500	10.0	ND	91.2	70-130			
Total Xylenes	13.6	0.0250	15.0	ND	90.9	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.83		8.00		97.9	70-130			

Matrix Spike Dup (2549075-MSD1)

Source: E512024-02

Prepared: 12/04/25 Analyzed: 12/04/25

Benzene	4.28	0.0250	5.00	ND	85.7	70-130	9.47	27	
Ethylbenzene	4.06	0.0250	5.00	ND	81.1	70-130	9.41	26	
Toluene	4.22	0.0250	5.00	ND	84.3	70-130	9.45	20	
o-Xylene	4.14	0.0250	5.00	ND	82.7	70-130	8.67	25	
p,m-Xylene	8.31	0.0500	10.0	ND	83.1	70-130	9.30	23	
Total Xylenes	12.4	0.0250	15.0	ND	83.0	70-130	9.09	26	
Surrogate: 4-Bromochlorobenzene-PID	7.73		8.00		96.6	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/5/2025 11:32:26AM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2549075-BLK1) Prepared: 12/04/25 Analyzed: 12/04/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.74		8.00		109	70-130			

LCS (2549075-BS2) Prepared: 12/04/25 Analyzed: 12/04/25

Gasoline Range Organics (C6-C10)	45.0	20.0	50.0		90.0	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.62		8.00		108	70-130			

Matrix Spike (2549075-MS2) Source: E512024-02 Prepared: 12/04/25 Analyzed: 12/04/25

Gasoline Range Organics (C6-C10)	50.3	20.0	50.0	ND	101	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.57		8.00		107	70-130			

Matrix Spike Dup (2549075-MSD2) Source: E512024-02 Prepared: 12/04/25 Analyzed: 12/04/25

Gasoline Range Organics (C6-C10)	46.5	20.0	50.0	ND	93.0	70-130	7.89	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.56		8.00		107	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/5/2025 11:32:26AM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KH

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2549068-BLK1)					Prepared: 12/04/25 Analyzed: 12/04/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	51.3		50.0		103	61-141			

LCS (2549068-BS1)					Prepared: 12/04/25 Analyzed: 12/04/25				
Diesel Range Organics (C10-C28)	247	25.0	250		99.0	66-144			
Surrogate: n-Nonane	49.4		50.0		98.7	61-141			

Matrix Spike (2549068-MS1)					Source: E512023-01		Prepared: 12/04/25 Analyzed: 12/04/25		
Diesel Range Organics (C10-C28)	258	25.0	250	ND	103	56-156			
Surrogate: n-Nonane	50.5		50.0		101	61-141			

Matrix Spike Dup (2549068-MSD1)					Source: E512023-01		Prepared: 12/04/25 Analyzed: 12/04/25		
Diesel Range Organics (C10-C28)	257	25.0	250	ND	103	56-156	0.413	20	
Surrogate: n-Nonane	50.1		50.0		100	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/5/2025 11:32:26AM

Anions by EPA 300.0/9056A

Analyst: DT

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

Blank (2549081-BLK1)					Prepared: 12/04/25 Analyzed: 12/04/25				
Chloride	ND	20.0							
LCS (2549081-BS1)					Prepared: 12/04/25 Analyzed: 12/04/25				
Chloride	252	20.0	250		101	90-110			
Matrix Spike (2549081-MS1)					Source: E512022-02		Prepared: 12/04/25 Analyzed: 12/04/25		
Chloride	622	20.0	250	358	105	80-120			
Matrix Spike Dup (2549081-MSD1)					Source: E512022-02		Prepared: 12/04/25 Analyzed: 12/04/25		
Chloride	619	20.0	250	358	104	80-120	0.330	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/05/25 11:32

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.
- 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

Page 1 of 1

Client Information				Invoice Information		Lab Use Only		TAT		State									
Client: <u>MACK ENERGY</u>				Company: <u>ESS</u>		Lab WO# <u>E512023</u> Job Number <u>20460001</u>		1D ☒ 2D ☒ 3D ☐ Std ☐		NM ☒ CO ☐ UT ☐ TX ☐									
Project Name: <u>FLL M4B 4</u>				Address: _____															
Project Manager: _____				City, State, Zip: _____															
Address: _____				Phone: _____															
City, State, Zip: _____				Email: _____															
Phone: _____				Miscellaneous: _____															
Email: _____																			
Sample Information						Analysis and Method								EPA Program					
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300 0	ICED 1005 - TX	RCRA 8 Metals	RGDOC - NM	RGDOC - TX	SDWA	CWA	RCRA	
800	12/2/25	S	1	COMP 7 - 6"		1									X				
845				COMP 8 - 5' 6"		2													
930				COMP 9 - 7"		3													
1030				COMP 10 - 8"		4													
1130				COMP 11 - 12"		5													
130	12/2/25	S	1	Comp 12 - 12"		6									X				
Additional Instructions: <u>Corrected sample name on #2 to match Container per Client. 12/4/25 CM</u>																			
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.																			
Sampled by: <u>M. RIVERA</u>		Date: <u>12/2/25</u>		Time: _____		Received by: (Signature) <u>Michelle Gonzalez</u>		Date: <u>12-3-25</u>		Time: <u>1230</u>		Samples requiring thermal preservation must be received on ice the day they are sampled or received packed on ice at a temp above 0 but less than 6°C on subsequent days. Lab Use Only Received on ice: <u>(Y)/N</u>							
Relinquished by: (Signature) <u>Michelle Gonzalez</u>		Date: <u>12-3-25</u>		Time: <u>1500</u>		Received by: (Signature) <u>Nathan Gonzalez</u>		Date: <u>12-3-25</u>		Time: <u>1500</u>									
Relinquished by: (Signature) <u>Nathan Gonzalez</u>		Date: <u>12-3-25</u>		Time: <u>1940</u>		Received by: (Signature) <u>Noe Soto</u>		Date: <u>12-3-25</u>		Time: <u>1940</u>									
Relinquished by: (Signature) <u>Noe Soto</u>		Date: <u>12-4-25</u>		Time: <u>0920</u>		Received by: (Signature) <u>Castle Mann</u>		Date: <u>12-4-25</u>		Time: <u>920</u>									
Relinquished by: (Signature) _____		Date: _____		Time: _____		Received by: (Signature) _____		Date: _____		Time: _____									
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____										Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA _____									
Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																			

Chain of Custody

Page 1 of 1

Client Information				Invoice Information		Lab Use Only		TAT		State								
Client: MACK ENERGY				Company: ESS		Lab WO# E512623 Job Number 200460001		1D ☒ 2D ☒ 3D ☐ Std ☐		NM ☒ CO ☐ UT ☐ TX ☐								
Project Name: FEE MAB 4				Address:														
Project Manager:				City, State, Zip:														
Address:				Phone:														
City, State, Zip:				Email:														
Phone:				Miscellaneous:														
Email:																		
Sample Information						Analysis and Method								EPA Program				
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTX by 8021	VOC by 8260	Chloride 300.0	TCEQ 1005 - TX	RCRA 8 Metals	BGDOC - NM	BGDOC - TX	SDWA	CWA	RCRA
800	12/2/25	S	1	COMP 7 - 6'		1								X				
845				COMP 8 - 5'		2												
930				COMP 9 - 7'		3												
1030				COMP 10 - 8'		4												
1130				COMP 11 - 12'		5												
130	12/2/25	S	1	Comp 12 - 12'		6								X				
Additional Instructions:																		
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.																		
Sampled by: M. RIVERA																		
Relinquished by: (Signature) M. Rivera				Date 12/2/25		Time		Received by: (Signature) Michelle Gonzales				Date 12-3-25		Time 1230		Samples requiring thermal preservation must be received on ice the day they are sampled or received packed on ice at a temp above 0 but less than 6°C on subsequent days. Lab Use Only Received on ice: ☒ Y / N		
Relinquished by: (Signature) Michelle Gonzales				Date 12-3-25		Time 1500		Received by: (Signature) Nathan Gonzales				Date 12-3-25		Time 1500				
Relinquished by: (Signature) Nathan Gonzales				Date 12-3-25		Time 1940		Received by: (Signature) Noe Sato				Date 12-3-25		Time 1940				
Relinquished by: (Signature) Noe Sato				Date 12-4-25		Time 0920		Received by: (Signature) Caitlin Mann				Date 12-4-25		Time 920				
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other																		
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA																		
Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																		

Envirotech Analytical Laboratory

Printed: 12/4/2025 12:10:05PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	12/04/25 09:20	Work Order ID:	E512023
Phone:	(575) 390-6397	Date Logged In:	12/03/25 15:21	Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	12/05/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? No
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

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

Carrier: CourierSample Turn Around Time (TAT)

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

Sample Cooler

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

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

13. See COC for individual sample temps. Samples outside of 0°C-6°C will be recorded in comments.

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client InstructionComments/Resolution

Project manager not provided on COC.
Sample #2 name on container did not match COC name. Client asked to correct name on COC.

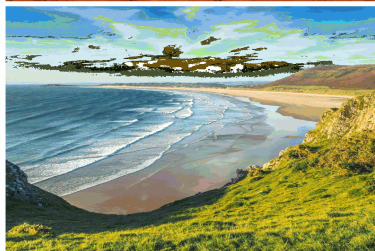
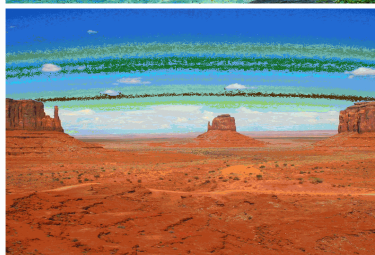
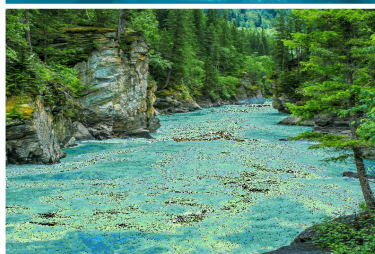
Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E512035

Job Number: 20046-0001

Received: 12/5/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
12/8/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 12/8/25

Natalie Gladden
7 W. Compress Road
Artesia, NM 88210



Project Name: FEE MAB #4
Workorder: E512035
Date Received: 12/5/2025 7:30:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/5/2025 7:30:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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Sample Summary

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/08/25 15:47

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
COMP 13-12'	E512035-01A	Soil	12/03/25	12/05/25	Glass Jar, 4 oz.
COMP 14-8'	E512035-02A	Soil	12/03/25	12/05/25	Glass Jar, 4 oz.
COMP 15-6'	E512035-03A	Soil	12/03/25	12/05/25	Glass Jar, 4 oz.
COMP 16-10'	E512035-04A	Soil	12/03/25	12/05/25	Glass Jar, 4 oz.
COMP 17-7'	E512035-05A	Soil	12/03/25	12/05/25	Glass Jar, 4 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/8/2025 3:47:26PM

COMP 13-12'

E512035-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: BA		Batch: 2549092	
Benzene	ND	0.0250	1	12/05/25	12/05/25	
Ethylbenzene	ND	0.0250	1	12/05/25	12/05/25	
Toluene	ND	0.0250	1	12/05/25	12/05/25	
o-Xylene	ND	0.0250	1	12/05/25	12/05/25	
p,m-Xylene	ND	0.0500	1	12/05/25	12/05/25	
Total Xylenes	ND	0.0250	1	12/05/25	12/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	93.3 %	70-130		12/05/25	12/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: BA		Batch: 2549092	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/25	12/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	84.7 %	70-130		12/05/25	12/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549091	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/05/25	12/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/05/25	12/05/25	
<i>Surrogate: n-Nonane</i>						
	101 %	61-141		12/05/25	12/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2549095	
Chloride	265	20.0	1	12/05/25	12/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/8/2025 3:47:26PM

COMP 14-8'

E512035-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: BA		Batch: 2549092	
Benzene	ND	0.0250	1	12/05/25	12/05/25	
Ethylbenzene	ND	0.0250	1	12/05/25	12/05/25	
Toluene	ND	0.0250	1	12/05/25	12/05/25	
o-Xylene	ND	0.0250	1	12/05/25	12/05/25	
p,m-Xylene	ND	0.0500	1	12/05/25	12/05/25	
Total Xylenes	ND	0.0250	1	12/05/25	12/05/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	91.6 %	70-130		12/05/25	12/05/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: BA		Batch: 2549092	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/25	12/05/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	84.6 %	70-130		12/05/25	12/05/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549091	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/05/25	12/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/05/25	12/05/25	
<i>Surrogate: n-Nonane</i>						
	114 %	61-141		12/05/25	12/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2549095	
Chloride	481	20.0	1	12/05/25	12/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/8/2025 3:47:26PM

COMP 15-6'

E512035-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: BA		Batch: 2549092	
Benzene	ND	0.0250	1	12/05/25	12/06/25	
Ethylbenzene	ND	0.0250	1	12/05/25	12/06/25	
Toluene	ND	0.0250	1	12/05/25	12/06/25	
o-Xylene	ND	0.0250	1	12/05/25	12/06/25	
p,m-Xylene	ND	0.0500	1	12/05/25	12/06/25	
Total Xylenes	ND	0.0250	1	12/05/25	12/06/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	91.6 %	70-130		12/05/25	12/06/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: BA		Batch: 2549092	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/25	12/06/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	86.0 %	70-130		12/05/25	12/06/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549091	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/05/25	12/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/05/25	12/05/25	
<i>Surrogate: n-Nonane</i>						
	101 %	61-141		12/05/25	12/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2549095	
Chloride	392	20.0	1	12/05/25	12/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/8/2025 3:47:26PM

COMP 16-10'

E512035-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: BA		Batch: 2549092	
Benzene	ND	0.0250	1	12/05/25	12/06/25	
Ethylbenzene	ND	0.0250	1	12/05/25	12/06/25	
Toluene	ND	0.0250	1	12/05/25	12/06/25	
o-Xylene	ND	0.0250	1	12/05/25	12/06/25	
p,m-Xylene	ND	0.0500	1	12/05/25	12/06/25	
Total Xylenes	ND	0.0250	1	12/05/25	12/06/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	93.0 %	70-130		12/05/25	12/06/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: BA		Batch: 2549092	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/25	12/06/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	87.2 %	70-130		12/05/25	12/06/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549091	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/05/25	12/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/05/25	12/05/25	
<i>Surrogate: n-Nonane</i>						
	103 %	61-141		12/05/25	12/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2549095	
Chloride	244	20.0	1	12/05/25	12/05/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/8/2025 3:47:26PM

COMP 17-7'

E512035-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: BA		Batch: 2549092	
Benzene	ND	0.0250	1	12/05/25	12/06/25	
Ethylbenzene	ND	0.0250	1	12/05/25	12/06/25	
Toluene	ND	0.0250	1	12/05/25	12/06/25	
o-Xylene	ND	0.0250	1	12/05/25	12/06/25	
p,m-Xylene	ND	0.0500	1	12/05/25	12/06/25	
Total Xylenes	ND	0.0250	1	12/05/25	12/06/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	91.3 %	70-130		12/05/25	12/06/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: BA		Batch: 2549092	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/05/25	12/06/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	86.0 %	70-130		12/05/25	12/06/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2549091	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/05/25	12/05/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/05/25	12/05/25	
<i>Surrogate: n-Nonane</i>						
	104 %	61-141		12/05/25	12/05/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2549095	
Chloride	418	20.0	1	12/05/25	12/05/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/8/2025 3:47:26PM

Volatile Organics by EPA 8021B

Analyst: BA

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2549092-BLK1)

Prepared: 12/05/25 Analyzed: 12/05/25

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	7.39		8.00		92.4	70-130			

LCS (2549092-BS1)

Prepared: 12/05/25 Analyzed: 12/05/25

Benzene	4.95	0.0250	5.00		99.1	70-130			
Ethylbenzene	4.63	0.0250	5.00		92.6	70-130			
Toluene	4.81	0.0250	5.00		96.2	70-130			
o-Xylene	4.72	0.0250	5.00		94.4	70-130			
p,m-Xylene	9.44	0.0500	10.0		94.4	70-130			
Total Xylenes	14.2	0.0250	15.0		94.4	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.62		8.00		95.2	70-130			

Matrix Spike (2549092-MS1)

Source: E512030-03

Prepared: 12/05/25 Analyzed: 12/05/25

Benzene	5.07	0.0250	5.00	ND	101	70-130			
Ethylbenzene	4.73	0.0250	5.00	ND	94.7	70-130			
Toluene	4.93	0.0250	5.00	ND	98.6	70-130			
o-Xylene	4.81	0.0250	5.00	ND	96.2	70-130			
p,m-Xylene	9.65	0.0500	10.0	ND	96.5	70-130			
Total Xylenes	14.5	0.0250	15.0	ND	96.4	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.61		8.00		95.1	70-130			

Matrix Spike Dup (2549092-MSD1)

Source: E512030-03

Prepared: 12/05/25 Analyzed: 12/05/25

Benzene	5.23	0.0250	5.00	ND	105	70-130	3.25	27	
Ethylbenzene	4.91	0.0250	5.00	ND	98.2	70-130	3.70	26	
Toluene	5.10	0.0250	5.00	ND	102	70-130	3.40	20	
o-Xylene	4.99	0.0250	5.00	ND	99.8	70-130	3.72	25	
p,m-Xylene	10.0	0.0500	10.0	ND	100	70-130	3.69	23	
Total Xylenes	15.0	0.0250	15.0	ND	100	70-130	3.70	26	
Surrogate: 4-Bromochlorobenzene-PID	7.53		8.00		94.2	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/8/2025 3:47:26PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: BA

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2549092-BLK1) Prepared: 12/05/25 Analyzed: 12/05/25

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

LCS (2549092-BS2) Prepared: 12/05/25 Analyzed: 12/05/25

Gasoline Range Organics (C6-C10)	50.8	20.0	50.0		102	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.83		8.00		85.4	70-130			

Matrix Spike (2549092-MS2) Source: E512030-03 Prepared: 12/05/25 Analyzed: 12/05/25

Gasoline Range Organics (C6-C10)	53.7	20.0	50.0	ND	107	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.33		8.00		91.6	70-130			

Matrix Spike Dup (2549092-MSD2) Source: E512030-03 Prepared: 12/05/25 Analyzed: 12/05/25

Gasoline Range Organics (C6-C10)	54.7	20.0	50.0	ND	109	70-130	1.85	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.81		8.00		85.1	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/8/2025 3:47:26PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KH

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2549091-BLK1)					Prepared: 12/05/25 Analyzed: 12/05/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	48.1		50.0		96.1	61-141			

LCS (2549091-BS1)					Prepared: 12/05/25 Analyzed: 12/05/25				
Diesel Range Organics (C10-C28)	276	25.0	250		111	66-144			
Surrogate: n-Nonane	53.5		50.0		107	61-141			

Matrix Spike (2549091-MS1)					Source: E512031-01		Prepared: 12/05/25 Analyzed: 12/05/25		
Diesel Range Organics (C10-C28)	432	25.0	250	107	130	56-156			
Surrogate: n-Nonane	51.5		50.0		103	61-141			

Matrix Spike Dup (2549091-MSD1)					Source: E512031-01		Prepared: 12/05/25 Analyzed: 12/05/25		
Diesel Range Organics (C10-C28)	451	25.0	250	107	138	56-156	4.30	20	
Surrogate: n-Nonane	52.1		50.0		104	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/8/2025 3:47:26PM

Anions by EPA 300.0/9056A

Analyst: DT

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

Blank (2549095-BLK1)					Prepared: 12/05/25 Analyzed: 12/05/25				
Chloride	ND	20.0							
LCS (2549095-BS1)					Prepared: 12/05/25 Analyzed: 12/05/25				
Chloride	257	20.0	250		103	90-110			
Matrix Spike (2549095-MS1)					Source: E512035-02		Prepared: 12/05/25 Analyzed: 12/05/25		
Chloride	734	20.0	250	481	101	80-120			
Matrix Spike Dup (2549095-MSD1)					Source: E512035-02		Prepared: 12/05/25 Analyzed: 12/05/25		
Chloride	731	20.0	250	481	100	80-120	0.346	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/08/25 15:47

- ND Analyte NOT DETECTED at or above the reporting limit
 - NR Not Reported
 - RPD Relative Percent Difference
 - DNI Did Not Ignite
 - DNR Did not react with the addition of acid or base.
- 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

Client Information					Invoice Information			Lab Use Only		TAT		State					
Client: <u>MAK ENERGY</u>					Company: <u>ESS</u>			Lab WO#	Job Number	1D	2D	3D	Std	NM	CO	UT	TX
Project Name: <u>RFP TAB 4</u>					Address: <u>ESS</u>			<u>E512035</u>	<u>2004160001</u>		☒			☒			
Project Manager:					City, State, Zip:												
Address:					Phone:												
City, State, Zip:					Email:												
Phone:					Miscellaneous:												
Email:																	

Sample Information							Analysis and Method										EPA Program		
Time Sampled	Date Sampled	Matrix	No of Containers	Sample ID	Field Filter	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	TCEQ 1005 - TX	RCRA 8 Metals	BGDOC - NM	BGDOC - TX	SDWA	CWA	RCRA	
945	12/3/25	S	1	COMP 13 - 12'		1									X				
1020				COMP 14 - 8'		2													
1050				COMP 15 - 6'		3													
1130				COMP 16 - 10'		4													
130	12/3/25	S	1	COMP 17 - 7'		5								X					

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: M. R. L. W. C. A.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Samples requiring thermal preservation must be received on ice the day they are sampled or received packed on ice at a temp above 0 but less than 6°C on subsequent days. Lab Use Only Received on ice: ☒ Y / ☐ N
<u>Michelle Gonzales</u>	12/3/25		<u>Michelle Gonzales</u>	12-4-25	1300	
<u>Michelle Gonzales</u>	12-4-25	1530	<u>Nathan Gonzales</u>	12-4-25	1530	
<u>Nathan Gonzales</u>	12-4-25	2000	<u>Cayden Briggs</u>	12-4-25	2000	
<u>Cayden Briggs</u>	12-5-25	0000	<u>Caitlynn</u>	12-5-25	130	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	

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

Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Envirotech Analytical Laboratory

Printed: 12/8/2025 3:45:34PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	12/05/25 07:30	Work Order ID:	E512035
Phone:	(575) 390-6397	Date Logged In:	12/04/25 16:35	Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	12/08/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

Carrier: Courier

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

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

13. See COC for individual sample temps. Samples outside of 0°C-6°C will be recorded in comments.

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client InstructionComments/Resolution

Project manager not provided on COC.
Relinquished time not provided on COC per client.
L-DT
R-CM

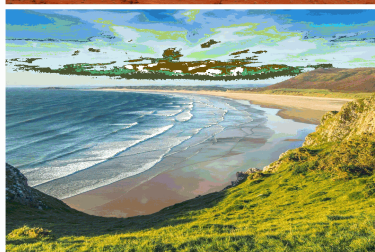
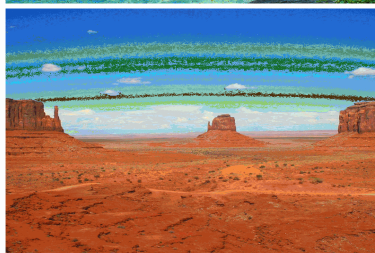
Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:
Natalie Gladden



5796 U.S. Hwy 64
Farmington, NM 87401

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



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E512056

Job Number: 20046-0001

Received: 12/8/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
12/9/25

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: 12/9/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E512056
Date Received: 12/8/2025 7:00:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/8/2025 7:00:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

Walter Hinchman
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Cell: 775-287-1762
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Sample Summary

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/09/25 14:58

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Comp 18-2'	E512056-01A	Soil	12/04/25	12/08/25	Glass Jar, 2 oz.
Comp 19-1'	E512056-02A	Soil	12/04/25	12/08/25	Glass Jar, 2 oz.
Comp 20-1'	E512056-03A	Soil	12/04/25	12/08/25	Glass Jar, 2 oz.
Comp 21-1'	E512056-04A	Soil	12/04/25	12/08/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/9/2025 2:58:24PM

Comp 18-2'

E512056-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2550001	
Benzene	ND	0.0250	1	12/08/25	12/08/25	
Ethylbenzene	ND	0.0250	1	12/08/25	12/08/25	
Toluene	ND	0.0250	1	12/08/25	12/08/25	
o-Xylene	ND	0.0250	1	12/08/25	12/08/25	
p,m-Xylene	ND	0.0500	1	12/08/25	12/08/25	
Total Xylenes	ND	0.0250	1	12/08/25	12/08/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.0 %	70-130		12/08/25	12/08/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2550001	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/08/25	12/08/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	115 %	70-130		12/08/25	12/08/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2550013	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/08/25	12/08/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/08/25	12/08/25	
<i>Surrogate: n-Nonane</i>						
	94.1 %	61-141		12/08/25	12/08/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2550002	
Chloride	106	20.0	1	12/08/25	12/08/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/9/2025 2:58:24PM

Comp 19-1'

E512056-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2550001	
Benzene	ND	0.0250	1	12/08/25	12/08/25	
Ethylbenzene	ND	0.0250	1	12/08/25	12/08/25	
Toluene	ND	0.0250	1	12/08/25	12/08/25	
o-Xylene	ND	0.0250	1	12/08/25	12/08/25	
p,m-Xylene	ND	0.0500	1	12/08/25	12/08/25	
Total Xylenes	ND	0.0250	1	12/08/25	12/08/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.3 %	70-130		12/08/25	12/08/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2550001	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/08/25	12/08/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	117 %	70-130		12/08/25	12/08/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2550013	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/08/25	12/08/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/08/25	12/08/25	
<i>Surrogate: n-Nonane</i>						
	91.7 %	61-141		12/08/25	12/08/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2550002	
Chloride	203	20.0	1	12/08/25	12/08/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/9/2025 2:58:24PM

Comp 20-1'

E512056-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2550001	
Benzene	ND	0.0250	1	12/08/25	12/08/25	
Ethylbenzene	ND	0.0250	1	12/08/25	12/08/25	
Toluene	ND	0.0250	1	12/08/25	12/08/25	
o-Xylene	ND	0.0250	1	12/08/25	12/08/25	
p,m-Xylene	ND	0.0500	1	12/08/25	12/08/25	
Total Xylenes	ND	0.0250	1	12/08/25	12/08/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.6 %	70-130		12/08/25	12/08/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2550001	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/08/25	12/08/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	114 %	70-130		12/08/25	12/08/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2550013	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/08/25	12/08/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/08/25	12/08/25	
<i>Surrogate: n-Nonane</i>						
	93.8 %	61-141		12/08/25	12/08/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2550002	
Chloride	133	20.0	1	12/08/25	12/08/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/9/2025 2:58:24PM

Comp 21-1'

E512056-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2550001	
Benzene	ND	0.0250	1	12/08/25	12/08/25	
Ethylbenzene	ND	0.0250	1	12/08/25	12/08/25	
Toluene	ND	0.0250	1	12/08/25	12/08/25	
o-Xylene	ND	0.0250	1	12/08/25	12/08/25	
p,m-Xylene	ND	0.0500	1	12/08/25	12/08/25	
Total Xylenes	ND	0.0250	1	12/08/25	12/08/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.0 %	70-130		12/08/25	12/08/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2550001	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/08/25	12/08/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	114 %	70-130		12/08/25	12/08/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2550013	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/08/25	12/08/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/08/25	12/08/25	
<i>Surrogate: n-Nonane</i>						
	93.1 %	61-141		12/08/25	12/08/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2550002	
Chloride	363	20.0	1	12/08/25	12/08/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/9/2025 2:58:24PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2550001-BLK1)

Prepared: 12/08/25 Analyzed: 12/08/25

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	8.18		8.00		102	70-130			

LCS (2550001-BS1)

Prepared: 12/08/25 Analyzed: 12/09/25

Benzene	4.48	0.0250	5.00		89.6	70-130			
Ethylbenzene	4.24	0.0250	5.00		84.8	70-130			
Toluene	4.41	0.0250	5.00		88.2	70-130			
o-Xylene	4.28	0.0250	5.00		85.6	70-130			
p,m-Xylene	8.68	0.0500	10.0		86.8	70-130			
Total Xylenes	13.0	0.0250	15.0		86.4	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.01		8.00		100	70-130			

Matrix Spike (2550001-MS1)

Source: E512056-03

Prepared: 12/08/25 Analyzed: 12/09/25

Benzene	4.35	0.0250	5.00	ND	87.0	70-130			
Ethylbenzene	4.13	0.0250	5.00	ND	82.6	70-130			
Toluene	4.29	0.0250	5.00	ND	85.7	70-130			
o-Xylene	4.16	0.0250	5.00	ND	83.1	70-130			
p,m-Xylene	8.46	0.0500	10.0	ND	84.6	70-130			
Total Xylenes	12.6	0.0250	15.0	ND	84.1	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.00		8.00		100	70-130			

Matrix Spike Dup (2550001-MSD1)

Source: E512056-03

Prepared: 12/08/25 Analyzed: 12/09/25

Benzene	4.71	0.0250	5.00	ND	94.1	70-130	7.92	27	
Ethylbenzene	4.46	0.0250	5.00	ND	89.3	70-130	7.82	26	
Toluene	4.63	0.0250	5.00	ND	92.6	70-130	7.75	20	
o-Xylene	4.50	0.0250	5.00	ND	90.1	70-130	8.02	25	
p,m-Xylene	9.14	0.0500	10.0	ND	91.4	70-130	7.75	23	
Total Xylenes	13.6	0.0250	15.0	ND	91.0	70-130	7.84	26	
Surrogate: 4-Bromochlorobenzene-PID	7.98		8.00		99.8	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/9/2025 2:58:24PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2550001-BLK1)

Prepared: 12/08/25 Analyzed: 12/08/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.93		8.00		112	70-130			

LCS (2550001-BS2)

Prepared: 12/08/25 Analyzed: 12/09/25

Gasoline Range Organics (C6-C10)	50.3	20.0	50.0		101	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.35		8.00		117	70-130			

Matrix Spike (2550001-MS2)

Source: E512056-03

Prepared: 12/08/25 Analyzed: 12/09/25

Gasoline Range Organics (C6-C10)	50.9	20.0	50.0	ND	102	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.28		8.00		116	70-130			

Matrix Spike Dup (2550001-MSD2)

Source: E512056-03

Prepared: 12/08/25 Analyzed: 12/09/25

Gasoline Range Organics (C6-C10)	49.1	20.0	50.0	ND	98.1	70-130	3.73	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.32		8.00		116	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/9/2025 2:58:24PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KH

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2550013-BLK1)					Prepared: 12/08/25 Analyzed: 12/08/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	45.1		50.0		90.1	61-141			

LCS (2550013-BS1)					Prepared: 12/08/25 Analyzed: 12/08/25				
Diesel Range Organics (C10-C28)	235	25.0	250		94.0	66-144			
Surrogate: n-Nonane	47.0		50.0		94.0	61-141			

Matrix Spike (2550013-MS1)					Source: E512059-12		Prepared: 12/08/25 Analyzed: 12/08/25		
Diesel Range Organics (C10-C28)	244	25.0	250	ND	97.4	56-156			
Surrogate: n-Nonane	46.4		50.0		92.9	61-141			

Matrix Spike Dup (2550013-MSD1)					Source: E512059-12		Prepared: 12/08/25 Analyzed: 12/08/25		
Diesel Range Organics (C10-C28)	239	25.0	250	ND	95.6	56-156	1.85	20	
Surrogate: n-Nonane	47.0		50.0		94.1	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/9/2025 2:58:24PM

Anions by EPA 300.0/9056A

Analyst: TP

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2550002-BLK1)					Prepared: 12/08/25 Analyzed: 12/08/25				
Chloride	ND	20.0							
LCS (2550002-BS1)					Prepared: 12/08/25 Analyzed: 12/08/25				
Chloride	250	20.0	250		100	90-110			
Matrix Spike (2550002-MS1)					Source: E512056-04		Prepared: 12/08/25 Analyzed: 12/08/25		
Chloride	618	20.0	250	363	102	80-120			
Matrix Spike Dup (2550002-MSD1)					Source: E512056-04		Prepared: 12/08/25 Analyzed: 12/08/25		
Chloride	628	20.0	250	363	106	80-120	1.47	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/09/25 14:58

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.

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

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

Client Information				Invoice Information				Lab Use Only				TAT				State			
Client: <u>MARK ENERGY</u>				Company: <u>ESS</u>				Lab WO# <u>ES12056</u>		Job Number <u>20046-0001</u>		1D		2D		3D		Std	
Project Name: <u>FBC MAB 4</u>				Address: <u>ESS</u>										☒				NM ☒ CO ☐ UT ☐ TX ☐	
Project Manager:				City, State, Zip:															
Address:				Phone:															
City, State, Zip:				Email:															
Phone:				Miscellaneous:															
Email:																			

Sample Information										Analysis and Method										EPA Program			
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field	Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	TCEQ 1005 - TX	RCRA 8 Metals	BDOC - NM	BDOC - TX	SDWA	CWA	RCRA				
830	12/4/25	S	1	COMP 18 - 2'			1																
915				COMP 19 - 1'			2																
1005				COMP 20 - 1'			3																
1115	12/4/25	S	1	COMP 21 - 1'			4																

Additional Instructions:																							
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.																							
Sampled by: <u>M. RIVERO</u>																							
Relinquished by: (Signature) <u>[Signature]</u>				Date <u>12/4/25</u>				Time <u>1200</u>				Received by: (Signature) <u>Michelle Gonzales</u>				Date <u>12-5-25</u>				Time <u>1200</u>			
Relinquished by: (Signature) <u>Michelle Gonzales</u>				Date <u>12-5-25</u>				Time <u>1530</u>				Received by: (Signature) <u>Marissa Gonzales</u>				Date <u>12-5-25</u>				Time <u>1530</u>			
Relinquished by: (Signature) <u>Marissa Gonzales</u>				Date <u>12-5-25</u>				Time <u>1355</u>				Received by: (Signature) <u>Nae Sae</u>				Date <u>12-8-25</u>				Time <u>0700</u>			
Relinquished by: (Signature)				Date				Time				Received by: (Signature)				Date				Time			
Relinquished by: (Signature)				Date				Time				Received by: (Signature)				Date				Time			

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other										Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA									
Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																			

Envirotech Analytical Laboratory

Printed: 12/8/2025 8:34:51AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	12/08/25 07:00	Work Order ID:	E512056
Phone:	(575) 390-6397	Date Logged In:	12/05/25 16:24	Logged In By:	Noe Soto
Email:	Natalie@energystaffingllc.com	Due Date:	12/09/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

Carrier: Courier

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

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

13. See COC for individual sample temps. Samples outside of 0°C-6°C will be recorded in comments.

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client InstructionComments/Resolution

Project manager not provided by on COC.
L-NS
R-NV

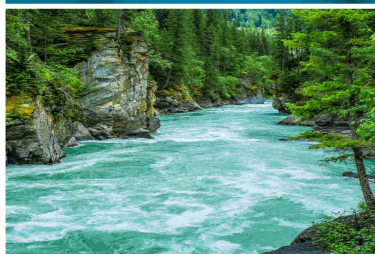
Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E512081

Job Number: 20046-0001

Received: 12/10/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
12/11/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 12/11/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E512081
Date Received: 12/10/2025 8:00:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/10/2025 8:00:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

Raina Schwanz
Laboratory Administrator
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Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

Mack Energy	Project Name:	FEE MAB #4	Reported: 12/11/25 14:16
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW COMP 1-4'	E512081-01A	Soil	12/08/25	12/10/25	Glass Jar, 2 oz.
SW COMP 2-4'	E512081-02A	Soil	12/08/25	12/10/25	Glass Jar, 2 oz.
SW COMP 3-5'	E512081-03A	Soil	12/08/25	12/10/25	Glass Jar, 2 oz.
SW COMP 4-8'	E512081-04A	Soil	12/08/25	12/10/25	Glass Jar, 2 oz.
SW COMP 5-10'	E512081-05A	Soil	12/08/25	12/10/25	Glass Jar, 2 oz.
SW COMP 6-4'	E512081-06A	Soil	12/08/25	12/10/25	Glass Jar, 2 oz.



Sample Data

Mack Energy	Project Name:	FEE MAB #4	Reported: 12/11/2025 2:16:38PM
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	

SW COMP 1-4'

E512081-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: MB		Batch: 2550045	
Benzene	ND	0.0250	1	12/10/25	12/10/25	
Ethylbenzene	ND	0.0250	1	12/10/25	12/10/25	
Toluene	ND	0.0250	1	12/10/25	12/10/25	
o-Xylene	ND	0.0250	1	12/10/25	12/10/25	
p,m-Xylene	ND	0.0500	1	12/10/25	12/10/25	
Total Xylenes	ND	0.0250	1	12/10/25	12/10/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		107 %	70-130	12/10/25	12/10/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: MB		Batch: 2550045	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/25	12/10/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		114 %	70-130	12/10/25	12/10/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2550044	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/25	12/10/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/25	12/10/25	
<i>Surrogate: n-Nonane</i>		101 %	61-141	12/10/25	12/10/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: TP		Batch: 2550049	
Chloride	204	20.0	1	12/10/25	12/10/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/11/2025 2:16:38PM

SW COMP 2-4'

E512081-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550045	
Benzene	ND	0.0250	1	12/10/25	12/10/25	
Ethylbenzene	ND	0.0250	1	12/10/25	12/10/25	
Toluene	ND	0.0250	1	12/10/25	12/10/25	
o-Xylene	ND	0.0250	1	12/10/25	12/10/25	
p,m-Xylene	ND	0.0500	1	12/10/25	12/10/25	
Total Xylenes	ND	0.0250	1	12/10/25	12/10/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		106 %	70-130	12/10/25	12/10/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550045	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/25	12/10/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		113 %	70-130	12/10/25	12/10/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2550044	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/25	12/10/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/25	12/10/25	
<i>Surrogate: n-Nonane</i>						
		100 %	61-141	12/10/25	12/10/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2550049	
Chloride	109	20.0	1	12/10/25	12/10/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/11/2025 2:16:38PM

SW COMP 3-5'

E512081-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550045	
Benzene	ND	0.0250	1	12/10/25	12/10/25	
Ethylbenzene	ND	0.0250	1	12/10/25	12/10/25	
Toluene	ND	0.0250	1	12/10/25	12/10/25	
o-Xylene	ND	0.0250	1	12/10/25	12/10/25	
p,m-Xylene	ND	0.0500	1	12/10/25	12/10/25	
Total Xylenes	ND	0.0250	1	12/10/25	12/10/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		106 %	70-130	12/10/25	12/10/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550045	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/25	12/10/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		117 %	70-130	12/10/25	12/10/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2550044	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/25	12/10/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/25	12/10/25	
<i>Surrogate: n-Nonane</i>						
		97.6 %	61-141	12/10/25	12/10/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2550049	
Chloride	365	20.0	1	12/10/25	12/10/25	



Sample Data

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/11/2025 2:16:38PM

SW COMP 4-8'

E512081-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: MB		Batch: 2550045	
Benzene	ND	0.0250	1	12/10/25	12/10/25	
Ethylbenzene	ND	0.0250	1	12/10/25	12/10/25	
Toluene	ND	0.0250	1	12/10/25	12/10/25	
o-Xylene	ND	0.0250	1	12/10/25	12/10/25	
p,m-Xylene	ND	0.0500	1	12/10/25	12/10/25	
Total Xylenes	ND	0.0250	1	12/10/25	12/10/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		104 %	70-130	12/10/25	12/10/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: MB		Batch: 2550045	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/25	12/10/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		115 %	70-130	12/10/25	12/10/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2550044	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/25	12/10/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/25	12/10/25	
<i>Surrogate: n-Nonane</i>		98.4 %	61-141	12/10/25	12/10/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: TP		Batch: 2550049	
Chloride	221	20.0	1	12/10/25	12/10/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/11/2025 2:16:38PM

SW COMP 5-10'

E512081-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550045	
Benzene	ND	0.0250	1	12/10/25	12/10/25	
Ethylbenzene	ND	0.0250	1	12/10/25	12/10/25	
Toluene	ND	0.0250	1	12/10/25	12/10/25	
o-Xylene	ND	0.0250	1	12/10/25	12/10/25	
p,m-Xylene	ND	0.0500	1	12/10/25	12/10/25	
Total Xylenes	ND	0.0250	1	12/10/25	12/10/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		106 %	70-130	12/10/25	12/10/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550045	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/25	12/10/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		113 %	70-130	12/10/25	12/10/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2550044	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/25	12/11/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/25	12/11/25	
<i>Surrogate: n-Nonane</i>						
		101 %	61-141	12/10/25	12/11/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2550049	
Chloride	201	20.0	1	12/10/25	12/10/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/11/2025 2:16:38PM

SW COMP 6-4'

E512081-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550045	
Benzene	ND	0.0250	1	12/10/25	12/11/25	
Ethylbenzene	ND	0.0250	1	12/10/25	12/11/25	
Toluene	ND	0.0250	1	12/10/25	12/11/25	
o-Xylene	ND	0.0250	1	12/10/25	12/11/25	
p,m-Xylene	ND	0.0500	1	12/10/25	12/11/25	
Total Xylenes	ND	0.0250	1	12/10/25	12/11/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		104 %	70-130	12/10/25	12/11/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550045	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/25	12/11/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		113 %	70-130	12/10/25	12/11/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KH		Batch: 2550044	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/25	12/11/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/25	12/11/25	
<i>Surrogate: n-Nonane</i>						
		114 %	61-141	12/10/25	12/11/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2550049	
Chloride	229	20.0	1	12/10/25	12/10/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/11/2025 2:16:38PM

Volatile Organics by EPA 8021B

Analyst: MB

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

Blank (2550045-BLK1)

Prepared: 12/10/25 Analyzed: 12/10/25

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	8.32		8.00		104	70-130			

LCS (2550045-BS1)

Prepared: 12/10/25 Analyzed: 12/10/25

Benzene	4.77	0.0250	5.00		95.4	70-130			
Ethylbenzene	4.50	0.0250	5.00		90.0	70-130			
Toluene	4.69	0.0250	5.00		93.8	70-130			
o-Xylene	4.57	0.0250	5.00		91.5	70-130			
p,m-Xylene	9.21	0.0500	10.0		92.1	70-130			
Total Xylenes	13.8	0.0250	15.0		91.9	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.51		8.00		106	70-130			

Matrix Spike (2550045-MS1)

Source: E512084-02

Prepared: 12/10/25 Analyzed: 12/10/25

Benzene	4.88	0.0250	5.00	ND	97.5	70-130			
Ethylbenzene	4.59	0.0250	5.00	ND	91.7	70-130			
Toluene	4.79	0.0250	5.00	ND	95.8	70-130			
o-Xylene	4.66	0.0250	5.00	ND	93.2	70-130			
p,m-Xylene	9.37	0.0500	10.0	ND	93.7	70-130			
Total Xylenes	14.0	0.0250	15.0	ND	93.5	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.39		8.00		105	70-130			

Matrix Spike Dup (2550045-MSD1)

Source: E512084-02

Prepared: 12/10/25 Analyzed: 12/10/25

Benzene	4.87	0.0250	5.00	ND	97.5	70-130	0.0462	27	
Ethylbenzene	4.60	0.0250	5.00	ND	92.1	70-130	0.385	26	
Toluene	4.79	0.0250	5.00	ND	95.8	70-130	0.0480	20	
o-Xylene	4.67	0.0250	5.00	ND	93.5	70-130	0.339	25	
p,m-Xylene	9.41	0.0500	10.0	ND	94.1	70-130	0.435	23	
Total Xylenes	14.1	0.0250	15.0	ND	93.9	70-130	0.403	26	
Surrogate: 4-Bromochlorobenzene-PID	8.67		8.00		108	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/11/2025 2:16:38PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: MB

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2550045-BLK1) Prepared: 12/10/25 Analyzed: 12/10/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.96		8.00		112	70-130			

LCS (2550045-BS2) Prepared: 12/10/25 Analyzed: 12/10/25

Gasoline Range Organics (C6-C10)	50.5	20.0	50.0		101	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.10		8.00		114	70-130			

Matrix Spike (2550045-MS2) Source: E512084-02 Prepared: 12/10/25 Analyzed: 12/10/25

Gasoline Range Organics (C6-C10)	49.6	20.0	50.0	ND	99.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.29		8.00		116	70-130			

Matrix Spike Dup (2550045-MSD2) Source: E512084-02 Prepared: 12/10/25 Analyzed: 12/10/25

Gasoline Range Organics (C6-C10)	48.7	20.0	50.0	ND	97.4	70-130	1.87	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.86		8.00		111	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/11/2025 2:16:38PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KH

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2550044-BLK1)					Prepared: 12/10/25 Analyzed: 12/10/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	47.2		50.0		94.5	61-141			

LCS (2550044-BS1)					Prepared: 12/10/25 Analyzed: 12/10/25				
Diesel Range Organics (C10-C28)	250	25.0	250		99.9	66-144			
Surrogate: n-Nonane	48.2		50.0		96.3	61-141			

Matrix Spike (2550044-MS1)					Source: E512072-11		Prepared: 12/10/25 Analyzed: 12/10/25		
Diesel Range Organics (C10-C28)	266	25.0	250	ND	106	56-156			
Surrogate: n-Nonane	50.8		50.0		102	61-141			

Matrix Spike Dup (2550044-MSD1)					Source: E512072-11		Prepared: 12/10/25 Analyzed: 12/10/25		
Diesel Range Organics (C10-C28)	268	25.0	250	ND	107	56-156	0.993	20	
Surrogate: n-Nonane	51.2		50.0		102	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/11/2025 2:16:38PM

Anions by EPA 300.0/9056A

Analyst: TP

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

Blank (2550049-BLK1)					Prepared: 12/10/25 Analyzed: 12/10/25				
Chloride	ND	20.0							
LCS (2550049-BS1)					Prepared: 12/10/25 Analyzed: 12/10/25				
Chloride	254	20.0	250		101	90-110			
Matrix Spike (2550049-MS1)					Source: E512081-04		Prepared: 12/10/25 Analyzed: 12/10/25		
Chloride	483	20.0	250	221	105	80-120			
Matrix Spike Dup (2550049-MSD1)					Source: E512081-04		Prepared: 12/10/25 Analyzed: 12/10/25		
Chloride	485	20.0	250	221	106	80-120	0.426	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/11/25 14:16

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

DNR Did not react with the addition of acid or base.

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

Client Information				Invoice Information		Lab Use Only		TAT				State			
Client: <u>MAC ENERGY</u>				Company: <u>ESS</u>		Lab WO# <u>E512081</u>		Job Number <u>20046-0001</u>				1D ☒ 2D ☒ 3D ☐ Std ☐			
Project Name: <u>FCC MAB 4</u>				Address:		Address:						NM ☒ CO ☐ UT ☐ TX ☐			
Project Manager:				City, State, Zip:		City, State, Zip:									
Address:				Phone:		Phone:									
City, State, Zip:				Email:		Email:									
Phone:				Miscellaneous:		Miscellaneous:									
Email:															

Sample Information						Analysis and Method										EPA Program			
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/ORO by 8015	GRQ/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	TCEQ 1005 - TX	RCRA 8 Metals	BGDOC - NM	BGDOC - TX	SDWA	CWA	RCRA	
800	12/8/25	S	1	SWCOMP1 - 4'		1									X				
845				SWCOMP2 - 4'		2													
930				SWCOMP3 - 5'		3													
1030				SWCOMP4 - 8'		4													
1115				SWCOMP5 - 10'		5													
130	12/8/25	S	1	SWCOMP6 - 4'		6									X				

Additional Instructions:											
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.											
Sampled by: <u>M. RIVERT</u>											
Relinquished by: (Signature) <u>[Signature]</u>		Date <u>12/8/25</u>		Time <u>1245</u>		Received by: (Signature) <u>Mariessa Gonzales</u>		Date <u>12-9-25</u>		Time <u>1245</u>	
Relinquished by: (Signature) <u>Mariessa Gonzales</u>		Date <u>12-9-25</u>		Time <u>1430</u>		Received by: (Signature) <u>Nathan Gonzales</u>		Date <u>12-9-25</u>		Time <u>1430</u>	
Relinquished by: (Signature) <u>Nathan Gonzales</u>		Date <u>12-9-25</u>		Time <u>1810</u>		Received by: (Signature) <u>Bryan Burr</u>		Date <u>12-9-25</u>		Time <u>1810</u>	
Relinquished by: (Signature) <u>Bryan Burr</u>		Date <u>12-9-25</u>		Time <u>2200</u>		Received by: (Signature) <u>Cathy Mann</u>		Date <u>12-10-25</u>		Time <u>800</u>	
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time	

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

Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Envirotech Analytical Laboratory

Printed: 12/10/2025 9:51:14AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	12/10/25 08:00	Work Order ID:	E512081
Phone:	(575) 390-6397	Date Logged In:	12/09/25 14:59	Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	12/11/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

Carrier: Courier

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

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

13. See COC for individual sample temps. Samples outside of 0°C-6°C will be recorded in comments.

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client InstructionComments/Resolution

Project manager not provided on COC.
L-CM
R-KH

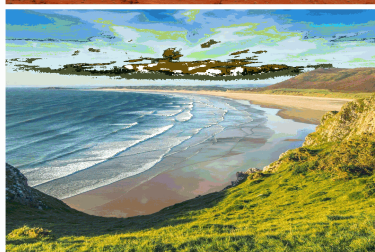
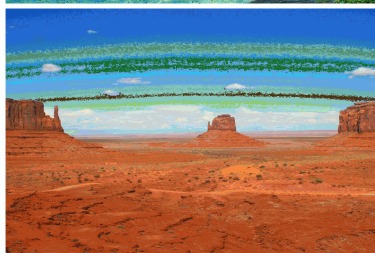
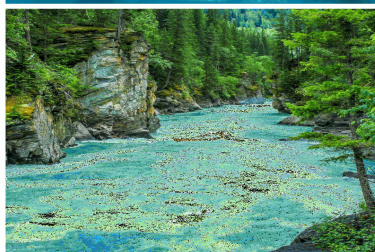
Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:
Natalie Gladden



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: FEE MAB #4

Work Order: E512106

Job Number: 20046-0001

Received: 12/11/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
12/12/25

5796 U.S. Hwy 64
Farmington, NM 87401

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



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

Date Reported: 12/12/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: FEE MAB #4
Workorder: E512106
Date Received: 12/11/2025 7:30:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/11/2025 7:30:00AM, under the Project Name: FEE MAB #4.

The analytical test results summarized in this report with the Project Name: FEE MAB #4 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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Sample Summary

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/12/25 12:20

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW COMP 7-2'	E512106-01A	Soil	12/09/25	12/11/25	Glass Jar, 2 oz.
SW COMP 8-5'	E512106-02A	Soil	12/09/25	12/11/25	Glass Jar, 2 oz.
SW COMP 9-12'	E512106-03A	Soil	12/09/25	12/11/25	Glass Jar, 2 oz.
SW COMP 10-12'	E512106-04A	Soil	12/09/25	12/11/25	Glass Jar, 2 oz.
SW COMP 11-3'	E512106-05A	Soil	12/09/25	12/11/25	Glass Jar, 2 oz.
SW COMP 12-1'	E512106-06A	Soil	12/09/25	12/11/25	Glass Jar, 2 oz.



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/12/2025 12:20:33PM

SW COMP 7-2'

E512106-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550071	
Benzene	ND	0.0250	1	12/11/25	12/11/25	
Ethylbenzene	ND	0.0250	1	12/11/25	12/11/25	
Toluene	ND	0.0250	1	12/11/25	12/11/25	
o-Xylene	ND	0.0250	1	12/11/25	12/11/25	
p,m-Xylene	ND	0.0500	1	12/11/25	12/11/25	
Total Xylenes	ND	0.0250	1	12/11/25	12/11/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.9 %	70-130		12/11/25	12/11/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550071	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/11/25	12/11/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	106 %	70-130		12/11/25	12/11/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2550070	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/11/25	12/11/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/11/25	12/11/25	
<i>Surrogate: n-Nonane</i>						
	95.4 %	61-141		12/11/25	12/11/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2550075	
Chloride	111	20.0	1	12/11/25	12/11/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/12/2025 12:20:33PM

SW COMP 8-5'

E512106-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550071	
Benzene	ND	0.0250	1	12/11/25	12/11/25	
Ethylbenzene	ND	0.0250	1	12/11/25	12/11/25	
Toluene	ND	0.0250	1	12/11/25	12/11/25	
o-Xylene	ND	0.0250	1	12/11/25	12/11/25	
p,m-Xylene	ND	0.0500	1	12/11/25	12/11/25	
Total Xylenes	ND	0.0250	1	12/11/25	12/11/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.7 %	70-130		12/11/25	12/11/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550071	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/11/25	12/11/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	101 %	70-130		12/11/25	12/11/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2550070	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/11/25	12/11/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/11/25	12/11/25	
<i>Surrogate: n-Nonane</i>						
	93.1 %	61-141		12/11/25	12/11/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2550075	
Chloride	249	20.0	1	12/11/25	12/11/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/12/2025 12:20:33PM

SW COMP 9-12'

E512106-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550071	
Benzene	ND	0.0250	1	12/11/25	12/11/25	
Ethylbenzene	ND	0.0250	1	12/11/25	12/11/25	
Toluene	ND	0.0250	1	12/11/25	12/11/25	
o-Xylene	ND	0.0250	1	12/11/25	12/11/25	
p,m-Xylene	ND	0.0500	1	12/11/25	12/11/25	
Total Xylenes	ND	0.0250	1	12/11/25	12/11/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.6 %	70-130		12/11/25	12/11/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550071	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/11/25	12/11/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	104 %	70-130		12/11/25	12/11/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2550070	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/11/25	12/11/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/11/25	12/11/25	
<i>Surrogate: n-Nonane</i>						
	95.9 %	61-141		12/11/25	12/11/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2550075	
Chloride	273	20.0	1	12/11/25	12/11/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/12/2025 12:20:33PM

SW COMP 10-12'

E512106-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550071	
Benzene	ND	0.0250	1	12/11/25	12/11/25	
Ethylbenzene	ND	0.0250	1	12/11/25	12/11/25	
Toluene	ND	0.0250	1	12/11/25	12/11/25	
o-Xylene	ND	0.0250	1	12/11/25	12/11/25	
p,m-Xylene	ND	0.0500	1	12/11/25	12/11/25	
Total Xylenes	ND	0.0250	1	12/11/25	12/11/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.9 %	70-130		12/11/25	12/11/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550071	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/11/25	12/11/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	102 %	70-130		12/11/25	12/11/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2550070	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/11/25	12/11/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/11/25	12/11/25	
<i>Surrogate: n-Nonane</i>						
	93.0 %	61-141		12/11/25	12/11/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2550075	
Chloride	136	20.0	1	12/11/25	12/11/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/12/2025 12:20:33PM

SW COMP 11-3'

E512106-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550071	
Benzene	ND	0.0250	1	12/11/25	12/11/25	
Ethylbenzene	ND	0.0250	1	12/11/25	12/11/25	
Toluene	ND	0.0250	1	12/11/25	12/11/25	
o-Xylene	ND	0.0250	1	12/11/25	12/11/25	
p,m-Xylene	ND	0.0500	1	12/11/25	12/11/25	
Total Xylenes	ND	0.0250	1	12/11/25	12/11/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.3 %	70-130		12/11/25	12/11/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550071	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/11/25	12/11/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	103 %	70-130		12/11/25	12/11/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2550070	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/11/25	12/11/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/11/25	12/11/25	
<i>Surrogate: n-Nonane</i>						
	95.8 %	61-141		12/11/25	12/11/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2550075	
Chloride	241	20.0	1	12/11/25	12/11/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: FEE MAB #4
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/12/2025 12:20:33PM

SW COMP 12-1'

E512106-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550071	
Benzene	ND	0.0250	1	12/11/25	12/11/25	
Ethylbenzene	ND	0.0250	1	12/11/25	12/11/25	
Toluene	ND	0.0250	1	12/11/25	12/11/25	
o-Xylene	ND	0.0250	1	12/11/25	12/11/25	
p,m-Xylene	ND	0.0500	1	12/11/25	12/11/25	
Total Xylenes	ND	0.0250	1	12/11/25	12/11/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	12/11/25	12/11/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: MB		Batch: 2550071	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/11/25	12/11/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		103 %	70-130	12/11/25	12/11/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2550070	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/11/25	12/11/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/11/25	12/11/25	
<i>Surrogate: n-Nonane</i>						
		95.4 %	61-141	12/11/25	12/11/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2550075	
Chloride	109	20.0	1	12/11/25	12/11/25	



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/12/2025 12:20:33PM

Volatile Organics by EPA 8021B

Analyst: MB

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2550071-BLK1)

Prepared: 12/11/25 Analyzed: 12/11/25

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	8.67		8.00		108	70-130			

LCS (2550071-BS1)

Prepared: 12/11/25 Analyzed: 12/11/25

Benzene	4.52	0.0250	5.00		90.3	70-130			
Ethylbenzene	4.31	0.0250	5.00		86.1	70-130			
Toluene	4.46	0.0250	5.00		89.3	70-130			
o-Xylene	4.37	0.0250	5.00		87.4	70-130			
p,m-Xylene	8.82	0.0500	10.0		88.2	70-130			
Total Xylenes	13.2	0.0250	15.0		88.0	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.28		8.00		104	70-130			

Matrix Spike (2550071-MS1)

Source: E512105-02

Prepared: 12/11/25 Analyzed: 12/11/25

Benzene	4.53	0.0250	5.00	ND	90.7	70-130			
Ethylbenzene	4.31	0.0250	5.00	ND	86.2	70-130			
Toluene	4.47	0.0250	5.00	ND	89.5	70-130			
o-Xylene	4.36	0.0250	5.00	ND	87.2	70-130			
p,m-Xylene	8.81	0.0500	10.0	ND	88.1	70-130			
Total Xylenes	13.2	0.0250	15.0	ND	87.8	70-130			
Surrogate: 4-Bromochlorobenzene-PID	9.00		8.00		113	70-130			

Matrix Spike Dup (2550071-MSD1)

Source: E512105-02

Prepared: 12/11/25 Analyzed: 12/11/25

Benzene	4.85	0.0250	5.00	ND	97.0	70-130	6.72	27	
Ethylbenzene	4.61	0.0250	5.00	ND	92.1	70-130	6.61	26	
Toluene	4.77	0.0250	5.00	ND	95.5	70-130	6.48	20	
o-Xylene	4.66	0.0250	5.00	ND	93.2	70-130	6.59	25	
p,m-Xylene	9.40	0.0500	10.0	ND	94.0	70-130	6.46	23	
Total Xylenes	14.1	0.0250	15.0	ND	93.7	70-130	6.50	26	
Surrogate: 4-Bromochlorobenzene-PID	8.93		8.00		112	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/12/2025 12:20:33PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: MB

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2550071-BLK1) Prepared: 12/11/25 Analyzed: 12/11/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.98		8.00		112	70-130			

LCS (2550071-BS2) Prepared: 12/11/25 Analyzed: 12/11/25

Gasoline Range Organics (C6-C10)	46.5	20.0	50.0		92.9	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.05		8.00		113	70-130			

Matrix Spike (2550071-MS2) Source: E512105-02 Prepared: 12/11/25 Analyzed: 12/11/25

Gasoline Range Organics (C6-C10)	54.1	20.0	50.0	ND	108	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.16		8.00		115	70-130			

Matrix Spike Dup (2550071-MSD2) Source: E512105-02 Prepared: 12/11/25 Analyzed: 12/11/25

Gasoline Range Organics (C6-C10)	55.3	20.0	50.0	ND	111	70-130	2.25	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.94		8.00		112	70-130			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/12/2025 12:20:33PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: HM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2550070-BLK1)					Prepared: 12/11/25 Analyzed: 12/11/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	46.9		50.0		93.9	61-141			

LCS (2550070-BS1)					Prepared: 12/11/25 Analyzed: 12/11/25				
Diesel Range Organics (C10-C28)	253	25.0	250		101	66-144			
Surrogate: n-Nonane	49.0		50.0		97.9	61-141			

Matrix Spike (2550070-MS1)					Source: E512103-01		Prepared: 12/11/25 Analyzed: 12/11/25		
Diesel Range Organics (C10-C28)	272	25.0	250	ND	109	56-156			
Surrogate: n-Nonane	53.1		50.0		106	61-141			

Matrix Spike Dup (2550070-MSD1)					Source: E512103-01		Prepared: 12/11/25 Analyzed: 12/11/25		
Diesel Range Organics (C10-C28)	266	25.0	250	ND	106	56-156	2.05	20	
Surrogate: n-Nonane	52.1		50.0		104	61-141			



QC Summary Data

Mack Energy	Project Name:	FEE MAB #4	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/12/2025 12:20:33PM

Anions by EPA 300.0/9056A

Analyst: TP

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

Blank (2550075-BLK1)					Prepared: 12/11/25 Analyzed: 12/11/25				
Chloride	ND	20.0							
LCS (2550075-BS1)					Prepared: 12/11/25 Analyzed: 12/11/25				
Chloride	255	20.0	250		102	90-110			
Matrix Spike (2550075-MS1)					Source: E512113-03		Prepared: 12/11/25 Analyzed: 12/11/25		
Chloride	260	20.0	250	ND	104	80-120			
Matrix Spike Dup (2550075-MSD1)					Source: E512113-03		Prepared: 12/11/25 Analyzed: 12/11/25		
Chloride	261	20.0	250	ND	104	80-120	0.166	20	

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



Definitions and Notes

Mack Energy	Project Name:	FEE MAB #4	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/12/25 12:20

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

DNR Did not react with the addition of acid or base.

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

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



[illegible]

Envirotech Analytical Laboratory

Printed: 12/11/2025 8:44:35AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	12/11/25 07:30	Work Order ID:	E512106
Phone:	(575) 390-6397	Date Logged In:	12/10/25 15:26	Logged In By:	Caitlin Mars
Email:	Natalie@energystaffingllc.com	Due Date:	12/12/25 17:00 (1 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

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

Sample Cooler

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

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

13. See COC for individual sample temps. Samples outside of 0°C-6°C will be recorded in comments.

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

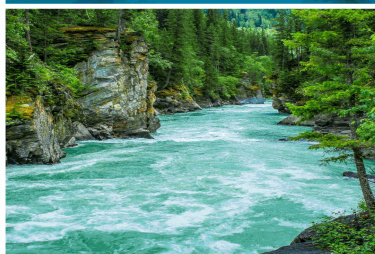
Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:
Natalie Gladden



5796 U.S. Hwy 64
Farmington, NM 87401

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



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Mack Energy

Project Name: MAB 7 (PAD)

Work Order: E512125

Job Number: 20046-0001

Received: 12/16/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
12/16/25

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: 12/16/25



Natalie Gladden
7 W. Compress Road
Artesia, NM 88210

Project Name: MAB 7 (PAD)
Workorder: E512125
Date Received: 12/16/2025 8:00:00AM

Natalie Gladden,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/16/2025 8:00:00AM, under the Project Name: MAB 7 (PAD).

The analytical test results summarized in this report with the Project Name: MAB 7 (PAD) apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

Walter Hinchman
Laboratory Director
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Cell: 775-287-1762
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Sample Summary

Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: MAB 7 (PAD) Project Number: 20046-0001 Project Manager: Natalie Gladden	Reported: 12/16/25 15:44
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Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SP1 - Surf	E512125-01A	Soil	12/11/25	12/16/25	Glass Jar, 2 oz.
SP2 - Surf	E512125-02A	Soil	12/11/25	12/16/25	Glass Jar, 2 oz.
SP3 - Surf	E512125-03A	Soil	12/11/25	12/16/25	Glass Jar, 2 oz.
SP4 - Surf	E512125-04A	Soil	12/11/25	12/16/25	Glass Jar, 2 oz.
SP5 - Surf	E512125-05A	Soil	12/11/25	12/16/25	Glass Jar, 2 oz.
SP6 - Surf	E512125-06A	Soil	12/11/25	12/16/25	Glass Jar, 2 oz.
SP7 - Surf	E512125-07A	Soil	12/11/25	12/16/25	Glass Jar, 2 oz.
SP8 - Surf	E512125-08A	Soil	12/11/25	12/16/25	Glass Jar, 2 oz.
SP9 - Surf	E512125-09A	Soil	12/11/25	12/16/25	Glass Jar, 2 oz.



Sample Data

Mack Energy 7 W. Compress Road Artesia NM, 88210	Project Name: MAB 7 (PAD) Project Number: 20046-0001 Project Manager: Natalie Gladden	Reported: 12/16/2025 3:44:10PM
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SP1 - Surf

E512125-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Benzene	ND	0.0250	1	12/15/25	12/16/25	
Ethylbenzene	ND	0.0250	1	12/15/25	12/16/25	
Toluene	ND	0.0250	1	12/15/25	12/16/25	
o-Xylene	ND	0.0250	1	12/15/25	12/16/25	
p,m-Xylene	ND	0.0500	1	12/15/25	12/16/25	
Total Xylenes	ND	0.0250	1	12/15/25	12/16/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	<i>90.5 %</i>	<i>70-130</i>		<i>12/15/25</i>	<i>12/16/25</i>	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/15/25	12/16/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	<i>91.8 %</i>	<i>70-130</i>		<i>12/15/25</i>	<i>12/16/25</i>	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV		Batch: 2551031	
Diesel Range Organics (C10-C28)	68.4	25.0	1	12/16/25	12/16/25	
Oil Range Organics (C28-C36)	192	50.0	1	12/16/25	12/16/25	
<i>Surrogate: n-Nonane</i>	<i>94.9 %</i>	<i>61-141</i>		<i>12/16/25</i>	<i>12/16/25</i>	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: TP		Batch: 2551033	
Chloride	101	20.0	1	12/16/25	12/16/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 7 (PAD)
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/16/2025 3:44:10PM

SP2 - Surf

E512125-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Benzene	ND	0.0250	1	12/15/25	12/16/25	
Ethylbenzene	ND	0.0250	1	12/15/25	12/16/25	
Toluene	ND	0.0250	1	12/15/25	12/16/25	
o-Xylene	ND	0.0250	1	12/15/25	12/16/25	
p,m-Xylene	ND	0.0500	1	12/15/25	12/16/25	
Total Xylenes	ND	0.0250	1	12/15/25	12/16/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.2 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/15/25	12/16/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	92.9 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2551031	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/16/25	12/16/25	
Oil Range Organics (C28-C36)	57.7	50.0	1	12/16/25	12/16/25	
<i>Surrogate: n-Nonane</i>						
	95.8 %	61-141		12/16/25	12/16/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2551033	
Chloride	491	20.0	1	12/16/25	12/16/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 7 (PAD)
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/16/2025 3:44:10PM

SP3 - Surf

E512125-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Benzene	ND	0.0250	1	12/15/25	12/16/25	
Ethylbenzene	ND	0.0250	1	12/15/25	12/16/25	
Toluene	ND	0.0250	1	12/15/25	12/16/25	
o-Xylene	ND	0.0250	1	12/15/25	12/16/25	
p,m-Xylene	ND	0.0500	1	12/15/25	12/16/25	
Total Xylenes	ND	0.0250	1	12/15/25	12/16/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.2 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/15/25	12/16/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.4 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2551031	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/16/25	12/16/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/16/25	12/16/25	
<i>Surrogate: n-Nonane</i>						
	96.4 %	61-141		12/16/25	12/16/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2551033	
Chloride	328	20.0	1	12/16/25	12/16/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 7 (PAD)
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/16/2025 3:44:10PM

SP4 - Surf

E512125-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Benzene	ND	0.0250	1	12/15/25	12/16/25	
Ethylbenzene	ND	0.0250	1	12/15/25	12/16/25	
Toluene	ND	0.0250	1	12/15/25	12/16/25	
o-Xylene	ND	0.0250	1	12/15/25	12/16/25	
p,m-Xylene	ND	0.0500	1	12/15/25	12/16/25	
Total Xylenes	ND	0.0250	1	12/15/25	12/16/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	91.2 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/15/25	12/16/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	91.4 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2551031	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/16/25	12/16/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/16/25	12/16/25	
<i>Surrogate: n-Nonane</i>						
	97.2 %	61-141		12/16/25	12/16/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2551033	
Chloride	354	20.0	1	12/16/25	12/16/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 7 (PAD)
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/16/2025 3:44:10PM

SP5 - Surf

E512125-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Benzene	ND	0.0250	1	12/15/25	12/16/25	
Ethylbenzene	ND	0.0250	1	12/15/25	12/16/25	
Toluene	ND	0.0250	1	12/15/25	12/16/25	
o-Xylene	ND	0.0250	1	12/15/25	12/16/25	
p,m-Xylene	ND	0.0500	1	12/15/25	12/16/25	
Total Xylenes	ND	0.0250	1	12/15/25	12/16/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.6 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/15/25	12/16/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	91.6 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2551031	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/16/25	12/16/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/16/25	12/16/25	
<i>Surrogate: n-Nonane</i>						
	97.3 %	61-141		12/16/25	12/16/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2551033	
Chloride	256	20.0	1	12/16/25	12/16/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 7 (PAD)
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/16/2025 3:44:10PM

SP6 - Surf

E512125-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Benzene	ND	0.0250	1	12/15/25	12/16/25	
Ethylbenzene	ND	0.0250	1	12/15/25	12/16/25	
Toluene	ND	0.0250	1	12/15/25	12/16/25	
o-Xylene	ND	0.0250	1	12/15/25	12/16/25	
p,m-Xylene	ND	0.0500	1	12/15/25	12/16/25	
Total Xylenes	ND	0.0250	1	12/15/25	12/16/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.6 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/15/25	12/16/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.5 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2551031	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/16/25	12/16/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/16/25	12/16/25	
<i>Surrogate: n-Nonane</i>						
	102 %	61-141		12/16/25	12/16/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2551033	
Chloride	227	20.0	1	12/16/25	12/16/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 7 (PAD)
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/16/2025 3:44:10PM

SP7 - Surf

E512125-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Benzene	ND	0.0250	1	12/15/25	12/16/25	
Ethylbenzene	ND	0.0250	1	12/15/25	12/16/25	
Toluene	ND	0.0250	1	12/15/25	12/16/25	
o-Xylene	ND	0.0250	1	12/15/25	12/16/25	
p,m-Xylene	ND	0.0500	1	12/15/25	12/16/25	
Total Xylenes	ND	0.0250	1	12/15/25	12/16/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.3 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/15/25	12/16/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.5 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2551031	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/16/25	12/16/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/16/25	12/16/25	
<i>Surrogate: n-Nonane</i>						
	99.7 %	61-141		12/16/25	12/16/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2551033	
Chloride	409	20.0	1	12/16/25	12/16/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 7 (PAD)
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/16/2025 3:44:10PM

SP8 - Surf

E512125-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Benzene	ND	0.0250	1	12/15/25	12/16/25	
Ethylbenzene	ND	0.0250	1	12/15/25	12/16/25	
Toluene	ND	0.0250	1	12/15/25	12/16/25	
o-Xylene	ND	0.0250	1	12/15/25	12/16/25	
p,m-Xylene	ND	0.0500	1	12/15/25	12/16/25	
Total Xylenes	ND	0.0250	1	12/15/25	12/16/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	93.0 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/15/25	12/16/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.0 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2551031	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/16/25	12/16/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/16/25	12/16/25	
<i>Surrogate: n-Nonane</i>						
	99.9 %	61-141		12/16/25	12/16/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2551033	
Chloride	176	20.0	1	12/16/25	12/16/25	



Sample Data

Mack Energy
7 W. Compress Road
Artesia NM, 88210

Project Name: MAB 7 (PAD)
Project Number: 20046-0001
Project Manager: Natalie Gladden

Reported:
12/16/2025 3:44:10PM

SP9 - Surf

E512125-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Benzene	ND	0.0250	1	12/15/25	12/16/25	
Ethylbenzene	ND	0.0250	1	12/15/25	12/16/25	
Toluene	ND	0.0250	1	12/15/25	12/16/25	
o-Xylene	ND	0.0250	1	12/15/25	12/16/25	
p,m-Xylene	ND	0.0500	1	12/15/25	12/16/25	
Total Xylenes	ND	0.0250	1	12/15/25	12/16/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.1 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: BA		Batch: 2551030	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/15/25	12/16/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	92.0 %	70-130		12/15/25	12/16/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2551031	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/16/25	12/16/25	
Oil Range Organics (C28-C36)	ND	50.0	1	12/16/25	12/16/25	
<i>Surrogate: n-Nonane</i>						
	102 %	61-141		12/16/25	12/16/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: TP		Batch: 2551033	
Chloride	169	20.0	1	12/16/25	12/16/25	



QC Summary Data

Mack Energy	Project Name:	MAB 7 (PAD)	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/16/2025 3:44:10PM

Volatile Organics by EPA 8021B

Analyst: BA

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2551030-BLK1)

Prepared: 12/15/25 Analyzed: 12/15/25

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	7.70		8.00		96.2	70-130			

LCS (2551030-BS1)

Prepared: 12/15/25 Analyzed: 12/15/25

Benzene	4.36	0.0250	5.00		87.2	70-130			
Ethylbenzene	4.09	0.0250	5.00		81.7	70-130			
Toluene	4.26	0.0250	5.00		85.1	70-130			
o-Xylene	4.15	0.0250	5.00		83.0	70-130			
p,m-Xylene	8.34	0.0500	10.0		83.4	70-130			
Total Xylenes	12.5	0.0250	15.0		83.3	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.80		8.00		97.5	70-130			

Matrix Spike (2551030-MS1)

Source: E512134-02

Prepared: 12/15/25 Analyzed: 12/15/25

Benzene	5.11	0.0250	5.00	ND	102	70-130			
Ethylbenzene	4.81	0.0250	5.00	0.0389	95.5	70-130			
Toluene	4.99	0.0250	5.00	ND	99.7	70-130			
o-Xylene	5.06	0.0250	5.00	0.107	99.0	70-130			
p,m-Xylene	9.91	0.0500	10.0	0.270	96.4	70-130			
Total Xylenes	15.0	0.0250	15.0	0.377	97.3	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.85		8.00		98.1	70-130			

Matrix Spike Dup (2551030-MSD1)

Source: E512134-02

Prepared: 12/15/25 Analyzed: 12/15/25

Benzene	5.12	0.0250	5.00	ND	102	70-130	0.192	27	
Ethylbenzene	4.84	0.0250	5.00	0.0389	96.1	70-130	0.613	26	
Toluene	5.00	0.0250	5.00	ND	100	70-130	0.245	20	
o-Xylene	5.09	0.0250	5.00	0.107	99.7	70-130	0.672	25	
p,m-Xylene	9.96	0.0500	10.0	0.270	96.9	70-130	0.565	23	
Total Xylenes	15.1	0.0250	15.0	0.377	97.9	70-130	0.601	26	
Surrogate: 4-Bromochlorobenzene-PID	7.69		8.00		96.2	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 7 (PAD)	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/16/2025 3:44:10PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: BA

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2551030-BLK1)					Prepared: 12/15/25 Analyzed: 12/15/25				
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.27		8.00		90.9	70-130			

LCS (2551030-BS2)					Prepared: 12/15/25 Analyzed: 12/15/25				
Gasoline Range Organics (C6-C10)	50.7	20.0	50.0		101	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.42		8.00		92.7	70-130			

Matrix Spike (2551030-MS2)					Source: E512134-02		Prepared: 12/15/25 Analyzed: 12/15/25		
Gasoline Range Organics (C6-C10)	57.6	20.0	50.0	ND	115	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.52		8.00		94.0	70-130			

Matrix Spike Dup (2551030-MSD2)					Source: E512134-02		Prepared: 12/15/25 Analyzed: 12/15/25		
Gasoline Range Organics (C6-C10)	60.4	20.0	50.0	ND	121	70-130	4.68	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.40		8.00		92.5	70-130			



QC Summary Data

Mack Energy	Project Name:	MAB 7 (PAD)	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/16/2025 3:44:10PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: NV

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2551031-BLK1)					Prepared: 12/16/25 Analyzed: 12/16/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	49.7		50.0		99.3	61-141			

LCS (2551031-BS1)					Prepared: 12/16/25 Analyzed: 12/16/25				
Diesel Range Organics (C10-C28)	241	25.0	250		96.4	66-144			
Surrogate: n-Nonane	46.7		50.0		93.4	61-141			

Matrix Spike (2551031-MS1)					Source: E512125-01		Prepared: 12/16/25 Analyzed: 12/16/25		
Diesel Range Organics (C10-C28)	308	25.0	250	68.4	95.7	56-156			
Surrogate: n-Nonane	46.5		50.0		93.0	61-141			

Matrix Spike Dup (2551031-MSD1)					Source: E512125-01		Prepared: 12/16/25 Analyzed: 12/16/25		
Diesel Range Organics (C10-C28)	313	25.0	250	68.4	97.7	56-156	1.61	20	
Surrogate: n-Nonane	48.4		50.0		96.8	61-141			



QC Summary Data

Mack Energy	Project Name:	MAB 7 (PAD)	Reported:
7 W. Compress Road	Project Number:	20046-0001	
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/16/2025 3:44:10PM

Anions by EPA 300.0/9056A

Analyst: TP

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

Blank (2551033-BLK1)					Prepared: 12/16/25 Analyzed: 12/16/25				
Chloride	ND	20.0							
LCS (2551033-BS1)					Prepared: 12/16/25 Analyzed: 12/16/25				
Chloride	258	20.0	250		103	90-110			
Matrix Spike (2551033-MS1)					Source: E512125-05		Prepared: 12/16/25 Analyzed: 12/16/25		
Chloride	510	20.0	250	256	101	80-120			
Matrix Spike Dup (2551033-MSD1)					Source: E512125-05		Prepared: 12/16/25 Analyzed: 12/16/25		
Chloride	519	20.0	250	256	105	80-120	1.72	20	

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



Definitions and Notes

Mack Energy	Project Name:	MAB 7 (PAD)	
7 W. Compress Road	Project Number:	20046-0001	Reported:
Artesia NM, 88210	Project Manager:	Natalie Gladden	12/16/25 15:44

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.
- Note (1): Methods marked with ** are non-accredited methods.
- Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Client Information				Invoice Information		Lab Use Only		TAT		State										
Client: <u>MAACK ENERGY</u>				Company: <u>ESS</u>		Lab WO# <u>E512125</u>		Job Number <u>2046-0001</u>		1D	2D	3D	Std	NM	CO	UT	TX			
Project Name: <u>MA 3 7 (P30)</u>				Address: <u></u>										X						
Project Manager: <u></u>				City, State, Zip: <u></u>																
Address: <u></u>				Phone: <u></u>																
City, State, Zip: <u></u>				Email: <u></u>																
Phone: <u></u>				Miscellaneous: <u></u>																
Email: <u></u>																				
Sample Information					Analysis and Method										EPA Program					
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	TCQ 1005 - TX	RCRA 8 Metals	BGDOC - NM	BGDOC - TX	SDWA	CWA	RCRA		
																	Compliance	Y	or	N
																	PWSID #			
																	Sample Temp		Remarks	
730	12/11/25	S	1	SP1 - S4RF		1								X			5.1			
745				SP2 - S4RF		2											5.5			
755				SP3 - S4RF		3											5.6			
810				SP4 - S4RF		4											5.5			
830				SP5 - S4RF		5											5.5			
840				SP6 - S4RF		6											5.6			
850				SP7 - S4RF		7											5.5			
910				SP8 - S4RF		8											5.2			
930	12/11/25	S	1	SP9 - S4RF		9								X			5.2			
Additional Instructions:																				
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.																				
Sampled by: <u>M. RIVERA</u>																				
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		Samples requiring thermal preservation must be received on ice the day they are sampled or received packed on ice at a temp above 0 but less than 6°C on subsequent days. Lab Use Only Received on Ice: <u>(C) N</u>								
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time										
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time										
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time										
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time										
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____																				
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA																				
Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																				

Envirotech Analytical Laboratory

Printed: 12/16/2025 9:19:36AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Mack Energy	Date Received:	12/16/25 08:00	Work Order ID:	E512125
Phone:	(575) 390-6397	Date Logged In:	12/12/25 15:49	Logged In By:	Noe Soto
Email:	Natalie@energystaffingllc.com	Due Date:	12/16/25 17:00 (0 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? No
5. Were all samples received within holding time? Yes

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

Carrier: CourierComments/Resolution

Project manager not provided on COC by client.
L-DT
R-NV

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

13. See COC for individual sample temps. Samples outside of 0°C-6°C will be recorded in comments.

Sample Container

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

Field Label

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

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

FACILITY EXCAVATION, COMPOSITE AND BACKFILL PHOTOS



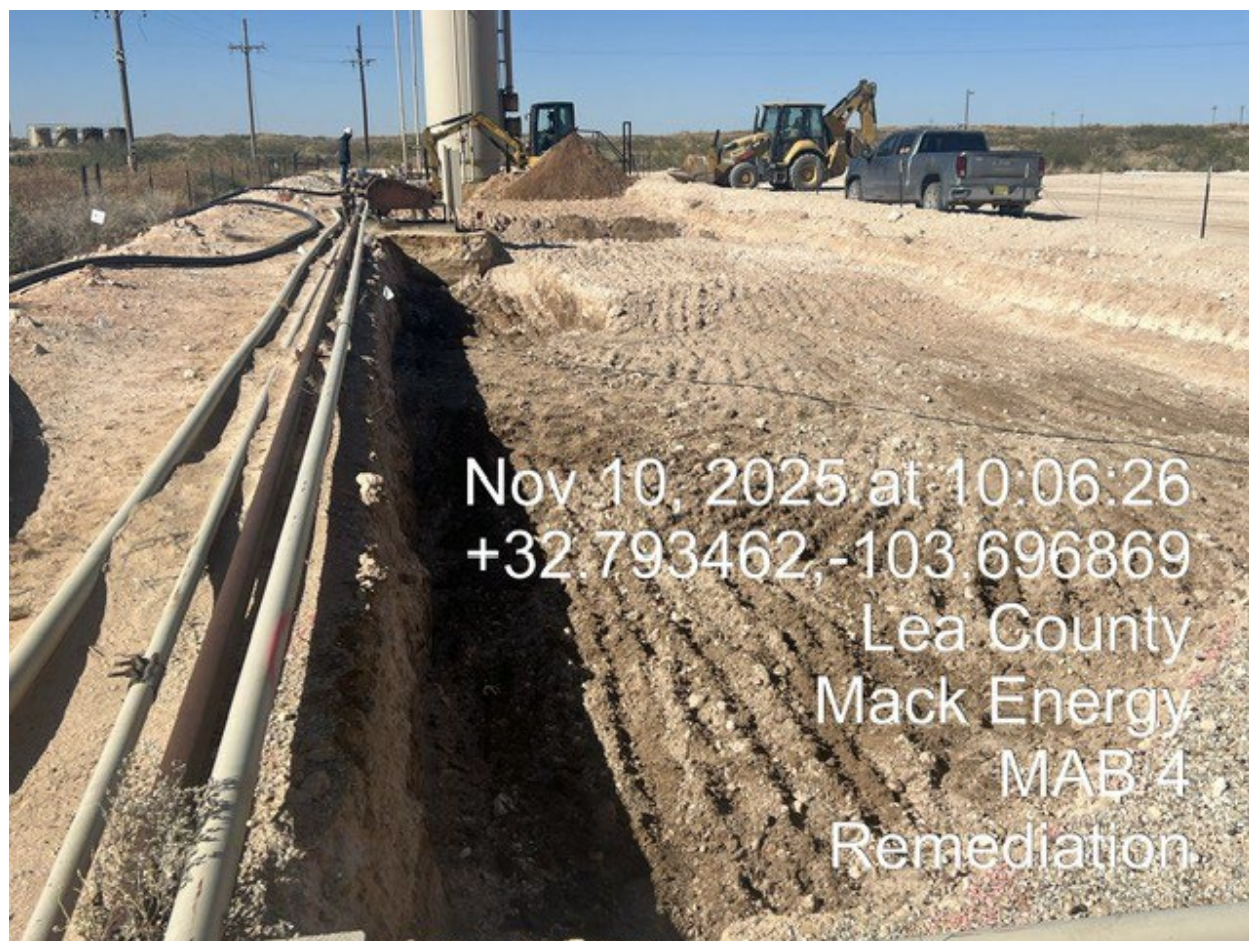






Nov 10, 2025 at 09:20:20
+32.793607,-103.697012

Lea County
Mack Energy
MAB 4
Remediation





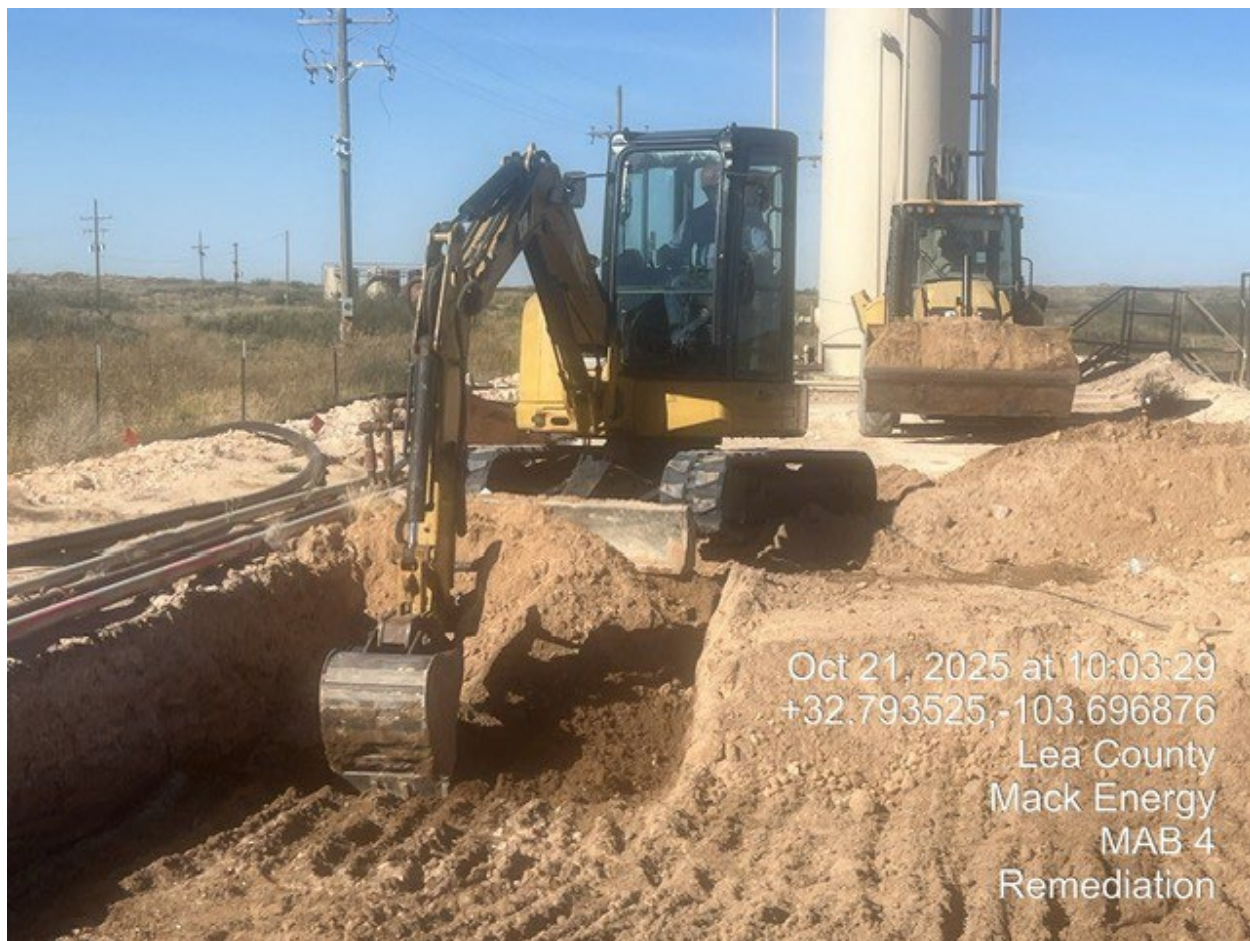


Nov 10, 2025 at 12:55:42
+32.793497,-103.697296
Lea County
Mack Energy
MAB 4
Remediation



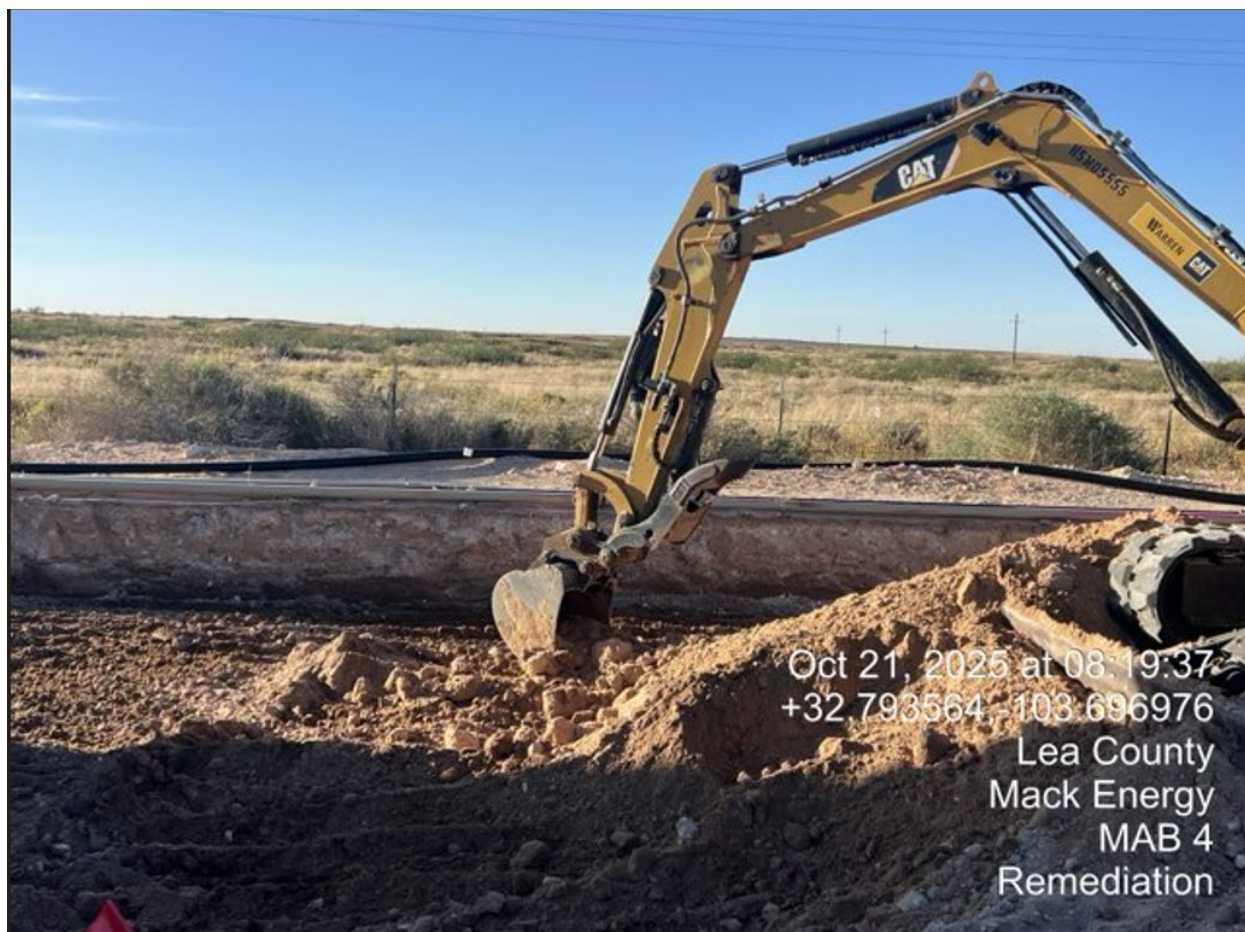
Oct 21, 2025 at 09:27:07
+32.793575,-103.696966
Lea County
Mack Energy
MAB 4
Remediation





Oct 21, 2025 at 10:03:29
+32.793525,-103.696876
Lea County
Mack Energy
MAB 4
Remediation

















Oct 21, 2025 at 09:28:54
+32.793515 -103.696933
Lea County
Mack Energy
MAB 4
Remediation













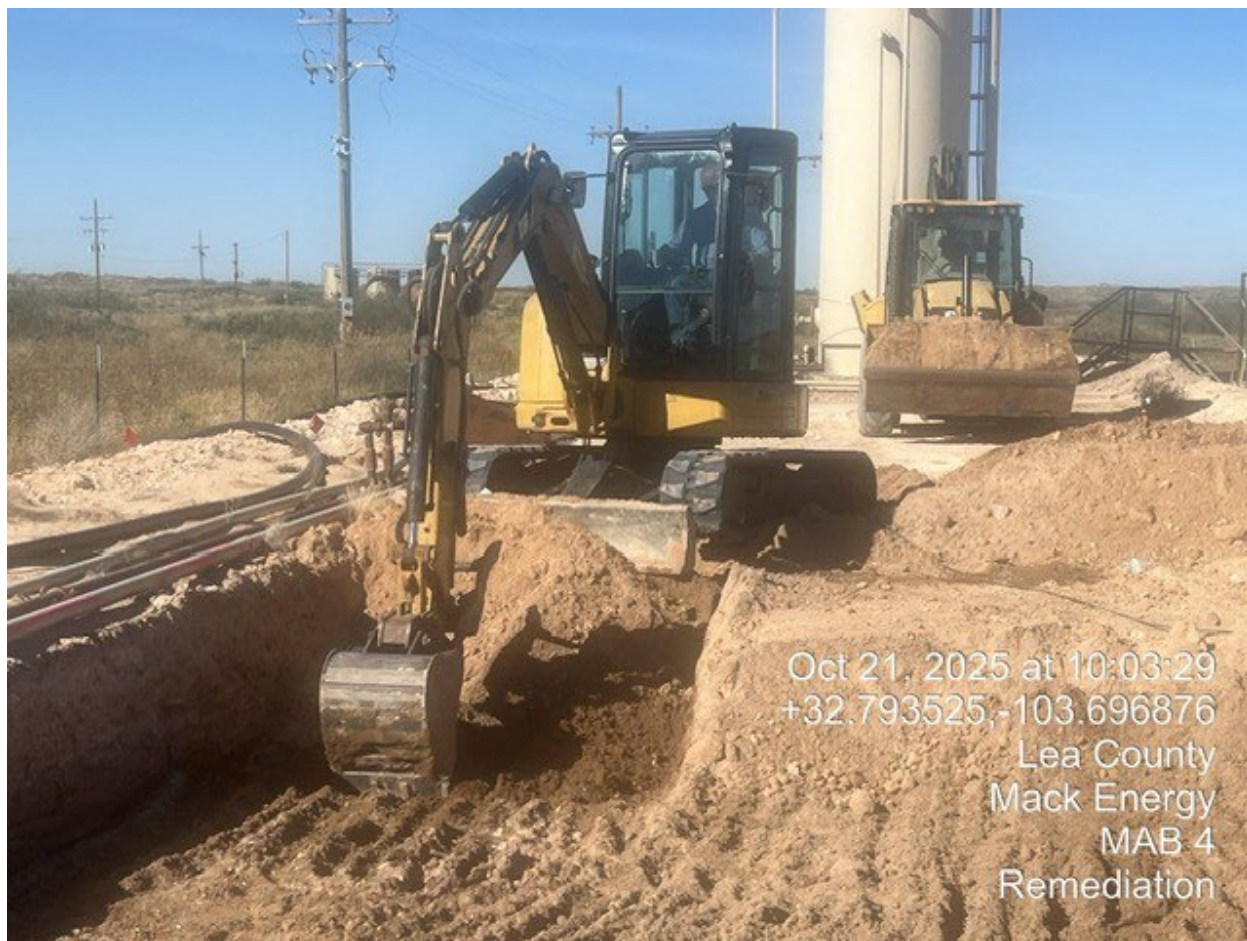






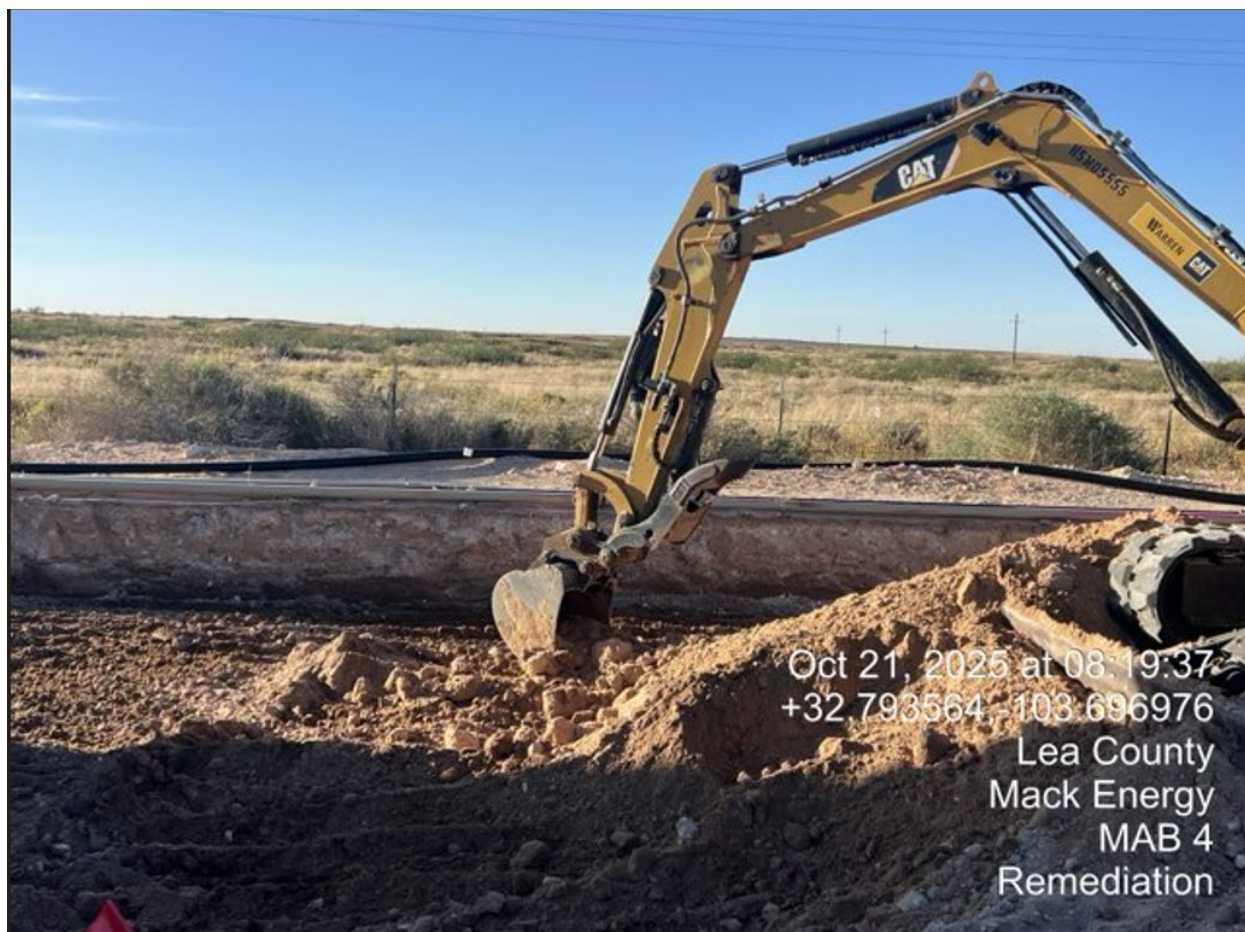






Oct 21, 2025 at 10:03:29
+32.793525,-103.696876
Lea County
Mack Energy
MAB 4
Remediation

























Nov 25, 2025 at 12:04:45

+32.793570,-103.697075

Lea County

Mack Energy

FEE MAB | 4

Remediation

Haul-off



















Dec 8, 2025 at 11:16:07
+32.793404,-103.697426
Lea County
Mack Energy
Fee MAB 4
Composites







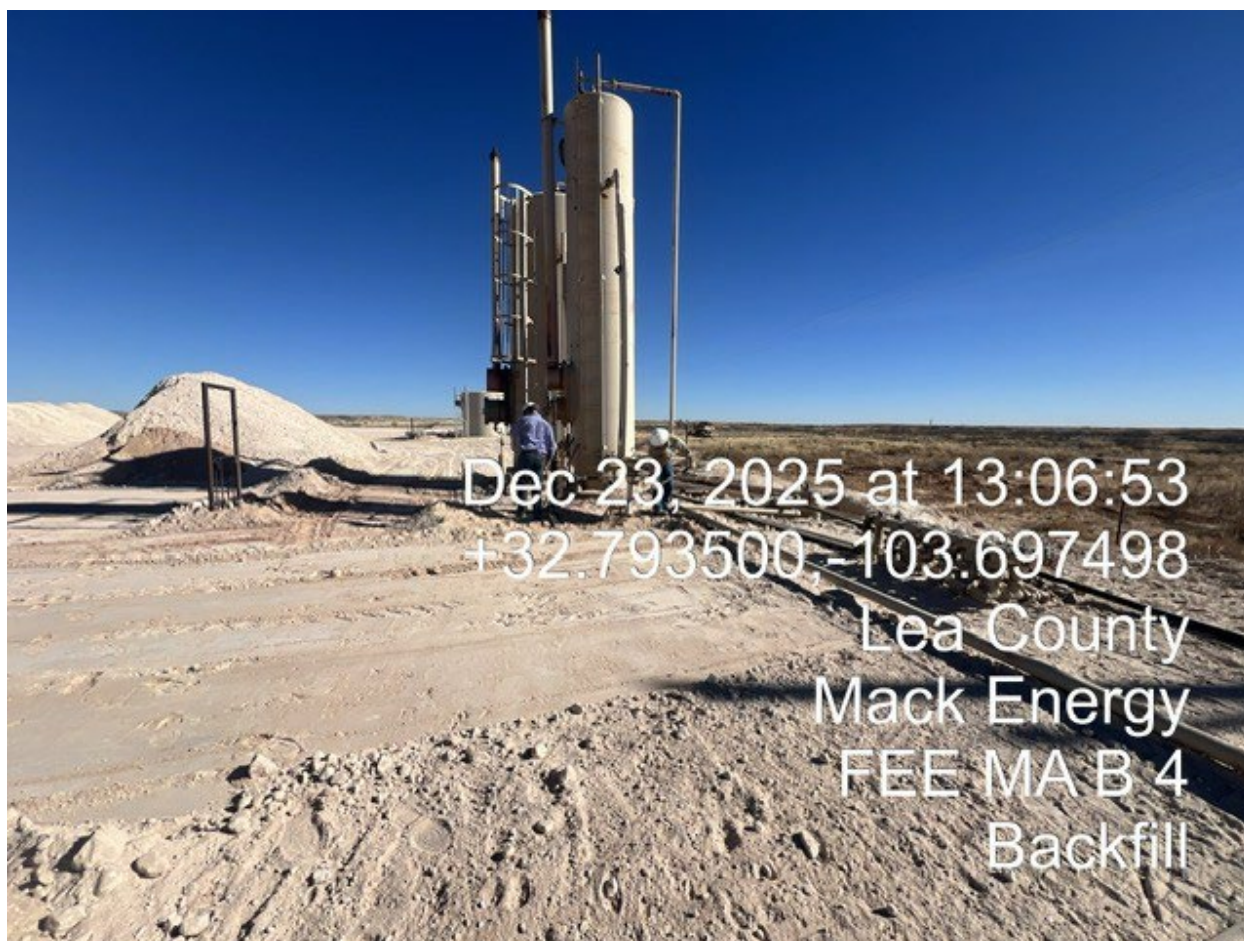


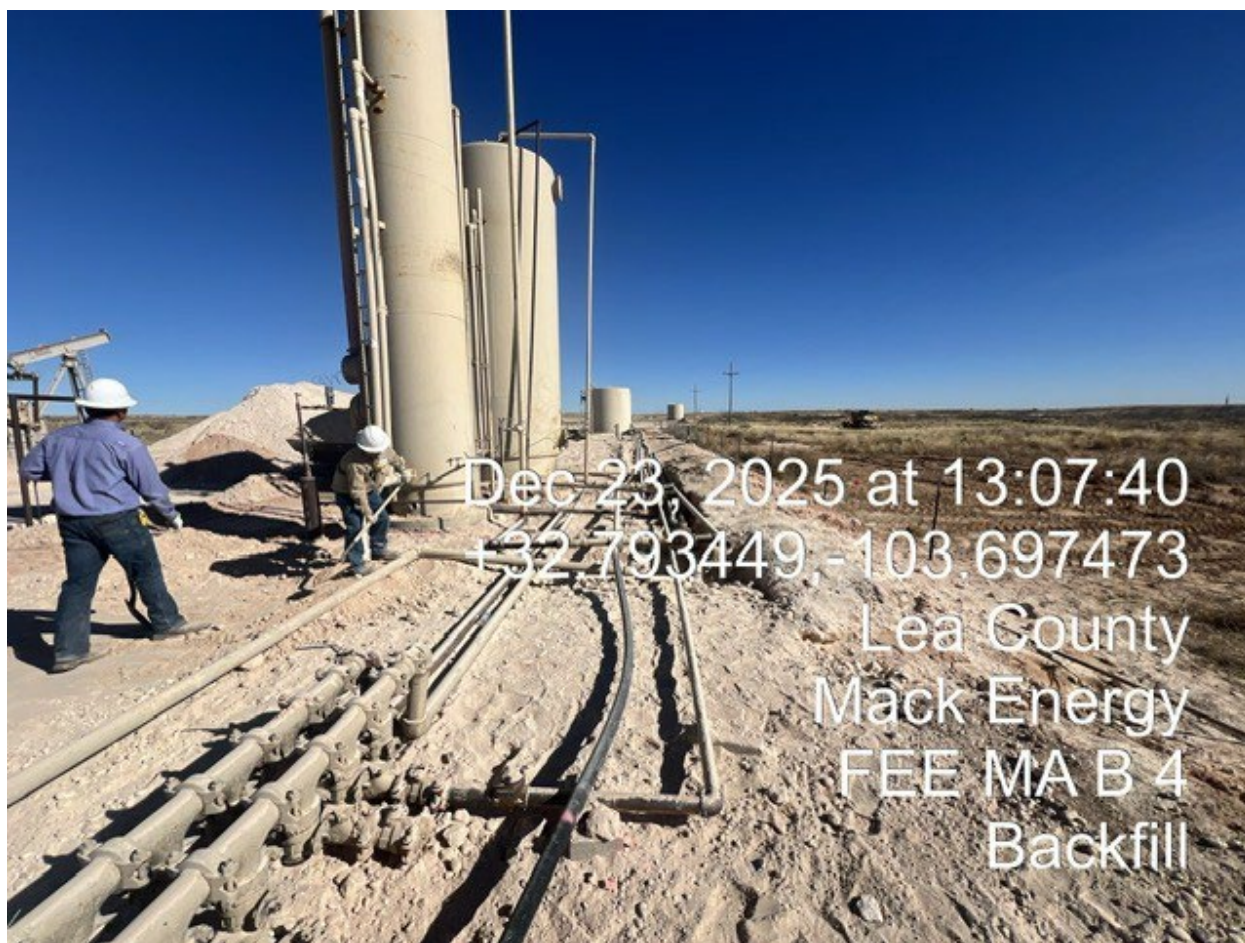
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+32.793773,-103.696958

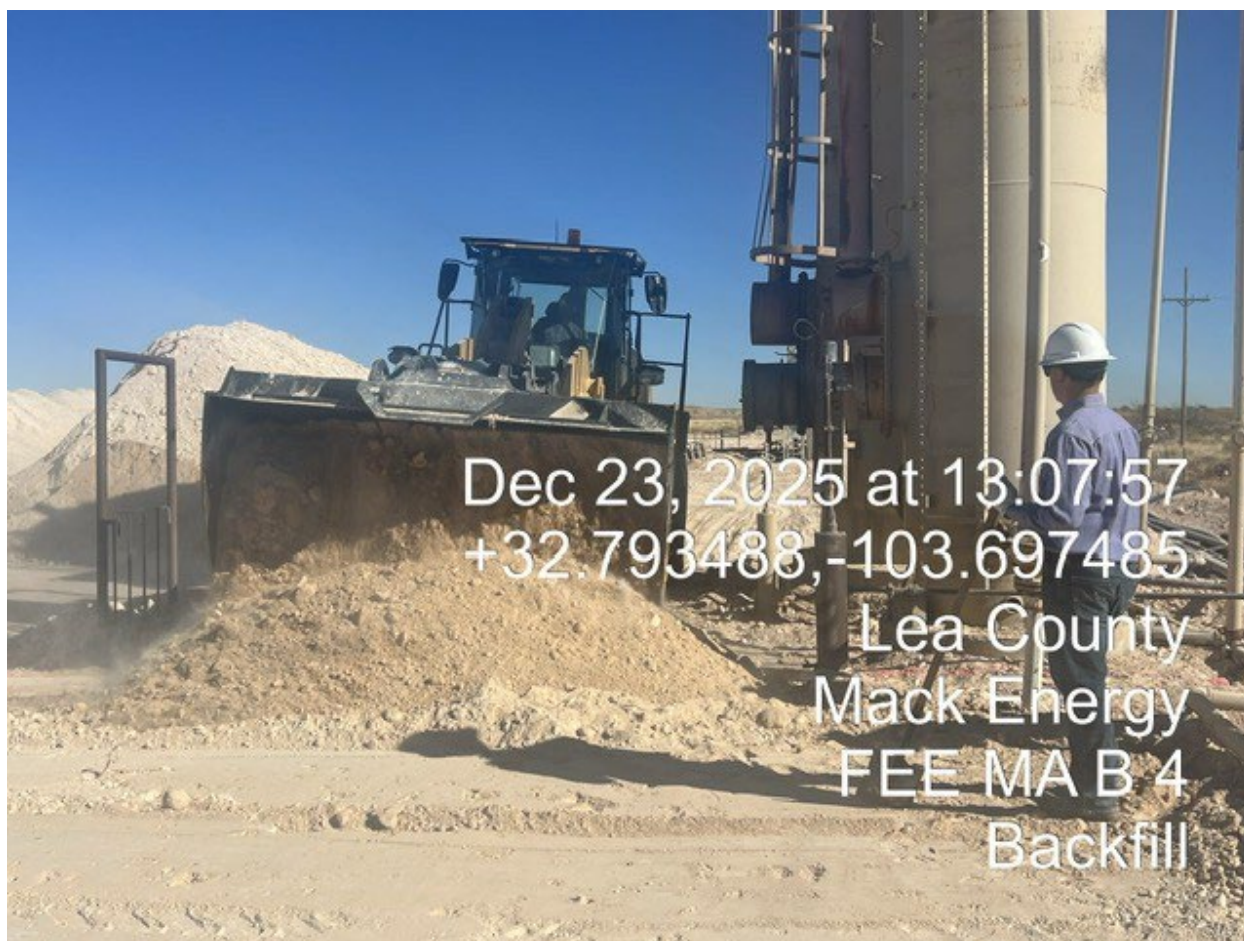
Lea County
Mack Energy
MAB 7
Caliche push up



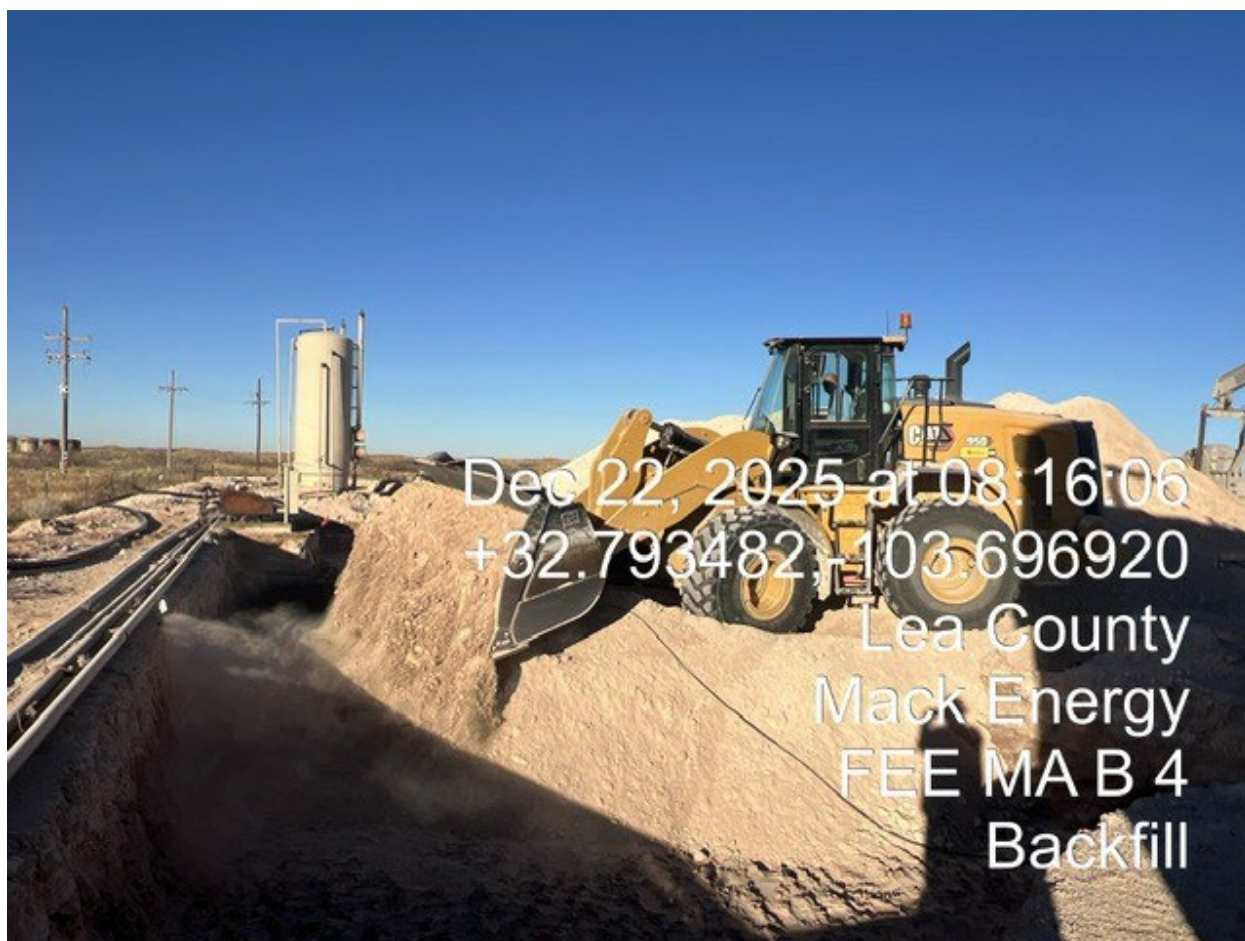


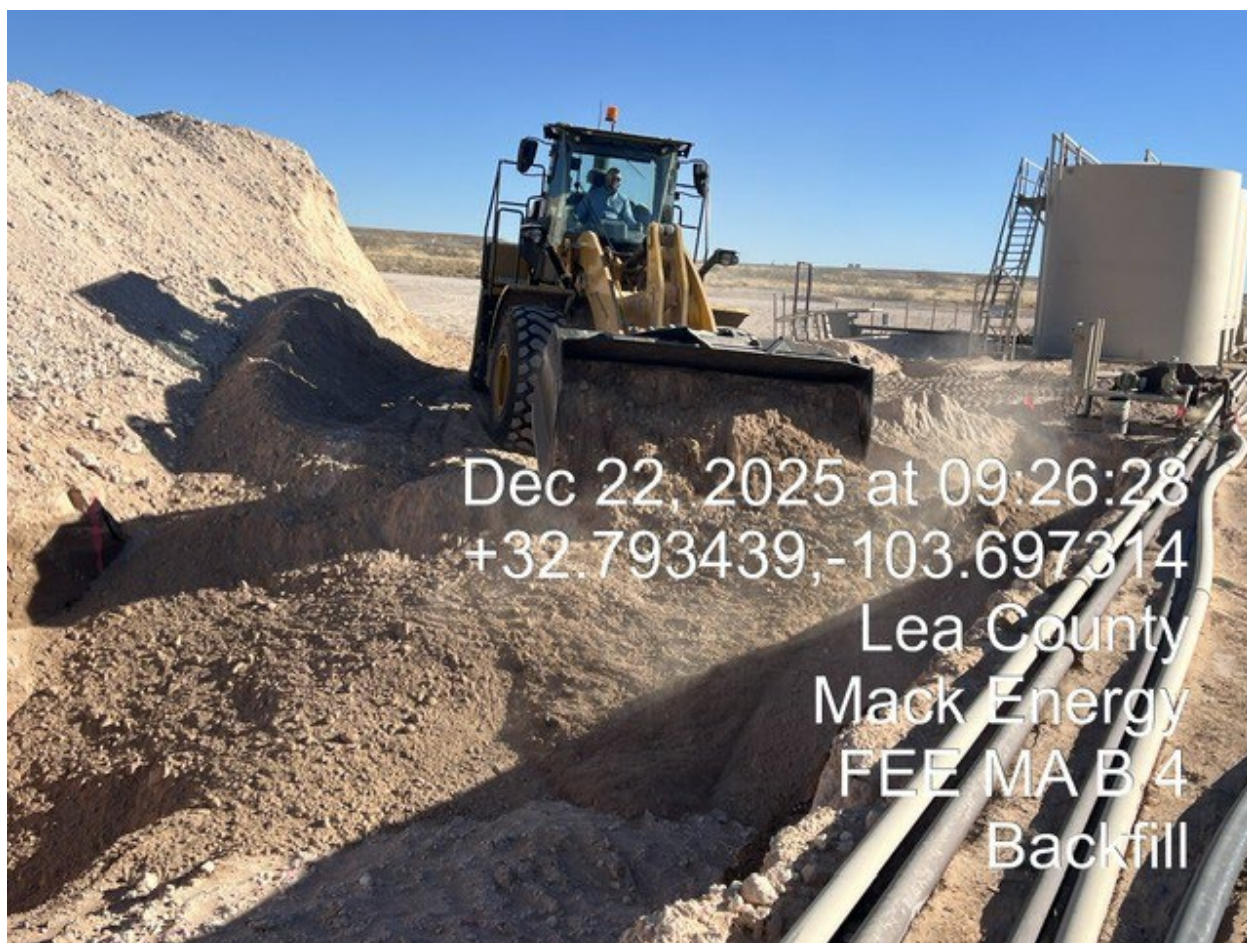






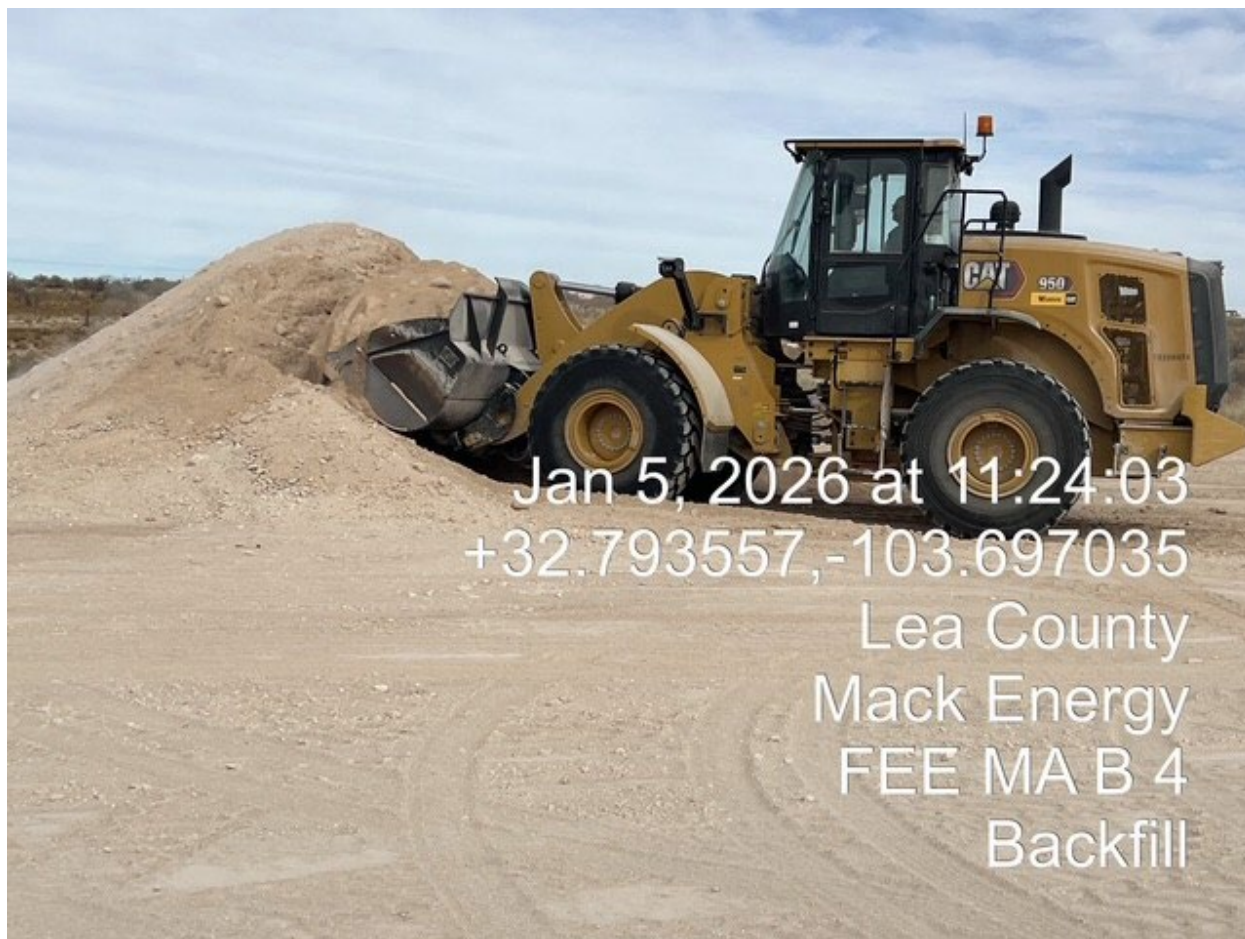












Jan 5, 2026 at 11:24:03
+32.793557,-103.697035
Lea County
Mack Energy
FEE MA B 4
Backfill









MA B #4 RECLAMATION

In August of 2022, after backfilling the 4' area that was previously excavated by Vertex, ESS complied with the OCD Rules and Regulations for Environmental Projects as detailed in the main deferral report. The area composites were completed and cleared except for the area at the facility wall. The pasture area was backfilled with fresh/clean topsoil, tilled and slopped, BLM Seed was then broadcasted and site was then tilled again to plant the seed in the pasture area. Fresh water was then sprayed for the seed to take hold.

Attached you will find the mapping of the reclamation area.

MACK ENERGY

MA B #4 FACILITY
RECLAMATION MAP

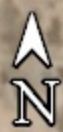
Legend

-  SOUTH RECLAMATION AREA
-  WEST RECLAMATION AREA

MA B #4 WELL/FACILITY PAD 

WEST RECLAMATION AREA 1

SOUTH RECLAMATION AREA 1



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

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

QUESTIONS

Action 600396

QUESTIONS

Operator: MACK ENERGY CORP P.O. Box 960 Artesia, NM 882110960	OGRID: 13837
	Action Number: 600396
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Prerequisites	
Incident ID (n#)	nOY1818639026
Incident Name	NOY1818639026 MA B #4 @ 30-025-36494
Incident Type	Oil Release
Incident Status	Deferral Request Received
Incident Well	[30-025-36494] FEE MA B #004

Location of Release Source

Please answer all the questions in this group.

Site Name	MA B #4
Date Release Discovered	06/25/2018
Surface Owner	Private

Incident Details

Please answer all the questions in this group.

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

Nature and Volume of Release

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.

Crude Oil Released (bbls) Details	Cause: Equipment Failure Treating Tower Crude Oil Released: 40 BBL Recovered: 10 BBL Lost: 30 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure Treating Tower Produced Water Released: 40 BBL Recovered: 10 BBL Lost: 30 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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QUESTIONS, Page 2

Action 600396

QUESTIONS (continued)

Operator: MACK ENERGY CORP P.O. Box 960 Artesia, NM 882110960	OGRID: 13837
	Action Number: 600396
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response

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

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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.

I hereby agree and sign off to the above statement	Name: Natalie Gladden Title: Environmental Email: natalie@energystaffingllc.com Date: 07/08/2026
--	---

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QUESTIONS, Page 3

Action 600396

QUESTIONS (continued)

Operator: MACK ENERGY CORP P.O. Box 960 Artesia, NM 882110960	OGRID: 13837
	Action Number: 600396
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

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

Remediation Plan	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	30200
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	29600
GRO+DRO (EPA SW-846 Method 8015M)	29600
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
On what estimated date will the remediation commence	03/01/2022
On what date will (or did) the final sampling or liner inspection occur	11/17/2025
On what date will (or was) the remediation complete(d)	12/02/2025
What is the estimated surface area (in square feet) that will be reclaimed	12800
What is the estimated volume (in cubic yards) that will be reclaimed	1896.3
What is the estimated surface area (in square feet) that will be remediated	4200
What is the estimated volume (in cubic yards) that will be remediated	1096
<i>These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.</i>	
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 4

Action 600396

QUESTIONS (continued)

Operator: MACK ENERGY CORP P.O. Box 960 Artesia, NM 882110960	OGRID: 13837
	Action Number: 600396
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Remediation Plan (continued)	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	fEEM0112338393 GANDY MARLEY LANDFARM/LANDFILL
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
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.	
I hereby agree and sign off to the above statement	Name: Natalie Gladden Title: Environmental Email: natalie@energystaffingllc.com Date: 07/08/2026
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 5

Action 600396

QUESTIONS (continued)

Operator: MACK ENERGY CORP P.O. Box 960 Artesia, NM 882110960	OGRID: 13837
	Action Number: 600396
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Deferral Requests Only	
<i>Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.</i>	
Requesting a deferral of the remediation closure due date with the approval of this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Is the remaining contamination in areas immediately under or around production equipment where remediation could cause a major facility deconstruction	Yes
Please list or describe the production equipment and how (re)moving the equipment would cause major facility deconstruction	HEATER TREATERS, SEPERATORS AND PIPING INFRASTRUCTURE
What is the remaining surface area (in square feet) that will still need to be remediated if a deferral is granted	291
What is the remaining volume (in cubic yards) that will still need to be remediated if a deferral is granted	130
<i>Per Paragraph (2) of Subsection C of 19.15.29.12 NMAC if contamination is located in areas immediately under or around production equipment such as production tanks, wellheads and pipelines where remediation could cause a major facility deconstruction, the remediation, restoration and reclamation may be deferred with division written approval until the equipment is removed during other operations, or when the well or facility is plugged or abandoned, whichever comes first.</i>	
Enter the facility ID (f#) on which this deferral should be granted	Not answered.
Enter the well API (30-) on which this deferral should be granted	30-025-36494 FEE MA B #004
Contamination does not cause an imminent risk to human health, the environment, or groundwater	True
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
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.	
I hereby agree and sign off to the above statement	Name: Natalie Gladden Title: Environmental Email: natalie@energystaffingllc.com Date: 07/08/2026

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Phone: (505) 476-3441

General Information
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State of New Mexico
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Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS, Page 6

Action 600396

QUESTIONS (continued)

Operator: MACK ENERGY CORP P.O. Box 960 Artesia, NM 882110960	OGRID: 13837
	Action Number: 600396
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	527335
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	11/19/2025
What was the (estimated) number of samples that were to be gathered	45
What was the sampling surface area in square feet	9095

Remediation Closure Request

Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.

Requesting a remediation closure approval with this submission	No
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Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

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

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

CONDITIONS

Action 600396

CONDITIONS

Operator: MACK ENERGY CORP P.O. Box 960 Artesia, NM 882110960	OGRID: 13837
	Action Number: 600396
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

CONDITIONS

Created By	Condition	Condition Date
nvez	Deferral is approved. Remediation Due date will be left open until the site has been plugged and abandoned or a major facility deconstruction takes place.	7/28/2026