

May 3, 2023

District Supervisor Oil Conservation Division, District 2 811 S. First St. Artesia. New Mexico 88210

Release Characterization and Remediation Work Plan Re: **ConocoPhillips James A Waterflood Facility Release** Unit Letter P, Section 2, Township 22 South, Range 30 East **Eddy County, New Mexico** Incident ID NMAP1829546514 2RP-5017

Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips to assess a release that occurred as the result of a leak on the injection well discharge line at the James A Waterflood Facility. The release footprint is located in Public Land Survey System (PLSS) Unit Letter P, Section 2, Township 22 South, Range 30 East, in Eddy County, New Mexico (Site). The approximate release point occurred at coordinates 32.416398°, -103.847294°, as shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico Oil Conservation Division (NMOCD) C-141 Initial Report, the release was discovered on August 24, 2018. The C-141 attributed the release to the James A #012, however, the release occurred at the James A Waterflood Facility (Facility ID fMAP1829545945), which shares a lease pad with the James A #012 well. The release occurred as the result of a leak on the injection well discharge line. Approximately 89 barrels (bbls) of produced water were released, of which 55 bbls were recovered. The NMOCD received the initial C-141 on October 22, 2018, and subsequently assigned the release the Remediation Permit (RP) number 2RP-5017 and the Incident ID NMAP1829546514. The initial C-141 form is included in Appendix A.

According to a Corrective Action Plan (CAP) submitted to the NMOCD in 2019 by ConocoPhillips, there were three additional releases at the Site on August 30, 2018, March 25, 2019, and April 4, 2019. The August 30, 2018 release occurred as a result of a tank overflow when the injection station lost power during a thunderstorm, resulting in the release of 33 bbls of produced water, of which 25 bbls were recovered. Although an initial C-141 was included in the CAP, there is no RP number or Incident ID associated with the August 30, 2018 release.

Separate Release Characterization and Remediation Work Plans will be submitted for the March 25, 2019 (Incident ID NAB1912758567/2RP-5398) and April 4, 2019 (Incident ID NAB1912759510/2RP-5399) releases. However, all stated incidents will be addressed with equivalent remedial action due to their coincident footprints.

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SITE CHARACTERIZATION

A Site characterization was performed and no sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, playa lakes, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the distances specified in 19.15.29 New Mexico Administrative Code (NMAC). The Site is in an area of high karst potential. Additionally, several stream bodies were identified within $\frac{1}{2}$ mile of the Site, but these have been identified as ephemeral drainage channels.

The Site is within a New Mexico oil and gas production area. According to the New Mexico Office of the State Engineers (NMOSE) reporting system, there are no water wells within $\frac{1}{2}$ mile (800 meters) of the Site. There is (1) water well within 1.5 miles (2,400 meters) of the Site with a depth to groundwater of 410 feet below ground surface (bgs).

As the available water level information is from a well further than ½ mile away from the Site, ConocoPhillips elected to drill a boring to verify depth to groundwater. On September 26, 2022, a licensed well drilling subcontractor was onsite to drill a groundwater determination borehole (DTW) to 55 feet bgs along the edge of the James A Waterflood Facility pad. The borehole was temporarily set and screened using 2-inch PVC well materials. No water was present in the well during or after drilling. The well screen and casing were removed, and the borehole was plugged with 3/8-inch bentonite chips. The Site characterization data, boring log, and temporary well diagram are included in Appendix B.

LAND OWNERSHIP

The Site is located on land owned by the Bureau of Land Management (BLM). The release extent was confined to on-pad, previously disturbed areas.

REGULATORY FRAMEWORK

Based upon the release footprint location and in accordance with Subsection E of 19.15.29.12 NMAC, per 19.15.29.11 NMAC, the Site characterization data was used to determine recommended remedial action levels (RRALs) for benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX), total petroleum hydrocarbons (TPH), and chlorides in soil.

Based on the high karst potential and in accordance with Table I of 19.15.29.12 NMAC, the proposed RRALs for the Site are as follows:

Constituent	Reclamation RRAL
Chloride	600 mg/kg
TPH	100 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

INITIAL RESPONSE ACTIONS

According to the 2019 CAP, the August 30, 2018 release consisted of a tank overflowing at the same location as the August 24, 2018 release. Initial response actions included excavating the release extent to approximately 2 feet bgs. The CAP also indicates that 39 samples were collected from the excavation area ranging in depth from 2 to 8 feet bgs. The sample locations were reportedly indicated on the figure provided as a portion of the CAP; however, the handwritten location annotations are illegible. Additionally, according to the CAP, the March 25, 2019 (mistakenly identified as occurring on March 3rd) and April 4, 2019 releases both occurred within the excavation areas before backfilling occurred, and saturated soils were removed.

The CAP included a request to backfill portions of the excavation, and to resample other excavation areas, presumably where the 2019 releases occurred. The CAP was denied by Mike Bratcher of the NMOCD via email on Tuesday, May 7, 2019. The rationale provided for the denial is as follows:

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"Assuming this is the remediation proposal for this release, it is DENIED due for the most part, for not meeting requirements of current spill rule [19.15.29] NMAC.

Here is a link to the rule: http://164.64.110.134/parts/title19/19.015.0029.html

Please review and resubmit including all documentation as required. Along with multiple other deficiencies, the analytical data needs to be in a table format with sample points clearly marked on a scaled site diagram.

The attachments you have sent are not legible, making this type submittal unacceptable. I would suggest a third party contractor be retained to formulate your proposal."

A copy of the regulatory correspondence is included as Appendix C. The excavation was backfilled, however, associated records are scarce.

SITE ASSESSMENT ACTIVITIES

Given the history of the Site and the multiple associated incidents, on September 26, 2022, Tetra Tech personnel were onsite to oversee the installation of six (6) air rotary soil borings (B-1 through B-6), to a terminal depth of 20 feet bgs each. Soil borings were installed in the release area footprint to vertically delineate the extent of impacted soils. To complete horizontal delineation of the release footprint, Tetra Tech personnel returned to the Site on October 5, 2022 to install fifteen (15) hand auger borings (AH-1 through AH-15) to depths ranging from 1 to 5 feet bgs. Two additional air rotary borings (B-7 and B-8) were installed on and December 12, 2022 to a terminal depth of 30 feet bgs each to complete vertical delineation of the release extent. Soil assessment sampling locations are presented in Figure 4. Photographic documentation from the Site assessment activities is presented in Appendix D.

A total of ninety (90) soil samples were collected from the eight (8) air rotary borings and the fifteen (15) hand auger borings and submitted to Cardinal Laboratories in Hobbs, NM to be analyzed for chloride via EPA Method SM4500Cl-B, BTEX via EPA Method 8021B, and TPH via EPA Method 8015M. Copies of the laboratory analytical reports are included as Appendix E.

On December 6, 2022, Ensolum, LLC was onsite at the James A Waterflood to perform additional soil sampling activities on behalf of COP. Boring locations BH-01 through BH-06 (Indicated on Figure 4) were installed to depths of 4 feet. Soil samples were collected from 1' and 4' bgs. Samples were submitted to Eurofins Carlsbad, based in Carlsbad, NM. Copies of the laboratory analytical reports are included as Appendix E.

SUMMARY OF SAMPLING RESULTS

Analytical results for chloride exceeded the Site RRAL of 600 mg/kg in all interior borings (B-1 through B-6) at multiple variable sample intervals, as well as in the 0-1 and 2-3 foot bgs sample intervals at AH-11 and the 0-1, 2-3, and 4-5 foot bgs sample intervals at AH-15.

The analytical results for TPH exceeded the Site RRAL of 100 mg/kg in the 0-1 foot bgs sample intervals at boring locations B-3, AH-11, and AH-15. There were no detections of BTEX above the reporting limits in any of the analyzed samples. Results from the 2022 soil sampling events are summarized in Table 1. The release was successfully delineated horizontally and vertically as a result of the soil assessment activities.

The Ensolum analytical results were directly compared to the established Site RRALs. The analytical results associated with the sampled borings were below reclamation requirements/RRALs for all constituents. Results from the Ensolum soil sampling event are summarized in Table 2. These data points were used to refine the historical release extents at the Site.

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REMEDIATION WORK PLAN

Based on the analytical results, ConocoPhillips proposes to remove the remaining impacted material as shown in Figure 5. Impacted soils will be excavated using heavy equipment (backhoes, hoe rams, and track hoes) to a maximum depth of 4 feet below the surrounding surface or until a representative sample from the walls and bottom of the excavation is below the RRALs. Select areas containing pressurized lines will be hand-dug to a depth of 4 feet or the maximum extent practicable and heavy equipment will come no more than 3 ft from any pressurized lines. Substantial lease pad areas of the release footprint contain production tanks, electrical and/or pressurized lines, and associated production equipment where remediation could cause a major facility deconstruction. The remediation of these areas is proposed to be deferred until the equipment is removed during other operations, or when the facility is abandoned. Figure 5 provides the details on the areas proposed for deferral.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. In accordance with subsection D of 19.15.29.12 NMAC, the responsible party will notify the appropriate division district office prior to conducting confirmation sampling. Confirmation bottom and sidewall samples will be collected for verification of remedial activities, and analyzed for TPH, BTEX, and chlorides. Once results are received, the excavation will then be backfilled with clean material to surface grade. The estimated volume of material to be remediated is approximately 2,430 cubic yards.

VARIANCE REQUEST

After characterization of this release, ConocoPhillips proposes to leave impacted soils (with concentrations greater than those specified in Table I) located below four (4) feet bgs in place. The release impact is fully delineated, groundwater in this area is deeper than 55 feet bgs, and the release footprint is located in areas immediately under or around pipelines where any further excavation past four feet bgs could cause a major facility deconstruction, and/or additional unwanted impact to the environment.

Additionally, the Site is located in an area with abundant potash reserves, and so naturally occurring soluble mineral salts such as sylvite (KCI) do lead to natural variations of chloride in the soils of the region. Given the depth to groundwater at the site and the naturally occurring mineral salts in soil at depth, deeper chloride concentrations observed in the assessment data could be the result of potassium salts in the form of nitrates, sulfates, and chlorides.

Thus, in accordance with 19.15.29.14(A) NMAC, ConocoPhillips requests a variance for the placement of a liner within the excavated area. A 20-mil reinforced poly liner will be installed and properly seated throughout the base of the excavation (at 4 feet below surrounding grade). The liner will provide an engineering control that will serve as a barrier and inhibit the downward migration of residual constituents.

ALTERNATIVE CONFIRMATION SAMPLING PLAN

In accordance with 19.15.29.12(D)(1)(b) NMAC, ConocoPhillips proposes the following alternative confirmation sampling plan to adhere with NMOCD requirements. The proposed confirmation sample locations are depicted in Figure 6. Forty-two (42) confirmation floor samples and twenty-five (25) confirmation sidewall samples are proposed for verification of remedial activities. The proposed excavation encompasses a surface area of approximately 16,500 square feet.

These confirmation sidewall and floor samples will be representative of no more than approximately 400 square feet of excavated area. Confirmation samples will be sent to an accredited laboratory for analysis of chloride via EPA Method SM4500Cl-B or 300.0, BTEX via EPA Method 8021B, and TPH via EPA Method 8015M. Once results are received, NMOCD will be notified, and the excavation will then be backfilled with clean material to surface grade.

CONCLUSION

Existing historical impacts from the three documented releases above Site RRALs found during the Site delineation and characterization have been vertically defined. All analytical results associated with the horizontal delineation sampling locations surrounding the release area were below applicable Site RRALs.

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As described above, COP will remediate impacted areas to four-foot bgs, as indicated in Figure 5. A liner will be placed at the base of the excavation. Per 19.15.29.12(2) NMAC, a deferral for the remediation, restoration, and reclamation for the remaining surface impact is requested until the equipment is removed during other operations, or when the facility is retrofitted or abandoned, whichever comes first. These areas proposed for deferral in Figure 5 are immediately under or around energized or pressurized lines could cause additional unwanted impact to the environment and/or present safety concerns for onsite personnel. Final remediation and reclamation of the remaining surficial impacts (0-4' bgs) shall take place in accordance with 19.15.29.12 and 19.15.29.13 NMAC once the site is no longer being used for oil and gas operations.

As described in the variance request, given the established DTW determination, the subsurface soils at the Site do not pose a threat to freshwater, human health, or the environment. The subsurface chloride concentrations observed in the assessment data are likely due to natural fluctuations in mineral salts in the region. The final C-141 forms are enclosed in Appendix A. If you have any questions concerning the soil assessment activities at the Site, please call me at (512) 739-7874 or Christian at (512) 288-6281.

Sincerely,

Tetra Tech, Inc.

Samantha K. Abbott, P.G. Project Manager

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Mr. Sam Widmer. RMR - ConocoPhillips

Ms. Shelly Taylor, BLM

Christian M, Llull, P.G. Program Manager

ConocoPhillips

LIST OF ATTACHMENTS

Figures:

Figure 1 – Overview Map

Figure 2 – Topographic Map

Figure 3 – Approximate Release Extent

Figure 4 – Approximate Release Extents and Site Assessment

Figure 5 – Proposed Remediation and Deferment Extent

Figure 6 – Alternative Confirmation Sampling Plan

Tables:

Table 1 – Summary of Analytical Results – Soil Assessment

Table 2 – Summary of Analytical Results – Additional Assessment

Appendices:

Appendix A - C-141 Forms

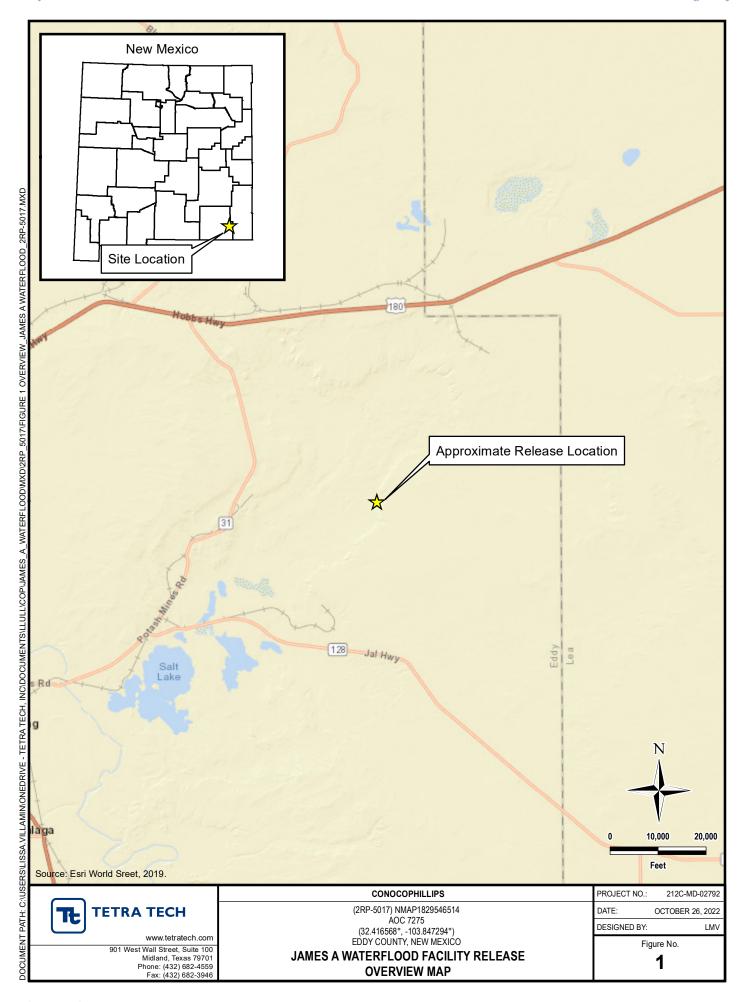
Appendix B – Site Characterization Data

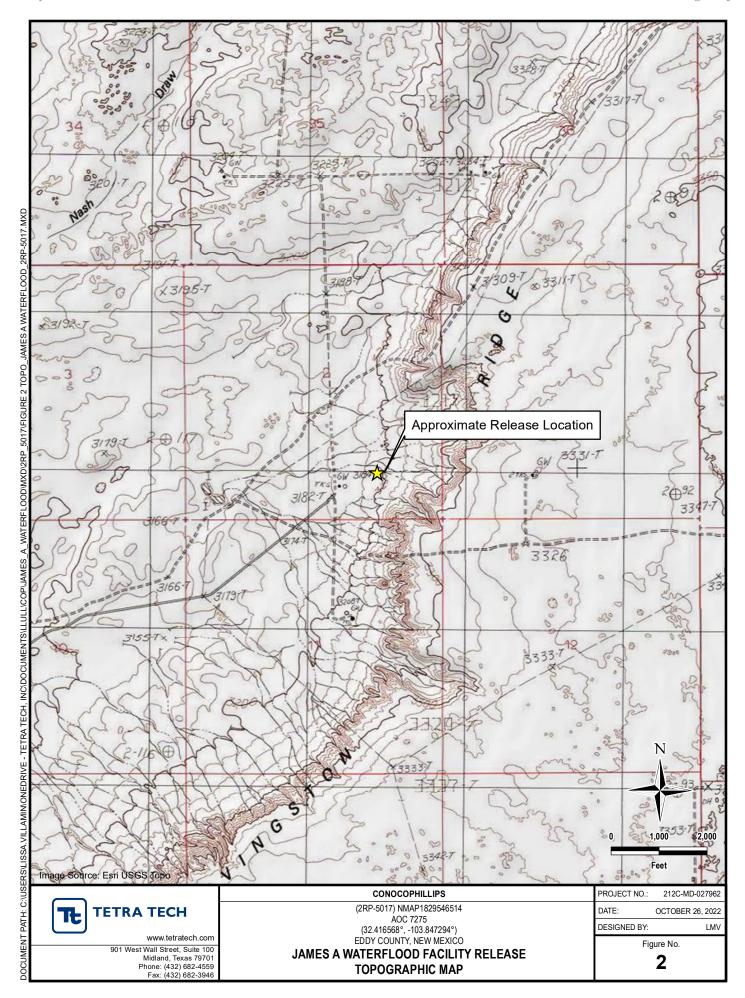
Appendix C – Regulatory Correspondence

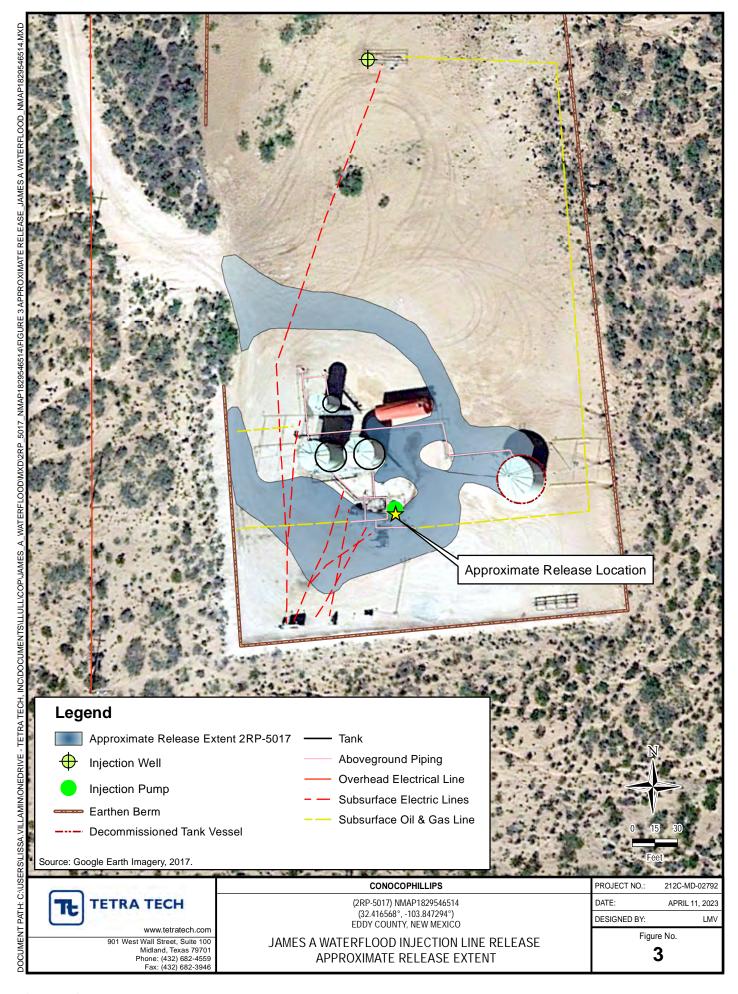
Appendix D – Photographic Documentation

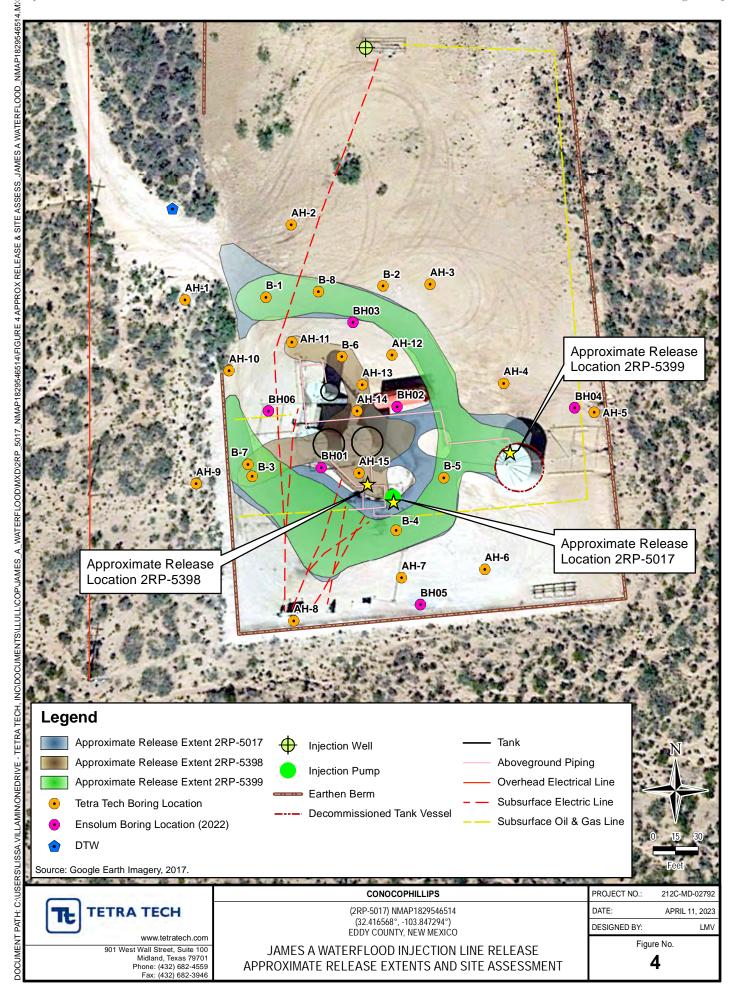
Appendix E - Laboratory Analytical Data

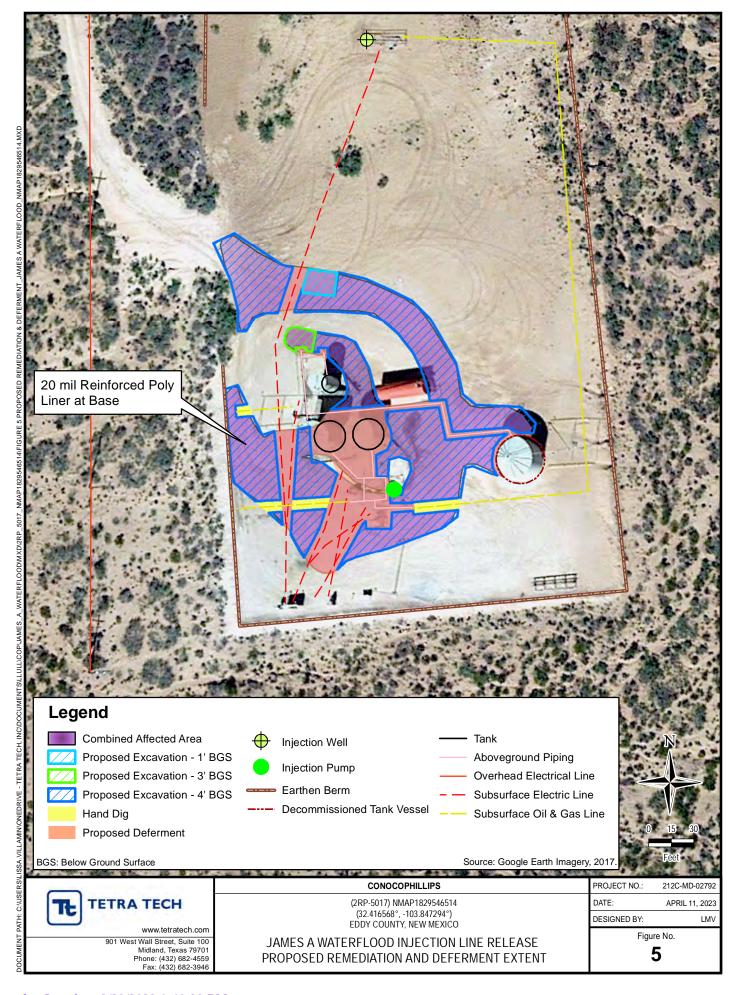
FIGURES

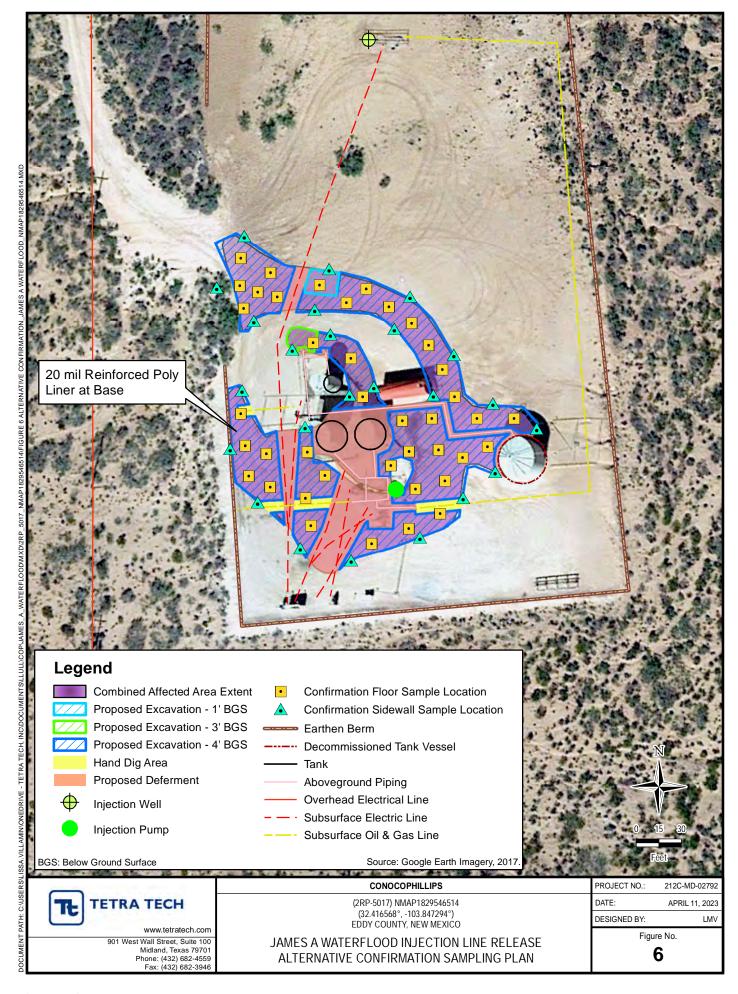












SUMMARY OF ANALYTICAL RESULTS SOIL ASSESSMENT- 2RP-5017 / nMAP1829546514 CONOCOPHILLIPS JAMES A WATERFLOOD (MULTIPLE RELEASES) EDDY COUNTY, NM

									B	TEX ²								ТР	H ³	
		Sample Depth	Field Sc	creening Results	Chlorid	e¹	B	T-1	Fabruille a service		Tabal Valor		Takal DTF	,	GRO		DRO	EXT DRO	(600,000)	Total TPH
Commin ID	Sample Date		Chloride	PID			Benzene	Toluene	Ethylbenze	ene	Total Xyle	nes	Total BTE	х	C ₆ - C ₁₀		> C ₁₀ - C ₂₈	> C ₂₈ - C ₃₆	(GRO+DRO)	(GRO+DRO+EXT DRO)
Sample ID	Sample Date	ft. bgs		ppm	mg/kg	Q	mg/kg Q	mg/kg Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg Q	mg/kg	Q mg/kg	mg/kg
		Closure Criteria	a for Pasture / C	Off-Pad Soils 0-4' bgs:	600 mg/	′kg	< 10 mg/kg		-		-		< 50 mg/kg				-			<u>100 mg/kg</u>
		Closure Crite	ria for Soils >4'	bgs (GW 50-100 ft):	10,000 mg	0,000 mg/kg < 10 mg/kg			-				< 50 mg/k	<u>g</u>			-		1000 mg/kg	2500 mg/kg
		0-1	-	-	192		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0		< 10.0	< 10.0		-
		2-3	-	-	800		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0		< 10.0	< 10.0		•
		3-4	-	-	1,250		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0		< 10.0	< 10.0		-
B-1	9/26/2022	4-5	-	-	1,920		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0		< 10.0	< 10.0		-
		6-7	-	-	1,600		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0	_	< 10.0	< 10.0		=
		8-9	-	-	224		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0	_	< 10.0	< 10.0	-	=
		14-15 19-20	-	-	288		< 0.050	< 0.050 < 0.050	< 0.050		< 0.150		< 0.300		< 10.0 < 10.0		< 10.0 < 10.0	< 10.0 < 10.0		-
			-	-	800		< 0.050		< 0.050		< 0.150					+				•
		0-1	-	-	288		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0		< 10.0	< 10.0		-
		2-3	-	-	224		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0	_	< 10.0	< 10.0		=
		3-4	-	-	256		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0	_	< 10.0	< 10.0		=
B-2	9/26/2022	4-5	-	-	176		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0	_	< 10.0	< 10.0		-
		6-7	-	-	272		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0	_	< 10.0	< 10.0	-	-
		8-9 14-15	-	-	288 864		< 0.050 < 0.050	< 0.050 < 0.050	< 0.050 < 0.050		< 0.150 < 0.150		< 0.300		< 10.0 < 10.0	_	< 10.0 < 10.0	< 10.0 < 10.0		-
		19-20	-	-	1,800		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0	_	< 10.0	< 10.0		-
				-	-											+				
		0-1	-	-	5,120		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0		1,150	248	1,150	1,398
		2-3	-	-	2,880		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0	_	37.9	24	37.9	61.9
		3-4	-	-	1,790		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0		< 10.0	< 10.0		-
B-3	9/26/2022	4-5 6-7	-	-	1,360 1,780		< 0.050 < 0.050	< 0.050 < 0.050	< 0.050 < 0.050		< 0.150 < 0.150		< 0.300		< 10.0 < 10.0	_	< 10.0 < 10.0	< 10.0 < 10.0		-
		8-9	-	-	1,780		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0		< 10.0	< 10.0		-
		14-15	-	_	1,420		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0	-	< 10.0	< 10.0	-	
		19-20	-	_	1,310		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0		< 10.0	< 10.0		-
	I	0-1	-	-	9,730		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0	Ŧ	< 10.0	< 10.0		
		2-3	_	-	2,800		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0	_	< 10.0	< 10.0		-
		3-4	_	-	3.280		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0		< 10.0	< 10.0		
		4-5	-	-	3,000		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0		< 10.0	< 10.0		-
B-4	9/26/2022	6-7	-	-	3,080		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0	\top	< 10.0	< 10.0		-
		8-9	-	-	2,800		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0	\top	< 10.0	< 10.0		-
		14-15	-	-	800		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0	_	< 10.0	< 10.0		≘
		19-20	-	-	352		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300		< 10.0	\top	< 10.0	< 10.0		-
	1			j j	1			<u> </u>									1		1	

SUMMARY OF ANALYTICAL RESULTS SOIL ASSESSMENT- 2RP-5017 / nMAP1829546514 CONOCOPHILLIPS JAMES A WATERFLOOD (MULTIPLE RELEASES) EDDY COUNTY, NM

										BTEX ²							Т	PH ³		
		Sample Depth	Field Sc	creening Results	Chlorid	e¹								GRO		DRO	EXT DRO			Total TPH
Committee ID	Committee Bode		Chloride	PID			Benzene	Toluene	Ethylben	zene	Total Xyle	enes	Total BTEX	C ₆ - C ₁₀		> C ₁₀ - C ₂₈	> C ₂₈ - C ₃₆	, (0	GRO+DRO)	(GRO+DRO+EXT DRO)
Sample ID	Sample Date	ft. bgs		ppm	mg/kg	Q	mg/kg Q	mg/kg C	mg/kg	Q	mg/kg	Q	mg/kg Q	mg/kg	Q	mg/kg Q	mg/kg	Q	mg/kg	mg/kg
		Closure Criteria	a for Pasture / C	Off-Pad Soils 0-4' bgs:	600 mg/	′kg	< 10 mg/kg		-				< 50 mg/kg			-				100 mg/kg
		Closure Crite	eria for Soils >4' I	bgs (GW 50-100 ft):	10,000 mg	g/kg	< 10 mg/kg		-				< 50 mg/kg			-		<u>10</u>	.000 mg/kg	2500 mg/kg
		0-1	-	-	1,920		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			
		2-3	-	-	960		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			-
		3-4	-	-	1,150		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			-
B-5	9/26/2022	4-5	-	-	1,060		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			-
B-3	9/20/2022	6-7	-	-	1,520		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			-
		8-9	-	-	2,200		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			-
		14-15	-	-	944		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			-
		19-20	-	=	1,760		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			=
		0-1	-	-	128		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			-
		2-3	-	-	208		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			-
		3-4	-	-	688		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			-
B-6	9/26/2022	4-5	-	-	1,040		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			-
	3, 23, 232	6-7	-	-	1,310		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			-
		8-9	-	-	1,460		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0	Ш	< 10.0	< 10.0			-
		14-15	-	-	1,380		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0	Ш	< 10.0	< 10.0			-
		19-20	-	-	1,390		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			-
		0-1	-	-	8,260		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			-
		2-3	-	-	4,000		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0	Ш	< 10.0	< 10.0			-
		3-4	-	-	976		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0		< 10.0	< 10.0			-
		4-5	-	-	336		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0	Ш	< 10.0	< 10.0			-
B-7	12/12/2022	6-7	-	-	272		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0	Ш	< 10.0	< 10.0			-
		8-9	-	-	224		< 0.050	< 0.050	< 0.050	-	< 0.150		< 0.300	< 10.0	\blacksquare	< 10.0	< 10.0			-
		14-15	-	-	336		< 0.050	< 0.050	< 0.050	-	< 0.150		< 0.300	< 10.0	H	< 10.0	< 10.0			-
		19-20	-	-	176		< 0.050	< 0.050	< 0.050	-	< 0.150		< 0.300	< 10.0	Н	< 10.0	< 10.0	$\vdash\vdash$		=
		24-25 29-30	 	-	128 128		< 0.050 < 0.050	< 0.050 < 0.050	< 0.050 < 0.050	1	< 0.150 < 0.150		< 0.300	< 10.0	Н	< 10.0	< 10.0 < 10.0	Н-		-
				-					_					< 10.0	Н	< 10.0	_	Н		
		0-1	-	-	752		< 0.050	< 0.050	< 0.050		< 0.150		< 0.300	< 10.0	Ш	45.2	< 10.0		45.2	45.2
		2-3	-	-	240		< 0.050	< 0.050	< 0.050	-	< 0.150		< 0.300	< 10.0	H	< 10.0	< 10.0	$\vdash \vdash$		-
		3-4	-	-	368		< 0.050	< 0.050	< 0.050	 	< 0.150		< 0.300	< 10.0	H	< 10.0	< 10.0	$\vdash \vdash$		-
		4-5	-	-	336		< 0.050	< 0.050	< 0.050	 	< 0.150		< 0.300	< 10.0	\vdash	< 10.0	< 10.0	$\vdash \vdash$		-
B-8	12/12/2022	6-7	-	-	320		< 0.050	< 0.050	< 0.050	1	< 0.150		< 0.300	< 10.0	+	< 10.0	< 10.0	$\vdash\vdash$		-
		8-9	-	-	256 320		< 0.050	< 0.050	< 0.050	1	< 0.150		< 0.300	< 10.0	Н	< 10.0	< 10.0	Н-		-
		14-15 19-20	-	-	320 176		< 0.050 < 0.050	< 0.050 < 0.050	< 0.050 < 0.050	-	< 0.150 < 0.150		< 0.300	< 10.0 < 10.0	H	< 10.0 < 10.0	< 10.0 < 10.0	$\vdash\vdash$		-
		19-20 24-25	· -	-	1/6 672		< 0.050	< 0.050	< 0.050	-	< 0.150		< 0.300	< 10.0 < 10.0	H	< 10.0 < 10.0	< 10.0 < 10.0	$\vdash\vdash$		-
1		24-25		-	0/2		< U.U5U	< U.USU	< 0.050	<u> </u>	< 0.130	l .	< 0.300	< 10.0	Ш	< 10.0	< 10.0	<u> </u>	-	-

SUMMARY OF ANALYTICAL RESULTS SOIL ASSESSMENT- 2RP-5017 / nMAP1829546514 CONOCOPHILLIPS JAMES A WATERFLOOD (MULTIPLE RELEASES) EDDY COUNTY, NM

									ВТ	EX ²						1	ſPH³	
		Sample Depth	Field Sc	creening Results	Chlorid	e ¹	Benzene	Toluene	Ethylbenze		Total Xylenes	Total B	TEV	GRO	DRO	EXT DRO	(GRO+DRO)	Total TPH
Sample ID	Sample Date		Chloride	PID			Delizene Toldene		Ethylbenze	ne	Total Aylenes	TOTAL	IEA	C ₆ - C ₁₀	> C ₁₀ - C ₂₈	> C ₂₈ - C ₃₆	(GRO+DRO)	(GRO+DRO+EXT DRO)
Sumple 15	Sumple Bute	ft. bgs		ppm	mg/kg	Q	mg/kg Q	mg/kg Q	mg/kg	Q	mg/kg Q	mg/kg	Q	mg/kg C	mg/kg Q	mg/kg	Q mg/kg	mg/kg
				Off-Pad Soils 0-4' bgs:	600 mg/		< 10 mg/kg		-				< 50 mg/kg		-			<u>100 mg/kg</u>
			ria for Soils >4'	bgs (GW 50-100 ft):	10,000 mg	g/kg	< 10 mg/kg					< 50 mg	/kg				1000 mg/kg	<u>2500 mg/kg</u>
		29-30	-	-	624		< 0.050	< 0.050	< 0.050		< 0.150	< 0.300		< 10.0	< 10.0	< 10.0		-
AH-1	10/5/2022	0-1	75.5	-	32.0		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		-
AH-2	10/5/2022	0-1	193	-	112		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	13.8	11.3	13.8	25.1
AH-3	10/5/2022	0-1	307	-	128		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		-
AH-4	10/5/2022	0-1	299	-	128		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		-
AH-5	10/5/2022	0-1	48.8	-	16.0		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		-
AH-6	10/5/2022	0-1	67.3	-	32.0		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		-
AH-7	10/5/2022	0-1	193	-	112		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		-
AH-8	10/5/2022	0-1	543	-	288		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		-
AH-9	10/5/2022	0-1	61.3	-	32.0		<0.050	<0.050	<0.050		<0.150	<0.0300		<10.0	<10.0	<10.0		-
AH-10	10/5/2022	0-1	130	-	32.0		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		-
		0-1	5870	-	5,360		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	95.7	23.5	95.7	119.2
AH-11	10/5/2022	2-3	2000	-	2,400		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		-
		4-5	701	-	400		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		=
AH-12	10/5/2022	0-1	107	-	32.0		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	31.8	<10.0	31.8	31.8
AII-12	10/3/2022	2-3	97	-	32.0		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		-
AH-13	10/5/2022	0-1	81.2	-	16.0		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		÷
711.13	10/3/2022	2-3	87.8	-	16.0		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		=
AH-14	10/5/2022	0-1	683	-	384		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		-
701.27	10/3/2022	2-3	578	-	320		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		-
		0-1	1205	-	12,400		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	190	52.7	190	242.7
AH-15	10/5/2022	2-3	5370	-	5,840		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		-
NOTES:		4-5	2100	-	2,840		<0.050	<0.050	<0.050		<0.150	<0.300		<10.0	<10.0	<10.0		-

NOTES:

ft. Feet

bgs Below ground surface

mg/kg Milligrams per kilogram

TPH Total Petroleum Hydrocarbons

GRO Gasoline range organics

DRO Diesel range organics

1 Method SM4500Cl-B

2 Method 8021B

Bold and italicized values indicate exceedance of proposed Remediation RRALs and Reclamation Requirements.

Shaded rows indicate intervals proposed for excavation.

QUALIFIERS:

SUMMARY OF ADDITIONAL ANALYTICAL RESULTS SOIL ASSESSMENT - NMAP1829546514 (2RP-5017)

CONOCOPHILLIPS

JAMES A WATERFLOOD FACILITY

EDDY COUNTY, NM

			Field Concess	des Desember							BTEX ²					TPH ³						
		Sample Depth	Field Screen	ning Kesuits	Chlo	ride ¹	Benzene		Toluene		Ethylbenze		Total Xylenes	Total	TEV	GRO		DRO		EXT DRO		(GRO+DRO)
Committe ID			Chloride	PID				Delizerie Tolueri			Ethylbenzene		Total Aylenes	IOLAIBIEA		C ₆ - C ₁₀		> C ₁₀ - C ₂₈		> C ₂₈ - C ₃₆		(6.10.21.0)
Sample ID	Sample Date	ft. bgs	рр	m	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg
		Closure Criteria for Pasture / Off-Pad Soils 0-4' bgs:		<u>600 m</u>	ng/kg	< 10 mg/kg	1						< 50 m	g/kg								
		Closure Criteria for Soils >4' bgs (GW 50-100 ft):		10,000 mg/kg		< 10 mg/kg	1						< 50 m	g/kg							<u>1000 mg/kg</u>	
BH01	12/6/2022	1'			16.8		<0.00202		<0.00202		<0.00202		<0.00404	<0.0040	4	<49.9		<49.9		<49.9		<49.9
Biloi		4'			54.4		<0.00199		<0.00199		<0.00199		<0.00398	<0.0039	8	<49.8		<49.8		<49.8		<49.8
BH02	12/6/2022	1'			5.94		<0.00199		<0.00199		<0.00199		<0.00398	<0.0039	8	<50.0		<50.0		<50.0		<50.0
впиг		4'			35.4		<0.00199		<0.00199		<0.00199		<0.00398	<0.0039	8	<50.0		<50.0		<50.0		<50.0
BH03	12/6/2022	1'			506		<0.00198		<0.00198		<0.00198		<0.00396	<0.0039	6	<49.9		56.9		<49.9		56.9
впоз		4'			542		<0.00200		<0.00200		<0.00200		<0.00401	<0.0040	1	<49.9		65.5		<49.9		65.5
BH04	12/6/2022	1'			578		<0.00201		<0.00201		<0.00201		<0.00402	<0.0040	2	<50.0		<50.0		<50.0		<50.0
впо4	12/6/2022	4'			87.5		<0.00201		<0.00201		<0.00201		<0.00402	<0.0040	2	<49.9		<49.9		<49.9		<49.9
BHOE	12/6/2022	1'			23.5		<0.00199		<0.00199		<0.00199		<0.00398	<0.0039	8	<49.9		<49.9	*1	<49.9		<49.9
BH05	12/0/2022	4'			93.9		<0.00200		<0.00200		<0.00200		<0.00401	<0.0040	1	<50.0		<50.0	*1	<50.0	\perp	<50.0
ВН06	12/6/2022	1'			146		<0.00199		<0.00199		<0.00199		<0.00398	<0.0039	8	<50.0		<50.0	*1	<50.0		<50.0
	12/6/2022	4'			171		<0.00200		<0.00200		<0.00200		<0.00399	<0.0039	9	<50.0		<50.0	*1	<50.0		<50.0

NOTES:

ft. Feet

bgs Below ground surface

mg/kg Milligrams per kilogram

TPH Total Petroleum Hydrocarbons

GRO Gasoline range organics

DRO Diesel range organics

1 Method SM4500Cl-B

2 Method 8021B

3 Method 8015M

Bold and italicized values indicate exceedance of proposed Remediation RRALs and Reclamation Requirements.

Shaded rows indicate intervals proposed for excavation.

QUALIFIERS:

LCS/LCSD RPD exceeds control limits.

APPENDIX A C-141 Forms

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

State of New Mexico Energy Minerals and Natural Resources Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-141 Revised August 24, 2018 Submit to appropriate OCD District office

Incident ID	NMAP1829546514
District RP	2RP-5017
Facility ID	fMAP1829545945
Application ID	pMAP1829546087

Release Notification

Responsible Party

Responsible	Party Cond	ocoPhillips		OGRID	217817	
Contact Nam	ne Justin V	Vright		Contact Te	elephone 575-63	31-9092
Contact ema	il Justin.V	Vright@ConocoPl	nillips.com	Incident#	(assigned by OCD)	NMAP1829546514
Contact mail	ling address	29 Vacuum Comp	olex Lane Loving	ton, NM 88240		
			Location	of Release So	ource	
Latitude 32.4	1173279		(NAD 83 in de	Longitude _ cimal degrees to 5 decim		
Site Name	James A #0	12		Site Type	Injection Line	
Date Release	Discovered	8/24/2018		API# (if app	licable) fMAP18	329545945
Unit Letter	Section	Torresoleiro	Danas			
Unit Letter	Section 2	Township 22S	Range 30E	Coun Lea	ıy	
	Δ	225	30E	LCa		
Surface Owne	r: X State	☐ Federal ☐ Tr	ribal Private (A	Name:)
			Nature and	d Volume of F	Release	
				calculations or specific		volumes provided below)
Crude Oi		Volume Release			Volume Recov	
X Produced	Water	Volume Release			Volume Recov	. ,
			tion of total dissol water >10,000 mg		Yes No	0
☐ Condensa	ate	Volume Release		y	Volume Recov	vered (bbls)
Natural G	ias	Volume Release	d (Mcf)		Volume Recov	vered (Mcf)
Other (de	escribe)	Volume/Weight	Released (provide	e units)	Volume/Weigi	ht Recovered (provide units)
Cause of Rel	ease A leak	was found on the	discharge line to	the injection well, r	esulting in a rele	ease of 89 BBL of produced water.
55 BBL were	e recovered.	Site will be remed	liated per NMOCI	O guidelines.		

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Incident ID	NMAP1829546514
District RP	2RP-5017
Facility ID	fMAP1829545945
Application ID	pMAP1829546087

	Transport of the state of the s	
Was this a major	If YES, for what reason(s) does the respon	sible party consider this a major release?
release as defined by	Exceeds the quantity for a major release	as defined by 19.15.29.7 A(1)
19.15.29.7(A) NMAC?		
▼ Yes □ No		
	•	nom? When and by what means (phone, email, etc)?
No. Via email from Jose	Zepeda to Jamie Keyes	
	Initial Ro	esponse
The responsible	party must undertake the following actions immediatel	y unless they could create a safety hazard that would result in injury
X The source of the rele	ease has been stopped.	
The impacted area ha	is been secured to protect human health and	the environment.
<u> </u>	1	likes, absorbent pads, or other containment devices.
	ecoverable materials have been removed and	-
If all the actions describe	d above have <u>not</u> been undertaken, explain v	why:
		emediation immediately after discovery of a release. If remediation
		efforts have been successfully completed or if the release occurred
within a lined containmer	nt area (see 19.15.29.11(A)(5)(a) NMAC), p	please attach all information needed for closure evaluation.
I hereby certify that the info	rmation given above is true and complete to the	best of my knowledge and understand that pursuant to OCD rules and
		fications and perform corrective actions for releases which may endanger
		OCD does not relieve the operator of liability should their operations have
		at to groundwater, surface water, human health or the environment. In responsibility for compliance with any other federal, state, or local laws
and/or regulations.	Tu o 111 report does not reneve the operator of	responsibility for compliance with any other receitar, states, or rocal tarns
C 11 T		HOD C . I.
Printed Name: Cullen I	Rosine	Title: HSE Specialist
Signature: Cullen Rosine		Date:10-15-2018
email: Cullen.J.Rosine	@Conocorninps.com	Telephone: 575-391-3133
OCD Only	1111	
Descined her	Muco	Date: 10/22/18
Received by:		Date;10/22/10

Incident ID NMAP1829546514 District RP 2RP-5017 Facility ID Application ID

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>55 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes 🗹 No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes 🗹 No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes 🗸 No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes 🗸 No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes 🗸 No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes 🗹 No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes 🗸 No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ✓ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ✓ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	✓ Yes 🗌 No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes 🗹 No
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes 🗹 No
Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and ver	tical extents of soil

cont	amination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.
<u>Ch</u>	aracterization Report Checklist: Each of the following items must be included in the report.
V	Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. Field data
	Data table of soil contaminant concentration data
V	Depth to water determination
V	Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
V	Boring or excavation logs
V	Photographs including date and GIS information
V	Topographic/Aerial maps
V	Laboratory data including chain of custody

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

Received by OCD: 5/3/2023 1:03:54 PM Form C-141 State of New Mexico Page 4 Oil Conservation Division

	Page 23 of 2	76
Incident ID	NMAP1829546514	
District RP	2RP-5017	
Facility ID		
Application ID		

I hereby certify that the information given above is true and complete to the regulations all operators are required to report and/or file certain release not public health or the environment. The acceptance of a C-141 report by the failed to adequately investigate and remediate contamination that pose a thr addition, OCD acceptance of a C-141 report does not relieve the operator of and/or regulations.	oCD does not relieve the operator of liability should their operations have eat to groundwater, surface water, human health or the environment. In
Printed Name: Sam Widmer	Principal Program Manager Title: Date:Apr-19-2023 Telephone:281-206-5298
OCD Only Received by: Jocelyn Harimon	Date:05/03/2023

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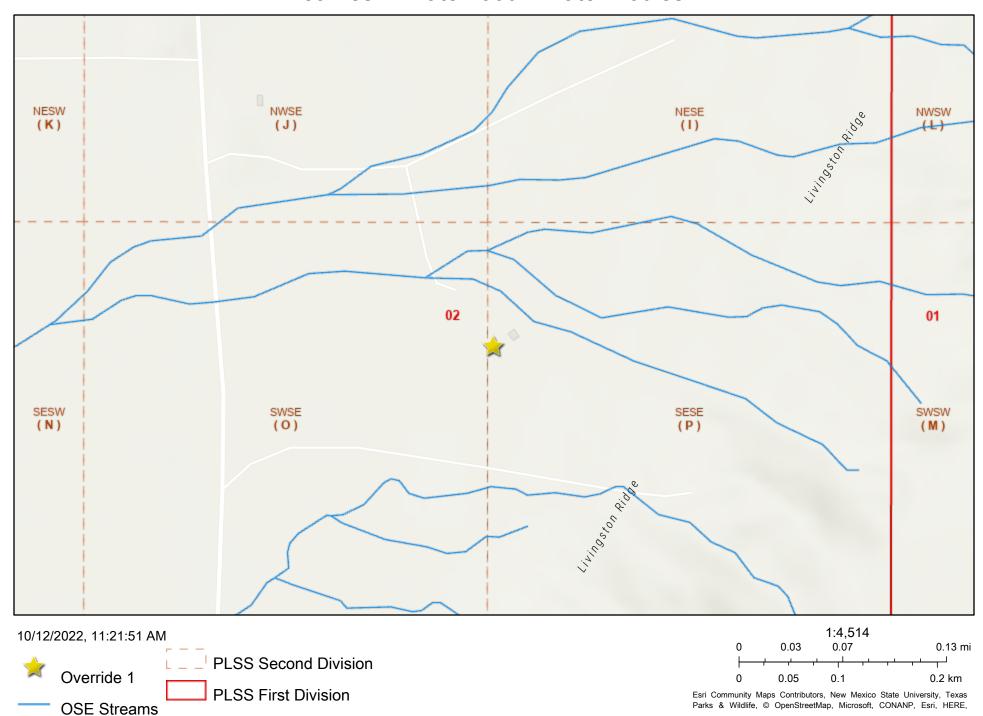
Incident ID	NMAP1829546514
District RP	2RP-5017
Facility ID	
Application ID	

Remediation Plan

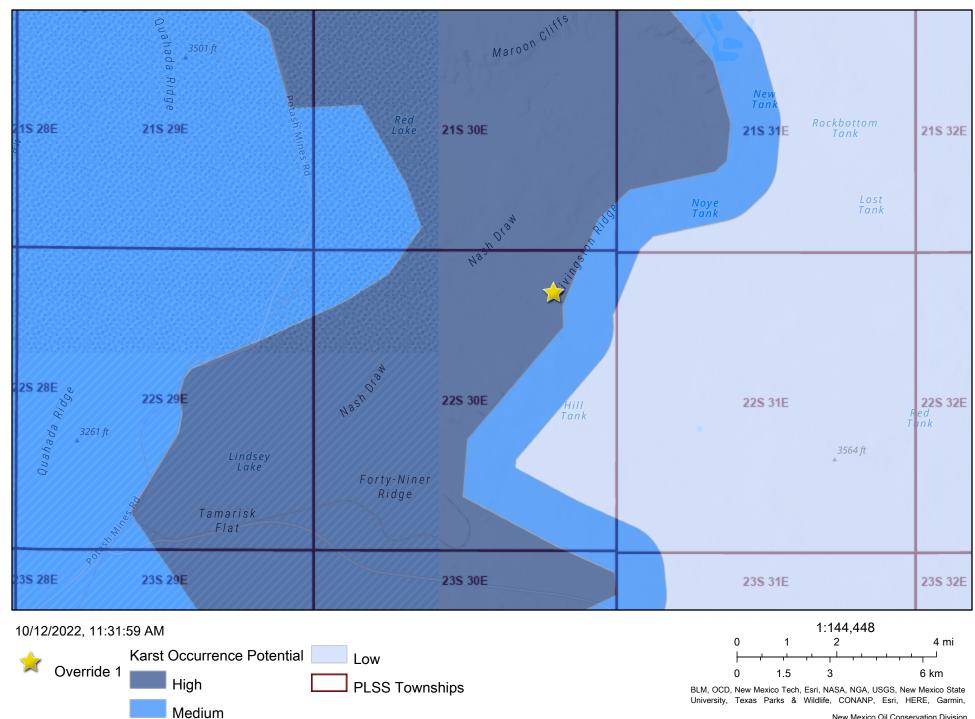
Remediation Plan Checklist: Each of the following items must be	be included in the plan.
Detailed description of proposed remediation technique Scaled sitemap with GPS coordinates showing delineation poir Estimated volume of material to be remediated Closure criteria is to Table 1 specifications subject to 19.15.29. Proposed schedule for remediation (note if remediation plan tir	.12(C)(4) NMAC
	· · · · · · · · · · · · · · · · · · ·
Deferral Requests Only: Each of the following items must be co	infirmed as part of any request for deferral of remediation.
	production equipment where remediation could cause a major facility
Extents of contamination must be fully delineated.	
Contamination does not cause an imminent risk to human healt	th, the environment, or groundwater.
rules and regulations all operators are required to report and/or file	acceptance of a C-141 report does not relieve the operator of laws and/or regulations.
Printed Name: Sam Widmer DocuSigned by:	Title:Principal Program Manager
Signature: Sam Widner	Date: May-03-2023
email:5454CA5BAD33498 sam.Widmer@conocophillips.com	Telephone:281-206-5298
OCD Only	
Received by: Jocelyn Harimon	Date:05/03/2023
Approved	f Approval
Signature:	Date:

APPENDIX B Site Characterization Data

James A Waterflood - Water Bodies



James A Waterflood - Karst





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 Sub-		Q	QQ	<u>l</u>						Depth	Depth Water
POD Number	Code basin	County	64 1	16 4	Sec	Tws	Rng	X	Υ	Distance	Well	Water Column
C 04528 POD1	CUB	ED	1	3 3	12	22S	30E	608886	3585625 🌍	1626		
C 03234 EXPLORE	CUB	ED	1	2 3	35	21S	30E	607695	3589207* 🌍	2148	410	

Average Depth to Water: -

Minimum Depth: -

Maximum Depth: --

Record Count: 2

UTMNAD83 Radius Search (in meters):

Easting (X): 608396.493 **Northing (Y):** 3587175.815 **Radius:** 2400

*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.

vived by	OCD: 5/3	/2023	1:03	:54	<u>PM</u>						Page 29 of
212C-MD	0-02792	T	ĘŢ	ETRA	ATEC	СН				LOG OF BORING DTW	Page 1 of 1
roject Na	me: Jam	es A W	/ate	rflood	d Re	lease	Э			·	
orehole L	ocationGPS	S: 32.4169	966°,	-103.8	47724	1°				Surface Elevation: 3198 ft	
orehole N	Number:DT\	N						B	oreh	ole oter (in.): 8 Date Started: 9/26/2022 Date Finished:	9/26/2022
	(md	(md	RY (%)	ENT (%)	(DEX	·		WATER LEVEL OBSERVATIONS While Drilling	Y_ft
OPERATION TYPE	SAMPLE CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	T LIQUID LIMIT	PLASTICITY INDEX	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION (2) H-G-B-G-G-G-G-G-G-G-G-G-G-G-G-G-G-G-G-G-	REMARKS
5	LAGUR								<u> </u>	dry, fine grained, with trace caliche nodules, no staining impact or odor -SM- SAND: Brown, weakly cemented, dry, very fine grained, with trace caliche	
										-SM- SILTY SAND: Reddish Brown, dense, weakly cemented, dry	
5										Bottom of borehole at 55.0 feet.	
ampler ypes:	Split Spoon Shelby Bulk Sample Grab Sample			е	r 1	Opera Types	Mud Rota	inuous It Auge h		Hand Auger Air Rotary Direct Push Core Barrel Notes: Surface elevation is based on Google Earth data.	
ogger:	Colton Bicker	staff				Orillin	g Equ	ipmeı	nt: Air	Rotary Driller: Scarborough Drilling	

APPENDIX C Regulatory Correspondence

Bratcher, Mike, EMNRD

From: Bratcher, Mike, EMNRD

Sent: Tuesday, May 7, 2019 3:50 PM

To: Wright, Justin K

Cc: Fejervary Morena, Gustavo A; Hamlet, Robert, EMNRD; Venegas, Victoria, EMNRD

Subject: RE: CAP for James A Waterflood 2RP-5017

Attachments: 20190503124725.pdf

RE: ConocoPhillips * James A 12 aka James A Waterflood * 2RP-5017 * DOR: 8/24/18

Justin,

Assuming this is the remediation proposal for this release, it is **<u>DENIED</u>** due for the most part, for not meeting requirements of current spill rule [19.15.29]NMAC.

Here is a link to the rule: http://164.64.110.134/parts/title19/19.015.0029.html

Please review and resubmit including all documentation as required. Along with multiple other deficiencies, the analytical data needs to be in a table format with sample points clearly marked on a scaled site diagram. The attachments you have sent are not legible, making this type submittal unacceptable. I would suggest a third party contractor be retained to formulate your proposal.

Also, for all OCD District 2 Environmental correspondence, please address to the following District Environmental Specialists:

Rob Hamlet: robert.hamlet@state.nm.us

Victoria Venegas: victoria.venegas@state.nm.us

You may continue to copy me as well.

Thank you,

Mike Bratcher NMOCD District 2 811 South First Street Artesia, NM 88210 575-748-1283 Ext 108

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: Wright, Justin K < Justin. Wright@conocophillips.com>

Sent: Friday, May 3, 2019 2:08 PM

To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>

Cc: Fejervary Morena, Gustavo A < G. Fejervary@conocophillips.com>

Subject: [EXT] FW: CAP for James A Waterflood 2RP-5017

From: Wright, Justin K < <u>Justin.Wright@conocophillips.com</u>>

Sent: Friday, May 3, 2019 12:50 PM

To: Wright, Justin K < <u>Justin.Wright@conocophillips.com</u>>

Subject:

APPENDIX D Photographic Documentation



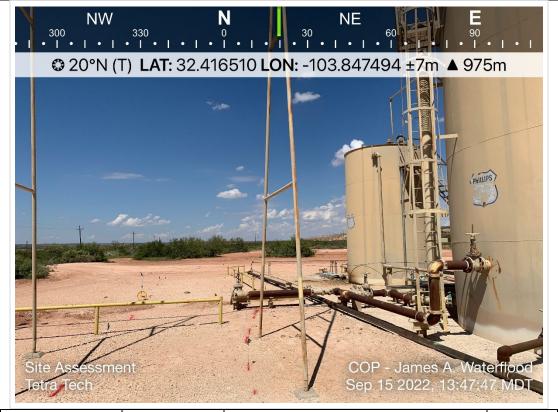
TETRA TECH, INC. PROJECT NO.	DESCRIPTION	Site Signage. James A Waterflood Site.	1
212C-MD-02792	SITE NAME	ConocoPhillips James Waterflood Releases	9/15/2022



TETRA TECH, INC.	DESCRIPTION	View east southeast. View of site from lease road entrance.	2
PROJECT NO. 212C-MD-02792	SITE NAME	ConocoPhillips James Waterflood Releases	9/15/2022



TETRA TECH, INC.	DESCRIPTION	View east. View of tank batteries and injection pumps. Pothole for utility verification.	3
PROJECT NO. 212C-MD-02792	SITE NAME	ConocoPhillips James Waterflood Releases	9/15/2022



TETRA TECH, INC. PROJECT NO.	DESCRIPTION	View north northeast. View of tank batteries. Subsurface electrical lines.	4
212C-MD-02792	SITE NAME	ConocoPhillips James Waterflood Releases	9/15/2022



TETRA TECH, INC. PROJECT NO.	DESCRIPTION	View east. Pothole for utility verification. View of injection pump. Approximate release point of 2P-5398. Subsurface utilities.	5
212C-MD-02792	SITE NAME	ConocoPhillips James Waterflood Releases	9/15/2022



TETRA TECH, INC. PROJECT NO.	DESCRIPTION	View west. Pothole for utility verification View of injection pump. Approximate release point for 2RP-5017.	6
212C-MD-02792	SITE NAME	ConocoPhillips James Waterflood Releases	9/15/2022



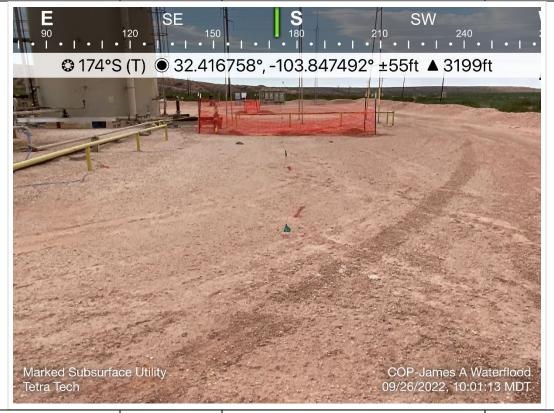
TETRA TECH, INC.	DESCRIPTION	View northwest. Barricaded pothole for utility verification. Approximate release point for 2RP-5017.	7
PROJECT NO. 212C-MD-02792	SITE NAME	ConocoPhillips James Waterflood Releases	9/15/2022



TETRA TECH, INC. PROJECT NO.	DESCRIPTION	View east southeast. View of tank battery. Subsurface utilities. Barricaded pothole for utility verification.	8
212C-MD-02792	SITE NAME	ConocoPhillips James Waterflood Releases	9/15/2022



TETRA TECH, INC.	DESCRIPTION	View northwest east. Approximate release point for 2RP-5399.	9	
PROJECT NO. 212C-MD-02792	SITE NAME	ConocoPhillips James Waterflood Releases	9/15/2022	



TETRA TECH, INC.	DESCRIPTION	View south. Subsurface utility lines. Barricaded pothole for utility verification.	10
PROJECT NO. 212C-MD-02792	SITE NAME	ConocoPhillips James Waterflood Releases	9/26/2022



TETRA TECH, INC.	DESCRIPTION	View north northeast. Subsurface utility lines. View of Tank Batteries.	11	
PROJECT NO. 212C-MD-02792	SITE NAME	ConocoPhillips James Waterflood Releases	9/26/2022	



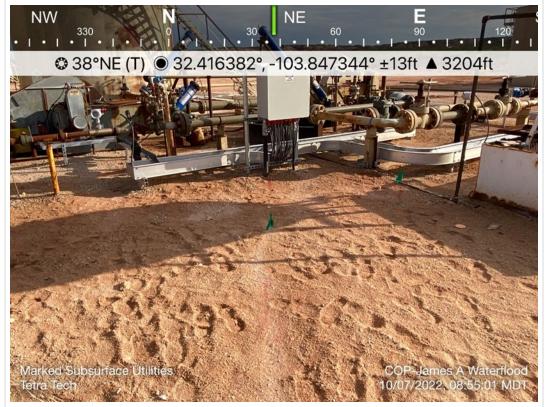
TETRA TECH, INC.	DESCRIPTION	View northwest. View of injection pump. Approximate release point for 2RP-5017 and 2RP-5398.	12
PROJECT NO. 212C-MD-02792	SITE NAME	ConocoPhillips James Waterflood Releases	9/26/2022



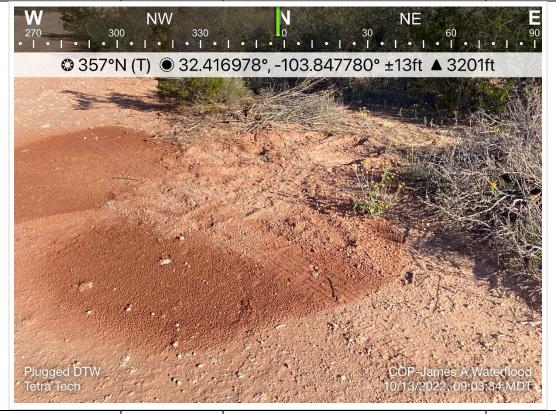
TETRA TECH, INC. PROJECT NO. 212C-MD-02792	DESCRIPTION	View east southeast. Pothole with view of subsurface line.	13	
	SITE NAME	ConocoPhillips James Waterflood Releases	9/26/2022	



TETRA TECH, INC.	DESCRIPTION	View north. Subsurface utilities.	14	
PROJECT NO. 212C-MD-02792	SITE NAME	ConocoPhillips James Waterflood Releases	10/7/2022	



TETRA TECH, INC.	DESCRIPTION	View northeast. View of Injection pump. Approximate release areas.	15
PROJECT NO. 212C-MD-02792	SITE NAME	ConocoPhillips James Waterflood Releases	10/7/2022



TETRA TECH, INC. PROJECT NO.	DESCRIPTION	View north. Location of DTW.	16
212C-MD-02792	SITE NAME	ConocoPhillips James Waterflood Releases	10/13/2022

APPENDIX E Laboratory Analytical Data



September 28, 2022

CHRISTIAN LLULL
TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND, TX 79701

RE: JAMES A WATERFLOOD

Enclosed are the results of analyses for samples received by the laboratory on 09/26/22 15:11.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab accred certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keine

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

 Received:
 09/26/2022
 Sampling Date:
 09/26/2022

 Reported:
 09/28/2022
 Sampling Type:
 Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 1 (0-1') (H224460-01)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	2.09	104	2.00	2.55	
Toluene*	<0.050	0.050	09/27/2022	ND	2.02	101	2.00	3.24	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.95	97.7	2.00	2.84	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.98	99.6	6.00	1.82	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.8	% 69.9-14	0						
Chloride, SM4500CI-B	mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	09/27/2022	ND	416	104	400	3.77	
TPH 8015M	mg/	kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	218	109	200	6.55	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	216	108	200	6.75	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	89.0	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	95.1	% 46.3-17	8						

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Celey D. Keene



Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Applyzod By: 14

Project Location: COP - LEA CO, NM

Sample ID: B - 1 (2'-3') (H224460-02)

RTFY 8021R

BIEX 8021B	mg	/ kg	Anaiyze	а ву: ЈН					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	2.09	104	2.00	2.55	
Toluene*	<0.050	0.050	09/27/2022	ND	2.02	101	2.00	3.24	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.95	97.7	2.00	2.84	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.98	99.6	6.00	1.82	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.4	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/kg		Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	800	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	218	109	200	6.55	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	216	108	200	6.75	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	114	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	121	% 46.3-17	8						

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Celey D. Keene



Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 1 (3'-4') (H224460-03)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	2.09	104	2.00	2.55	
Toluene*	<0.050	0.050	09/27/2022	ND	2.02	101	2.00	3.24	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.95	97.7	2.00	2.84	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.98	99.6	6.00	1.82	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	92.2	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	'kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1250	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	218	109	200	6.55	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	216	108	200	6.75	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	101 9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	108 9	% 46.3-17	8						

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Celey D. Keine



Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 1 (4'-5') (H224460-04)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	2.09	104	2.00	2.55	
Toluene*	<0.050	0.050	09/27/2022	ND	2.02	101	2.00	3.24	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.95	97.7	2.00	2.84	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.98	99.6	6.00	1.82	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.1	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1920	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	218	109	200	6.55	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	216	108	200	6.75	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	105 9	45.3-16	1						
Surrogate: 1-Chlorooctadecane	112 9	6 46.3-17	8						

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Celey D. Keene



Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022 Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Sample Received By: Project Number: 212C-MD-02792 Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 1 (6'-7') (H224460-05)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	2.09	104	2.00	2.55	
Toluene*	<0.050	0.050	09/27/2022	ND	2.02	101	2.00	3.24	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.95	97.7	2.00	2.84	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.98	99.6	6.00	1.82	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.8	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1600	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	107 9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	128 9	% 46.3-17	8						

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Celey D. Keine



Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: JH

Project Location: COP - LEA CO, NM

Sample ID: B - 1 (8'-9') (H224460-06)

BTEX 8021B

	9,	9	7	7: 5::					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	2.09	104	2.00	2.55	
Toluene*	<0.050	0.050	09/27/2022	ND	2.02	101	2.00	3.24	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.95	97.7	2.00	2.84	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.98	99.6	6.00	1.82	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.3	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	114	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	136	% 46.3-17	8						

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Celey D. Keene



Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 1 (14'-15') (H224460-07)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	2.09	104	2.00	2.55	
Toluene*	<0.050	0.050	09/27/2022	ND	2.02	101	2.00	3.24	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.95	97.7	2.00	2.84	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.98	99.6	6.00	1.82	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.7	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	96.0	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	115 9	6 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 1 (19'-20') (H224460-08)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	2.09	104	2.00	2.55	
Toluene*	< 0.050	0.050	09/27/2022	ND	2.02	101	2.00	3.24	
Ethylbenzene*	< 0.050	0.050	09/27/2022	ND	1.95	97.7	2.00	2.84	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.98	99.6	6.00	1.82	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.8 9	69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	800	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	103 %	6 45.3-16	1						
Surrogate: 1-Chlorooctadecane	122 %	6 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: JH

Project Location: COP - LEA CO, NM

mg/kg

Sample ID: B - 2 (0-1') (H224460-09)

BTEX 8021B

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	2.09	104	2.00	2.55	
Toluene*	<0.050	0.050	09/27/2022	ND	2.02	101	2.00	3.24	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.95	97.7	2.00	2.84	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.98	99.6	6.00	1.82	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.2	% 69.9-14	0						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	94.7	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	111 9	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Sample Received By: Project Number: 212C-MD-02792 Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 2 (2'-3') (H224460-10)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	2.09	104	2.00	2.55	
Toluene*	<0.050	0.050	09/27/2022	ND	2.02	101	2.00	3.24	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.95	97.7	2.00	2.84	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.98	99.6	6.00	1.82	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	92.4 9	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	104 %	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	122 %	6 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 2 (3'-4') (H224460-11)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	2.09	104	2.00	2.55	
Toluene*	< 0.050	0.050	09/27/2022	ND	2.02	101	2.00	3.24	
Ethylbenzene*	< 0.050	0.050	09/27/2022	ND	1.95	97.7	2.00	2.84	
Total Xylenes*	< 0.150	0.150	09/27/2022	ND	5.98	99.6	6.00	1.82	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.2 9	69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	101 %	6 45.3-16	1						
Surrogate: 1-Chlorooctadecane	120 %	6 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 2 (4'-5') (H224460-12)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	2.09	104	2.00	2.55	
Toluene*	<0.050	0.050	09/27/2022	ND	2.02	101	2.00	3.24	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.95	97.7	2.00	2.84	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.98	99.6	6.00	1.82	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	92.7	% 69.9-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	106 9	45.3-16	1						
Surrogate: 1-Chlorooctadecane	127 9	6 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Applyzod By: 14

Project Location: COP - LEA CO, NM

Sample ID: B - 2 (6'-7') (H224460-13)

RTFY 8021R

BIEX 8021B	mg	/кд	Anaiyze	а ву: ЈН					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	2.09	104	2.00	2.55	
Toluene*	<0.050	0.050	09/27/2022	ND	2.02	101	2.00	3.24	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.95	97.7	2.00	2.84	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.98	99.6	6.00	1.82	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	92.7	% 69.9-14	0						
Chloride, SM4500CI-B	mg	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	105	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	124	% 46.3-17	<i>'8</i>						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: JH

Project Location: COP - LEA CO, NM

Sample ID: B - 2 (8'-9') (H224460-14)

BTEX 8021B

DILX GOZID	ıııg,	, kg	Andryzo	.u Dy. 311					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	2.09	104	2.00	2.55	
Toluene*	<0.050	0.050	09/27/2022	ND	2.02	101	2.00	3.24	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.95	97.7	2.00	2.84	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.98	99.6	6.00	1.82	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.9	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	100	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	117	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Applyzod By: 14

Project Location: COP - LEA CO, NM

Sample ID: B - 2 (14'-15') (H224460-15)

RTFY 8021R

BIEX 8021B	mg	/ kg	Anaiyze	а ву: ЈН					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.6	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	864	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	98.3	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	115	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Sample Received By: Project Number: 212C-MD-02792 Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 2 (19'-20') (H224460-16)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.5 9	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1800	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	109 %	6 45.3-16	1						
Surrogate: 1-Chlorooctadecane	127 %	6 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022 Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 3 (0-1') (H224460-17)

BTEX 8021B	mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	91.9	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	'kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5120	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	1150	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	248	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	96.7	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	204 9	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Applyzod By: 14

Project Location: COP - LEA CO, NM

Sample ID: B - 3 (2'-3') (H224460-18)

RTFY 8021R

BIEX 8021B	mg	/ kg	Anaiyze	a By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	92.9	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2880	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	37.9	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	24.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	97.0	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	116	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 3 (4'-5') (H224460-19)

BTEX 8021B	mg/	kg	Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.5	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1360	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	101 9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	119 %	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 3 (6'-7') (H224460-20)

BTEX 8021B	mg/	kg	Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.5	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1780	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	100 9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	117 9	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Applyzod By: 14

Project Location: COP - LEA CO, NM

Sample ID: B - 3 (8'-9') (H224460-21)

RTFY 8021R

B1EX 8021B	mg	/ kg	Anaiyze	а ву: ЈН					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.5	% 69.9-14	0						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1340	16.0	09/27/2022	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	93.1	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	109	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Sample Received By: Project Number: 212C-MD-02792 Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 3 (14'-15') (H224460-22)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.6	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1420	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	98.6	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	124 9	6 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 3 (19'-20') (H224460-23)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.9	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1310	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	95.1	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	111 9	6 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Applyzod By: 14

Project Location: COP - LEA CO, NM

Sample ID: B - 4 (0-1') (H224460-24)

RTFY 8021R

B1EX 8021B	mg	/ kg	Anaiyze	a By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.8	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9730	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	211	105	200	3.88	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	200	100	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	113	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	136	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 4 (2'-3') (H224460-25)

BTEX 8021B	mg	/kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	95.1	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2800	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	90.0	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	104	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Applyzod By: 14

Project Location: COP - LEA CO, NM

Sample ID: B - 4 (4'-5') (H224460-26)

RTFY 8021R

B1EX 8021B	mg	/ kg	Anaiyze	а ву: ЈН					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.7	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3000	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	92.4	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	105	% 46.3-17	<i>'8</i>						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Applyzod By: 14

Project Location: COP - LEA CO, NM

Sample ID: B - 4 (6'-7') (H224460-27)

RTFY 8021R

BIEX 8021B	тд/кд		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.1	% 69.9-14	0						
Chloride, SM4500Cl-B	mg	/kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3080	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	94.5 % 45.3-16		1						
Surrogate: 1-Chlorooctadecane	105	% 46.3-17	<i>'8</i>						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

 Received:
 09/26/2022
 Sampling Date:
 09/26/2022

 Reported:
 09/28/2022
 Sampling Type:
 Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Applyzod By: 14

Project Location: COP - LEA CO, NM

Sample ID: B - 4 (8'-9') (H224460-28)

RTFY 8021R

BIEX 8021B	тд/кд		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.7	% 69.9-14	0						
Chloride, SM4500Cl-B	mg,	/kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2800	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	100 % 45.3-16		1						
Surrogate: 1-Chlorooctadecane	115	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: JH

Project Location: COP - LEA CO, NM

Sample ID: B - 4 (14'-15') (H224460-29)

BTEX 8021B

DILX GOZID	mg/ kg		Andryzed by: 511						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	92.3	% 69.9-14	0						
Chloride, SM4500Cl-B	mg,	/kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	800	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	97.6	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	110 9	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Sample Received By: Project Number: 212C-MD-02792 Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 4 (19'-20') (H224460-30)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	< 0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.4	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	95.2	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	108 9	6 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: JH

Project Location: COP - LEA CO, NM

Sample ID: B - 5 (0-1') (H224460-31)

BTEX 8021B

	9/	9	7	7 5					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.1	% 69.9-14	0						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1920	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	87.6	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	97.3	% 46.3-17	8						

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Celey D. Keene



Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 5 (2'-3') (H224460-32)

BTEX 8021B	mg/	'kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.4	% 69.9-14	0						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	960	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	83.5	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	94.7	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: JH

Project Location: COP - LEA CO, NM

Sample ID: B - 5 (3'-4') (H224460-33)

BTEX 8021B

	9/	9	7	7: :					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	< 0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.5	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1150	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	90.1	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	100	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: JH

Project Location: COP - LEA CO, NM

Sample ID: B - 5 (4'-5') (H224460-34)

BTEX 8021B

DIEX GOZID	1119/	- Kg	Allulyzo	.u by. 311					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	2.08	104	2.00	0.255	
Toluene*	<0.050	0.050	09/28/2022	ND	2.02	101	2.00	0.634	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.94	96.9	2.00	0.859	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.97	99.6	6.00	1.85	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.9	% 69.9-14	0						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1060	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	78.9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	90.2	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 5 (6'-7') (H224460-35)

BTEX 8021B	mg/	/kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	1.84	92.0	2.00	9.06	
Toluene*	<0.050	0.050	09/27/2022	ND	2.01	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.91	95.3	2.00	8.05	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.70	95.1	6.00	9.78	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 69.9-14	0						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1520	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	86.2	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	98.8	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 5 (8'-9') (H224460-36)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	1.84	92.0	2.00	9.06	
Toluene*	<0.050	0.050	09/27/2022	ND	2.01	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.91	95.3	2.00	8.05	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.70	95.1	6.00	9.78	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 %	69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2200	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	82.7 9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	93.3 9	% 46.3-17	<i>'</i> 8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: JH

Project Location: COP - LEA CO, NM

Sample ID: B - 5 (14'-15') (H224460-37)

BTEX 8021B

	9,	9	7	7: 5::					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	1.84	92.0	2.00	9.06	
Toluene*	<0.050	0.050	09/27/2022	ND	2.01	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.91	95.3	2.00	8.05	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.70	95.1	6.00	9.78	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	103	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	944	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	83.3	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	93.5	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 5 (19'-20') (H224460-38)

BTEX 8021B	mg/	/kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2022	ND	1.84	92.0	2.00	9.06	
Toluene*	<0.050	0.050	09/27/2022	ND	2.01	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.91	95.3	2.00	8.05	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.70	95.1	6.00	9.78	
Total BTEX	<0.300	0.300	09/27/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	% 69.9-14	0						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1760	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	83.3	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	94.0	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Applyzod By: 14

Project Location: COP - LEA CO, NM

Sample ID: B - 6 (0-1') (H224460-39)

RTFY 8021R

BIEX 8021B	mg	/ kg	Anaiyze	а ву: ЈН					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	1.84	92.0	2.00	9.06	
Toluene*	<0.050	0.050	09/28/2022	ND	2.01	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.91	95.3	2.00	8.05	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.70	95.1	6.00	9.78	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 69.9-14	0						
Chloride, SM4500CI-B	mg	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	79.9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	89.8	% 46.3-17	<i>'8</i>						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 6 (2'-3') (H224460-40)

BTEX 8021B	mg	/kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	1.84	92.0	2.00	9.06	
Toluene*	<0.050	0.050	09/28/2022	ND	2.01	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.91	95.3	2.00	8.05	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.70	95.1	6.00	9.78	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	103	% 69.9-14	0						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	09/28/2022	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	89.3	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	103	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 6 (3'-4') (H224460-41)

Recovery True Value QC RPD Qualifie 92.0 2.00 9.06 101 2.00 10.1 95.3 2.00 8.05
101 2.00 10.1
95.3 2.00 8.05
95.1 6.00 9.78
Recovery True Value QC RPD Qualific
108 400 0.00
Recovery True Value QC RPD Qualific
115 200 1.58
120 200 0.398
1 Re

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 6 (4'-5') (H224460-42)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	1.84	92.0	2.00	9.06	
Toluene*	<0.050	0.050	09/28/2022	ND	2.01	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.91	95.3	2.00	8.05	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.70	95.1	6.00	9.78	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 %	69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1040	16.0	09/27/2022	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	84.0 9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	96.8	% 46.3-17	· Q						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 6 (6'-7') (H224460-43)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	1.84	92.0	2.00	9.06	
Toluene*	<0.050	0.050	09/28/2022	ND	2.01	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.91	95.3	2.00	8.05	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.70	95.1	6.00	9.78	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 %	69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1310	16.0	09/27/2022	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	85.69	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	99.0	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Sample Received By: Project Number: 212C-MD-02792 Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 6 (8'-9') (H224460-44)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	1.84	92.0	2.00	9.06	
Toluene*	<0.050	0.050	09/28/2022	ND	2.01	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.91	95.3	2.00	8.05	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.70	95.1	6.00	9.78	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 9	69.9-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1460	16.0	09/27/2022	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	230	115	200	1.58	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	239	120	200	0.398	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	87.8	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	100 9	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 6 (14'-15') (H224460-45)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	1.84	92.0	2.00	9.06	
Toluene*	<0.050	0.050	09/28/2022	ND	2.01	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.91	95.3	2.00	8.05	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.70	95.1	6.00	9.78	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 9	69.9-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1380	16.0	09/27/2022	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	203	102	200	1.09	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	206	103	200	0.321	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	137 9	45.3-16	1						
Surrogate: 1-Chlorooctadecane	162 9	6 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Applyzod By: 14

Project Location: COP - LEA CO, NM

Sample ID: B - 6 (19'-20') (H224460-46)

RTFY 8021R

BIEX 8021B	mg	/кд	Anaiyze	а ву: ЈН					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	1.84	92.0	2.00	9.06	
Toluene*	<0.050	0.050	09/28/2022	ND	2.01	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.91	95.3	2.00	8.05	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.70	95.1	6.00	9.78	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	103	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1390	16.0	09/27/2022	ND	432	108	400	3.77	
TPH 8015M	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	203	102	200	1.09	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	206	103	200	0.321	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	100	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	119	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: JH

Project Location: COP - LEA CO, NM

Sample ID: B - 3 (3'-4') (H224460-47)

BTEX 8021B

	9,	9	7	7: 5::					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	1.84	92.0	2.00	9.06	
Toluene*	<0.050	0.050	09/28/2022	ND	2.01	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.91	95.3	2.00	8.05	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.70	95.1	6.00	9.78	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	103	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1790	16.0	09/27/2022	ND	432	108	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	203	102	200	1.09	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	206	103	200	0.321	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	103	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	122	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 09/26/2022 Sampling Date: 09/26/2022

Reported: 09/28/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - LEA CO, NM

Sample ID: B - 4 (3'-4') (H224460-48)

BTEX 8021B	mg/	/kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2022	ND	1.84	92.0	2.00	9.06	
Toluene*	<0.050	0.050	09/28/2022	ND	2.01	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/28/2022	ND	1.91	95.3	2.00	8.05	
Total Xylenes*	<0.150	0.150	09/28/2022	ND	5.70	95.1	6.00	9.78	
Total BTEX	<0.300	0.300	09/28/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	% 69.9-14	0						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3280	16.0	09/27/2022	ND	432	108	400	3.77	
TPH 8015M	mg/	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	203	102	200	1.09	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	206	103	200	0.321	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					
Surrogate: 1-Chlorooctane	100 9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	119 9	% 46.3-17	8						

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Notes and Definitions

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

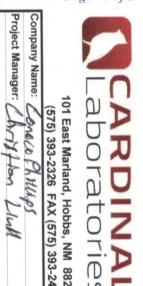
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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST



101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

	(010) 000-2020 1500 1000	7 000 2110		ANIAL VOIC DECLIECT
Company Name:	Coneco Phillips		BILL 10	ANALISIS NEGOLO
Project Manager:	1		P.O. #:	
Address:		w	Company: Total	rech
City:	State:	e: Zip:	Attn: Charles 1	1611
Phone #:	Fax #:		Address: by engl	
Project #:2/2C	-MD-02792 Proje	Project Owner:	City:	
Project Name: J	James A Wester Phose	nod	State: Zip:	
Project Location:	Eddy loute	M	Phone #:	
Sampler Name:	attan Bir	SP	Fax #:	
FOR LAB USE ONLY		MATRIX	IX PRESERV. SAMPLING	
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	B-1 (8:91)			
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PLEASE NOTE: Liability and Damages analyses. All claims including those for	Damages. Cardinal's liability and client's exclusion to the cause what the cause which the cause w	PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable	contract or tort, shall be limited to the amount paid inting and received by Cardinal within 30 days after	by the client for the completion of the applicable
affiliates or successors arisin	ent shall Cardinal be liable for incluented of consequential or issued to the performance of services had By:	service. In no event small calculation labeled to the performance of services hereunder by Continual, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Participation Particip	ch claim is based upon any of the above stated rea	Verbal Result: ☐ Yes ☑ No Add'I Phone #:
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Sampler - UPS - Bus - Other:		Corrected Temp. "C Yes Yes	res	

Page 51 of 55

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

Relinquished By: Relinquished By:	19 30 PLEASE NOTE: Liability an analyses. All claims includir	Je V	Z W F	Lab I.D.	FOR LAB USE ONLY	Project Location: Sampler Name:	Project Name:	Project #:2/2	Phone #:	Address:	Project Manager:	Company Name:
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demages, including without limitation, justiness interruptions, loss of use, or loss of profess of the ces hereunder by Cardinal, regardless of whether such claim is based upon any of the above te: Received By: te: Received By:	and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the yother cause whatsoever shall be deemed waived unless made in writing and received by Cardinal Walved			(G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL	MATRIX			ner:	<u> </u>	Zip.		
im is based upon any of the above state.	act or tort, shall be limited to the amount and received by Cardinal within 30 days			SLUDGE OTHER: ACID/BASE: ICE / COOL OTHER: DATE	PRESERV. SA		State: Zip:		ess: bh	Company: Tette	P.O. #:	BILL TO
Verbal Result: Yes W No Add'l Phone #: All Results are emailed. Please provide Email address: All Results are emailed. Please provide Email address: REMARKS: REMARKS: Responded Time: Standard W Racteria (only) Sample Condition	amount paid by the client for the 30 days after competion of the applicable normal by client its subsidiaries.		,	TIME X TPH X BTEX Chloral	SAMPLING				enell	3 6		ANALYSIS REQUEST

		P	ige y	S Of 2
Company Name:	(575) 393-2326 FAX (575) 393-2476	101 East Marland, Hobbs, NM 88240	Laboratories	CARDINAL

(575) 393-2326	575) 393-2326 FAX (575) 393-2476			
Company Name: Canno Phillips	lol	BILL TO		ANALYSIS REQUEST
Project Manager:	Hull	P.O. #:		
Address:		Company: Testan T	tech	
City:	State: Zip:	Attn: Christian 1	Just	
Phone #:	Fax #:	Address: by engl	7	
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PLEASE NOTE: Liability and Damages. Cardinal's liability an analyses. All claims including those for negligence and any service. In no event shall Cardinal be liable for incidental or o	PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or fort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries,	at or tort, shall be limited to the amount paid by received by Cardinal within 30 days after cooks of use, or loss of profits incurred by clie.	y the client for the ompletion of the applicable in its subsidiaries,	
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FUNIN-000 N 3.2 10/0//21	+ Cardinal cannot accept verbal changes. Please email changes to celey keene@cardinallabsnm.com	anges Please email chan	res to celev.keene@cardinallab	osnm.com

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

Company Name:	(313) 333-2320 FAX (313) 333-2410	24/0	RILLTO	ANALYSIS REQUEST
Project Manager:	Commence	P.O.	#	
Address:	The control of the co	Cor	Company: Tota Try	<u></u>
City:	State:	Zip: Attn:	1	
Phone #:	Fax #:		2	
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Project Name:	and A warphoon	State:	te: Zip:	
Project Location:	Eddy Comon Mrs	Pho	Phone #:	
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FOR LAB USE ONLY		MATRIX	PRESERV. SAMPLING	
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PLEASE NOTE: Liability and D analyses. All claims including the service. In no event shall Cardinate of the service of the ser	PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remody for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligance and any other cause whatsoever shall be deemed waived unless made in whiting and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits increaded by client, its subsidiaries, affiliates or successors action and of the above stated reasons or otherwise.	issive remedy for any claim arising whether based in contract or fort, shall be stoorver shall be stoorver and the stoorver shall be stoorver shall be stoorver shall be deemed waived unless made in writing and received by care a mages, including who though instantiation, business interruptions, loss of use, of ke a manufact we have a manufact with a manufact with a manufact with a manufact of whether a manufact with a manufact with a manufact of whether a manufact with a m	shall be limited to the amount paid by the client for the red by Cardinal within 30 days after completion of the ay use, or loss of profits incurred by client, its subsidiaries, of upon any of the above stated reasons or otherwise.	of the applicable scialries.
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Sampler - UPS - Bus - Other:	s - Other: Corrected Temp. °C	Cool Intact	Thermometer ID #113	#113

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(575) 393-232	(575) 393-2326 FAX (575) 393-2476				
Company Name: Company Phill o	JOTH		BILL TO	AN	ANALYSIS REQUEST
Project Manager:	the!	P	P.O. #:		
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FOR LABUSE ONLY		MATRIX	PRESERV. SAMPLING		
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(A) 1274-8	*	<	<	*	
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affiliates or successors arising out of or related to the performa Relinquished By:	nce of service	Received By:	te: Received By:	Verbal Result:	Add'I Phone #: de Email address:
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October 11, 2022

NICHOLAS POOLE
TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND, TX 79701

RE: JAMES A WATERFLOOD

Enclosed are the results of analyses for samples received by the laboratory on 10/06/22 10:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keine

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



Analytical Results For:

TETRA TECH
NICHOLAS POOLE
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022 Reported: 10/11/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Tamara Oldaker

A I J D. ... 711

Project Location: COP - EDDY CO, NM

Sample ID: AH - 1 (0-1') (H224693-01)

BTEX 8021B	mg,	/kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2022	ND	2.31	116	2.00	4.75	
Toluene*	<0.050	0.050	10/09/2022	ND	2.16	108	2.00	4.22	
Ethylbenzene*	<0.050	0.050	10/09/2022	ND	2.09	104	2.00	5.37	
Total Xylenes*	<0.150	0.150	10/09/2022	ND	6.37	106	6.00	5.59	
Total BTEX	<0.300	0.300	10/09/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	91.9	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/10/2022	ND	416	104	400	7.41	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2022	ND	226	113	200	0.261	
DRO >C10-C28*	<10.0	10.0	10/08/2022	ND	237	118	200	0.910	
EXT DRO >C28-C36	<10.0	10.0	10/08/2022	ND					
Surrogate: 1-Chlorooctane	85.0	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	99.4	% 46.3-17	8						

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Celeg D. Frene



Analytical Results For:

TETRA TECH NICHOLAS POOLE 901 WEST WALL STREET , STE 100MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: Sampling Type: Soil 10/11/2022

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Tamara Oldaker Project Number: 212C-MD-02792 Sample Received By:

Project Location: COP - EDDY CO, NM

Sample ID: AH - 2 (0-1') (H224693-02)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2022	ND	2.31	116	2.00	4.75	
Toluene*	<0.050	0.050	10/09/2022	ND	2.16	108	2.00	4.22	
Ethylbenzene*	<0.050	0.050	10/09/2022	ND	2.09	104	2.00	5.37	
Total Xylenes*	<0.150	0.150	10/09/2022	ND	6.37	106	6.00	5.59	
Total BTEX	<0.300	0.300	10/09/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.9	% 69.9-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	10/10/2022	ND	416	104	400	7.41	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2022	ND	226	113	200	0.261	
DRO >C10-C28*	13.8	10.0	10/08/2022	ND	237	118	200	0.910	
EXT DRO >C28-C36	11.3	10.0	10/08/2022	ND					
Surrogate: 1-Chlorooctane	67.2	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	78.5	% 46.3-17	8						

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Celey D. Keine



Analytical Results For:

TETRA TECH NICHOLAS POOLE 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: Sampling Type: Soil 10/11/2022

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: Sample Received By: Tamara Oldaker 212C-MD-02792

Project Location: COP - EDDY CO, NM

Sample ID: AH - 3 (0-1') (H224693-03)

BTEX 8021B	mg,	/kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2022	ND	2.31	116	2.00	4.75	
Toluene*	<0.050	0.050	10/09/2022	ND	2.16	108	2.00	4.22	
Ethylbenzene*	<0.050	0.050	10/09/2022	ND	2.09	104	2.00	5.37	
Total Xylenes*	<0.150	0.150	10/09/2022	ND	6.37	106	6.00	5.59	
Total BTEX	<0.300	0.300	10/09/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.1	% 69.9-14	0						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	10/10/2022	ND	416	104	400	7.41	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2022	ND	226	113	200	0.261	
DRO >C10-C28*	<10.0	10.0	10/08/2022	ND	237	118	200	0.910	
EXT DRO >C28-C36	<10.0	10.0	10/08/2022	ND					
Surrogate: 1-Chlorooctane	73.9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	87.2	% 46.3-17	8						

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Celey D. Keine



Analytical Results For:

TETRA TECH
NICHOLAS POOLE
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: 10/11/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Tamara Oldaker

Analyzed By: JH

Project Location: COP - EDDY CO, NM

Sample ID: AH - 4 (0-1') (H224693-04)

BTEX 8021B

	9,	9	7	7: :					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2022	ND	2.31	116	2.00	4.75	
Toluene*	<0.050	0.050	10/09/2022	ND	2.16	108	2.00	4.22	
Ethylbenzene*	<0.050	0.050	10/09/2022	ND	2.09	104	2.00	5.37	
Total Xylenes*	<0.150	0.150	10/09/2022	ND	6.37	106	6.00	5.59	
Total BTEX	<0.300	0.300	10/09/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.7	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	10/10/2022	ND	416	104	400	7.41	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2022	ND	226	113	200	0.261	
DRO >C10-C28*	<10.0	10.0	10/08/2022	ND	237	118	200	0.910	
EXT DRO >C28-C36	<10.0	10.0	10/08/2022	ND					
Surrogate: 1-Chlorooctane	76.8	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	89.9	% 46.3-17	8						

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Celey D. Keene



Analytical Results For:

TETRA TECH
NICHOLAS POOLE
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: 10/11/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Tamara Oldaker

Applyzod By: 14

Project Location: COP - EDDY CO, NM

Sample ID: AH - 5 (0-1') (H224693-05)

RTFY 8021R

BIEX 8021B	mg	/кд	Anaiyze	a By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2022	ND	2.31	116	2.00	4.75	
Toluene*	<0.050	0.050	10/09/2022	ND	2.16	108	2.00	4.22	
Ethylbenzene*	<0.050	0.050	10/09/2022	ND	2.09	104	2.00	5.37	
Total Xylenes*	<0.150	0.150	10/09/2022	ND	6.37	106	6.00	5.59	
Total BTEX	<0.300	0.300	10/09/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	91.3	% 69.9-14	0						
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	10/10/2022	ND	416	104	400	7.41	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2022	ND	226	113	200	0.261	
DRO >C10-C28*	<10.0	10.0	10/08/2022	ND	237	118	200	0.910	
EXT DRO >C28-C36	<10.0	10.0	10/08/2022	ND					
Surrogate: 1-Chlorooctane	76.4	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	89.2	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
NICHOLAS POOLE
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: 10/11/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Tamara Oldaker

Analyzed By: JH

Project Location: COP - EDDY CO, NM

Sample ID: AH - 6 (0-1') (H224693-06)

BTEX 8021B

	9/	9	7	7: :					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2022	ND	2.29	115	2.00	1.42	QR-03
Toluene*	<0.050	0.050	10/09/2022	ND	2.16	108	2.00	1.43	QR-03
Ethylbenzene*	<0.050	0.050	10/09/2022	ND	2.09	104	2.00	1.34	QR-03
Total Xylenes*	<0.150	0.150	10/09/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/09/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	91.5	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/10/2022	ND	416	104	400	7.41	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2022	ND	226	113	200	0.261	
DRO >C10-C28*	<10.0	10.0	10/08/2022	ND	237	118	200	0.910	
EXT DRO >C28-C36	<10.0	10.0	10/08/2022	ND					
Surrogate: 1-Chlorooctane	79.0	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	92.8	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
NICHOLAS POOLE
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: 10/11/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Tamara Oldaker

Analyzed By: JH

Project Location: COP - EDDY CO, NM

Sample ID: AH - 7 (0-1') (H224693-07)

BTEX 8021B

DILX GOZID	ıııg,	, kg	Andryzo	u by. 511					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/09/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/09/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	10/09/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/09/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	91.6	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	10/10/2022	ND	416	104	400	7.41	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/07/2022	ND	213	106	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/07/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	<10.0	10.0	10/07/2022	ND					
Surrogate: 1-Chlorooctane	102	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	108	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
NICHOLAS POOLE
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: 10/11/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Tamara Oldaker

Analyzed By: JH

Project Location: COP - EDDY CO, NM

Sample ID: AH - 8 (0-1') (H224693-08)

BTEX 8021B

	9,	9	7	7: :					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/09/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/09/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	10/09/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/09/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.4	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	10/10/2022	ND	416	104	400	7.41	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/07/2022	ND	213	106	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/07/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	<10.0	10.0	10/07/2022	ND					
Surrogate: 1-Chlorooctane	87.4	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	90.4	% 46.3-17	8						

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Analytical Results For:

TETRA TECH NICHOLAS POOLE 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: Sampling Type: Soil 10/11/2022

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Sample Received By: Tamara Oldaker Project Number: 212C-MD-02792

Project Location: COP - EDDY CO, NM

Sample ID: AH - 9 (0-1') (H224693-09)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/10/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/10/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/10/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	< 0.150	0.150	10/10/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/10/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.2 9	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/10/2022	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/07/2022	ND	213	106	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/07/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	<10.0	10.0	10/07/2022	ND					
Surrogate: 1-Chlorooctane	105 %	6 45.3-16	1						
Surrogate: 1-Chlorooctadecane	111 %	6 46.3-17	8						

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Analytical Results For:

TETRA TECH
NICHOLAS POOLE
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: 10/11/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Tamara Oldaker

Analyzed By: JH

Project Location: COP - EDDY CO, NM

Sample ID: AH - 10 (0-1') (H224693-10)

BTEX 8021B

DILX GOZID	ıııg,	, kg	Andryzo	u by. 511					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/10/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/10/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/10/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	10/10/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/10/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	91.8	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/10/2022	ND	432	108	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/07/2022	ND	213	106	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/07/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	<10.0	10.0	10/07/2022	ND					
Surrogate: 1-Chlorooctane	103	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	109	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
NICHOLAS POOLE
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: 10/11/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Tamara Oldaker

Applyzod By: 14

Project Location: COP - EDDY CO, NM

Sample ID: AH - 11 (0-1') (H224693-11)

RTFY 8021R

B1EX 8021B	mg	/ kg	Anaiyze	a By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/10/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/10/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/10/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	10/10/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/10/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	91.8	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5360	16.0	10/10/2022	ND	432	108	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/07/2022	ND	213	106	200	2.20	
DRO >C10-C28*	95.7	10.0	10/07/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	23.5	10.0	10/07/2022	ND					
Surrogate: 1-Chlorooctane	91.8	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	106	% 46.3-17	8						

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Analytical Results For:

TETRA TECH NICHOLAS POOLE 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: Sampling Type: Soil 10/11/2022

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Sample Received By: Tamara Oldaker Project Number: 212C-MD-02792

Project Location: COP - EDDY CO, NM

Sample ID: AH - 11 (2'-3') (H224693-12)

BTEX 8021B	mg/	/kg	Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/10/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/10/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/10/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	10/10/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/10/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	90.9	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2400	16.0	10/10/2022	ND	432	108	400	3.77	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/07/2022	ND	213	106	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/07/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	<10.0	10.0	10/07/2022	ND					
Surrogate: 1-Chlorooctane	95.4	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	102 9	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
NICHOLAS POOLE
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: 10/11/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Tamara Oldaker

Analyzed By: JH

Project Location: COP - EDDY CO, NM

Sample ID: AH - 11 (4'-5') (H224693-13)

BTEX 8021B

	9/	9	7111411720						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/10/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/10/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/10/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	10/10/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/10/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	92.2	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	10/10/2022	ND	432	108	400	3.77	
TPH 8015M	mg	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/07/2022	ND	213	106	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/07/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	<10.0	10.0	10/07/2022	ND					
Surrogate: 1-Chlorooctane	97.0	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	102	% 46.3-17	8						

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Analytical Results For:

TETRA TECH NICHOLAS POOLE 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: Sampling Type: Soil 10/11/2022

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Project Number: Sample Received By: 212C-MD-02792 Tamara Oldaker

Project Location: COP - EDDY CO, NM

Sample ID: AH - 12 (0-1') (H224693-14)

BTEX 8021B	mg	'kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/10/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/10/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/10/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	10/10/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/10/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	92.6	% 69.9-14	0						
Chloride, SM4500CI-B	mg	'kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/10/2022	ND	432	108	400	3.77	
TPH 8015M	mg	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/07/2022	ND	213	106	200	2.20	
DRO >C10-C28*	31.8	10.0	10/07/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	<10.0	10.0	10/07/2022	ND					
Surrogate: 1-Chlorooctane	84.5	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	86.8	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
NICHOLAS POOLE
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: 10/11/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Tamara Oldaker

Analyzed By: JH

Project Location: COP - EDDY CO, NM

mg/kg

Sample ID: AH - 12 (2'-3') (H224693-15)

BTEX 8021B

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/10/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/10/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/10/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	10/10/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/10/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	91.7	% 69.9-14	0						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/10/2022	ND	432	108	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/07/2022	ND	213	106	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/07/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	<10.0	10.0	10/07/2022	ND					
Surrogate: 1-Chlorooctane	97.2	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	101	% 46.3-17	8						

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Analytical Results For:

TETRA TECH NICHOLAS POOLE 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: Sampling Type: Soil 10/11/2022

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Sample Received By: Tamara Oldaker Project Number: 212C-MD-02792

Project Location: COP - EDDY CO, NM

Sample ID: AH - 13 (0-1') (H224693-16)

BTEX 8021B	mg/	kg	Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/10/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/10/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/10/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	10/10/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/10/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	92.3	% 69.9-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	10/10/2022	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/07/2022	ND	213	106	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/07/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	<10.0	10.0	10/07/2022	ND					
Surrogate: 1-Chlorooctane	102 9	45.3-16	1						
Surrogate: 1-Chlorooctadecane	107 9	6 46.3-17	8						

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Analytical Results For:

TETRA TECH
NICHOLAS POOLE
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: 10/11/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Tamara Oldaker

Applyzod By: 14

Project Location: COP - EDDY CO, NM

Sample ID: AH - 13 (2'-3') (H224693-17)

RTFY 8021R

BIEX 8021B	mg	/ kg	Anaiyze	a By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/10/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/10/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/10/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	10/10/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/10/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	91.9	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	10/10/2022	ND	432	108	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/07/2022	ND	213	106	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/07/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	<10.0	10.0	10/07/2022	ND					
Surrogate: 1-Chlorooctane	102	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	111	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
NICHOLAS POOLE
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: 10/11/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact
Project Number: 212C-MD-02792 Sample Received By: Tamara Oldaker

Applyzod By: 14

Project Location: COP - EDDY CO, NM

Sample ID: AH - 14 (0-1') (H224693-18)

RTFY 8021R

BIEX 8021B	mg	/кд	Anaiyze	a By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/10/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/10/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/10/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	10/10/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/10/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.5	% 69.9-14	0						
Chloride, SM4500CI-B	mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	10/10/2022	ND	432	108	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/07/2022	ND	213	106	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/07/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	<10.0	10.0	10/07/2022	ND					
Surrogate: 1-Chlorooctane	102	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	107	% 46.3-17	8						

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Analytical Results For:

TETRA TECH NICHOLAS POOLE 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: Sampling Type: Soil 10/11/2022

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Sample Received By: Tamara Oldaker Project Number: 212C-MD-02792

Project Location: COP - EDDY CO, NM

Sample ID: AH - 14 (2'-3') (H224693-19)

BTEX 8021B	mg/	/kg	Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/10/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/10/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/10/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	10/10/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/10/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	92.0	% 69.9-14	0						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	10/10/2022	ND	432	108	400	3.77	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/07/2022	ND	213	106	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/07/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	<10.0	10.0	10/07/2022	ND					
Surrogate: 1-Chlorooctane	106 9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	113 9	% 46.3-17	8						

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Analytical Results For:

TETRA TECH NICHOLAS POOLE 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: Sampling Type: Soil 10/11/2022

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Tamara Oldaker Project Number: 212C-MD-02792 Sample Received By:

Applyzod By: 14

Project Location: COP - EDDY CO, NM

Sample ID: AH - 15 (0-1') (H224693-20)

RTFY 8021R

BIEX 8021B	mg	/кд	Anaiyze	a By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/10/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/10/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/10/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	10/10/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/10/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	91.3	% 69.9-14	0						
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12400	16.0	10/10/2022	ND	432	108	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2022	ND	213	106	200	2.20	
DRO >C10-C28*	190	10.0	10/08/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	52.7	10.0	10/08/2022	ND					
Surrogate: 1-Chlorooctane	86.2	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	90.9	% 46.3-17	8						

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Analytical Results For:

TETRA TECH NICHOLAS POOLE 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: Sampling Type: Soil 10/11/2022

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Sample Received By: Project Number: 212C-MD-02792 Tamara Oldaker

Project Location: COP - EDDY CO, NM

Sample ID: AH - 15 (2'-3') (H224693-21)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/10/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/10/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/10/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	10/10/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/10/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	89.7	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5840	16.0	10/10/2022	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2022	ND	213	106	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/08/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	<10.0	10.0	10/08/2022	ND					
Surrogate: 1-Chlorooctane	102 9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	106 9	46.3-17	8						

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Analytical Results For:

TETRA TECH NICHOLAS POOLE 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 10/06/2022 Sampling Date: 10/05/2022

Reported: Sampling Type: Soil 10/11/2022

Project Name: JAMES A WATERFLOOD Sampling Condition: Cool & Intact Sample Received By: Tamara Oldaker Project Number: 212C-MD-02792

Project Location: COP - EDDY CO, NM

Sample ID: AH - 15 (4'-5') (H224693-22)

BTEX 8021B	mg/	kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/10/2022	ND	2.29	115	2.00	1.42	
Toluene*	<0.050	0.050	10/10/2022	ND	2.16	108	2.00	1.43	
Ethylbenzene*	< 0.050	0.050	10/10/2022	ND	2.09	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	10/10/2022	ND	6.34	106	6.00	1.62	
Total BTEX	<0.300	0.300	10/10/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	92.4	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2840	16.0	10/10/2022	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2022	ND	213	106	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/08/2022	ND	220	110	200	3.73	
EXT DRO >C28-C36	<10.0	10.0	10/08/2022	ND					
Surrogate: 1-Chlorooctane	104 9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	110 %	6 46.3-17	8						

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Notes and Definitions

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch

accepted based on LCS and/or LCSD recovery and/or RPD values.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

	Pag	ge 122 of 27
0	101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476	CARDINAL Laboratories

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	BILL TO	ANALYSIS REQUEST
roject Manager:	P.O. #:	
to ichoco	Company: Tetra	Teeb
State:	Zip: Attn: Chaythan	Llott 1
Phone #: Fax #:	Address: 64 Of	comet
Project #: 2124-MD-02792 Project Owner:	city:	
₫ J	State: Zip:	
on: Eddy loundy	Phone #:	
letter B	1	
	MATRIX PRESERV.	SAMPLING
Lab I.D. Sample I.D.	# CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER: ACID/BASE: ICE / COOL OTHER:	TPH BTEX Chlorid
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6 A4-6 (0-1)		
(1-0) 8-MM 8		
10 AH-10 (0-11)		
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Delivered By: (Circle One) Observed Temp. °C	Sample Condition CHECKED BY: Cool Intact (Initials)	Standard Bacteria Rush Cool Int
Sampler - UPS - Bus - Other: Corrected Temp. °C	1.7 Yes 7 Yes	Thermometer ID #113
FORM-000 R 3.2 10/07/21	Cardinal cannot accent verbal changes. Please email changes to celey.keene@cardinallabsnm.com	hanges to celey.keene@cardinallabsnm.com

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476	POINAL oratories

Please email changes to celev.keene@cardinallabsnm.com	nanges Please email changes to	L No L No	FORW-000 R 3.2 10/07/21
Thermometer ID #113 Correction Factor -0.4°C To 19/6/22 No No Corrected Temp. °C	4	Corrected Temp. °C / 7	Sampler - UPS - Bus - Other:
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vise. ☐ Yes ☑ No Add'I Phone #:	m is based upon any of the above stated reasons or otherwise.	service. In no event shall Cardinal be liable for incidental or consequental damages, including willout illimitation, because the second of the liable for incidental or consequental damages, including willout illimitation, beased upon any of the above stated reasons or otherwise. **The Rost is a successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.	service. In no event shall Cardinal be liable for incidental or consequen affiliates or successors arising out of or related to the performance of su
the applicable laries,	and received by Cardinal within 30 days after completion of solutions of use, or loss of profits incurred by client, its subsides	PLEASE NOTE: Liability and Damages. Cardiffal's liability and client's exclusive remedy for any claim arising whether based in collusted or lock, and traceved by Cardinal within 30 days after completion of the applicable analyses. All claims including those for negligence and any other cause whatsoever shall be deemed which the writing and received by Cardinal within 30 days after completion of the applicable analyses. All claims including those for negligence and any other cause whatsoever shall be deemed which the writing and received by Cardinal within 30 days after completion of the applicable	PLEASE NOTE: Liability and Damages. Cardinal's liability a analyses. All claims including those for negligence and any
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	pany:		Address:
	+	riste	Project Manager: MZMOS Pr
- 1	BILL 10		Company Name: Canoco Phillips
ANALYSIS REQUEST		575) 393-2326 FAX (5/5) 353-24/6	(575) 393-2326 1
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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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ddress:	company: Tetra Trees	
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SOB LAB LISE ONLY	MATRIX PRESERV. SAMPLING	
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filiales or successors arising out of or related to the performance of services hereunder by Cardinal Relinquished By:	Received By:	Verbal Result: ☐ Yes ☑ No │Add'l Phone #: All Result's are emailed. Please provide Email address:
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Page 27 of 27



December 15, 2022

CHRISTIAN LLULL
TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND, TX 79701

RE: JAMES A WATERFLOOD

Enclosed are the results of analyses for samples received by the laboratory on 12/12/22 15:19.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab accred certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Celey D. Keene

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701

Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022 Reported: 12/15/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes)
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

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Project Location: COP - EDDY CO, NM

Sample ID: B - 7 (0-1') (H225848-01)

BTEX 8021B		/kg	Analyze	d By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.25		
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.41		
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.17	109	2.00	0.453		
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.66	111	6.00	0.413		
Total BTEX	<0.300	0.300	12/13/2022	ND						
Surrogate: 4-Bromofluorobenzene (PID	106	% 69.9-14	0							
Chloride, SM4500CI-B	mg/kg		Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	8260	16.0	12/13/2022	ND	400	100	400	3.92		
TPH 8015M	mg/kg		Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	197	98.6	200	0.758		
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	204	102	200	0.639		
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND						
Surrogate: 1-Chlorooctane	66.6	% 45.3-16	1							
Surrogate: 1-Chlorooctadecane	71.7	% 46.3-17	8							

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Celey D. Kreene



Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: 12/15/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes)

Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: 1H /

Project Location: COP - EDDY CO, NM

Sample ID: B - 7 (2'-3') (H225848-02)

RTFY 8021R

BIEX 8021B	mg	/ kg	Anaiyze	a By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.25	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.41	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.17	109	2.00	0.453	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.66	111	6.00	0.413	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	107	% 69.9-14	0						
Chloride, SM4500CI-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4000	16.0	12/13/2022	ND	400	100	400	3.92	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	197	98.6	200	0.758	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	204	102	200	0.639	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	64.4	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	69.5	% 46.3-17	78						

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Celey & Keene



Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: 12/15/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes)

Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: 1H /

Project Location: COP - EDDY CO, NM

Sample ID: B - 7 (3'-4') (H225848-03)

RTFY 8021R

BIEX 8021B	mg	/ kg	Anaiyze	ea By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.25	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.41	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.17	109	2.00	0.453	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.66	111	6.00	0.413	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	112	% 69.9-14	0						
Chloride, SM4500CI-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	976	16.0	12/13/2022	ND	400	100	400	3.92	
TPH 8015M	mg	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	197	98.6	200	0.758	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	204	102	200	0.639	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	80.3	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	86.4	% 46.3-17	<i>'8</i>						

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Celey D. Keine



Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: Sampling Type: Soil 12/15/2022

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes) Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - EDDY CO, NM

Sample ID: B - 7 (4'-5') (H225848-04)

BTEX 8021B	mg/	kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.25	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.41	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.17	109	2.00	0.453	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.66	111	6.00	0.413	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	108 9	69.9-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	12/13/2022	ND	400	100	400	3.92	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	197	98.6	200	0.758	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	204	102	200	0.639	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	58.1	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	61.6	% 46.3-17	8						

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Celey D. Keine



Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: 12/15/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes)

Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: 1H /

Project Location: COP - EDDY CO, NM

Sample ID: B - 7 (6'-7') (H225848-05)

RTFY 8021R

Analyte ne* e* enzene* (ylenes*	Result <0.050 <0.050 <0.050 <0.050 <0.150	0.050 0.050 0.050	Analyzed 12/13/2022 12/13/2022	Method Blank ND ND	BS 2.23	% Recovery	True Value QC	RPD	Qualifier
e* enzene* (ylenes*	<0.050 <0.050	0.050			2.23	112	2.00		
enzene* (ylenes*	<0.050		12/13/2022	ND			2.00	1.25	
(ylenes*		0.050		ND	2.23	112	2.00	1.41	
•	< 0.150		12/13/2022	ND	2.17	109	2.00	0.453	
STEX		0.150	12/13/2022	ND	6.66	111	6.00	0.413	
	<0.300	0.300	12/13/2022	ND					
ate: 4-Bromofluorobenzene (F	ID 109 %	69.9-14	0						
le, SM4500CI-B	mg/l	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
de	272	16.0	12/13/2022	ND	400	100	400	3.92	
)15M	mg/l	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
6-C10*	<10.0	10.0	12/13/2022	ND	197	98.6	200	0.758	
C10-C28*	<10.0	10.0	12/13/2022	ND	204	102	200	0.639	
RO >C28-C36	<10.0	10.0	12/13/2022	ND					
	65.4 %	% 45.3-16	1						
ate: 1-Chlorooctane									
RO >C28-C36				ND				_	

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: 12/15/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes)

Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: 1H /

Project Location: COP - EDDY CO, NM

Sample ID: B - 7 (8'-9') (H225848-06)

RTFY 8021R

BIEX 8021B	mg	/кд	Anaiyze	a By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.25	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.41	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.17	109	2.00	0.453	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.66	111	6.00	0.413	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	108	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	12/13/2022	ND	400	100	400	3.92	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	197	98.6	200	0.758	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	204	102	200	0.639	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	50.7	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	54.5	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: 12/15/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes)

Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - EDDY CO, NM

Sample ID: B - 7 (14'-15') (H225848-07)

BTEX 8021B	mg,	/kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.25	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.41	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.17	109	2.00	0.453	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.66	111	6.00	0.413	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	106	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	12/13/2022	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	222	111	200	0.145	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	199	99.5	200	0.927	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	67.6	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	72.0	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701

Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: Sampling Type: Soil 12/15/2022

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes) Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - EDDY CO, NM

Sample ID: B - 7 (19'-20') (H225848-08)

BTEX 8021B	mg/	'kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.25	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.41	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.17	109	2.00	0.453	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.66	111	6.00	0.413	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	111 9	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	12/13/2022	ND	400	100	400	3.92	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	222	111	200	0.145	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	199	99.5	200	0.927	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	73.5	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	76.6	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: 12/15/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes)

Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - EDDY CO, NM

Sample ID: B - 7 (24'-25') (H225848-09)

BTEX 8021B	mg	/kg	Analyze	ed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.25	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.41	
Ethylbenzene*	< 0.050	0.050	12/13/2022	ND	2.17	109	2.00	0.453	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.66	111	6.00	0.413	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	106	% 69.9-14	0						
Chloride, SM4500CI-B	mg	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	12/13/2022	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	222	111	200	0.145	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	199	99.5	200	0.927	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	69.2	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	72.3	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701

Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: Sampling Type: Soil 12/15/2022

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes) Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - EDDY CO, NM

Sample ID: B - 7 (29'-30') (H225848-10)

BTEX 8021B	mg,	'kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.25	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.41	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.17	109	2.00	0.453	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.66	111	6.00	0.413	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	107	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	'kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	12/13/2022	ND	416	104	400	0.00	
TPH 8015M	mg,	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	222	111	200	0.145	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	199	99.5	200	0.927	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	73.1	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	76.0	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701 Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: Sampling Type: Soil 12/15/2022

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes) Sample Received By: Project Number: 212C-MD-02792 Shalyn Rodriguez

Project Location: COP - EDDY CO, NM

Sample ID: B - 8 (0-1') (H225848-11)

BTEX 8021B	mg/	/kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.25	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.41	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.17	109	2.00	0.453	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.66	111	6.00	0.413	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	112 9	% 69.9-14	0						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	752	16.0	12/13/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	222	111	200	0.145	
DRO >C10-C28*	45.2	10.0	12/13/2022	ND	199	99.5	200	0.927	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	70.8	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	75.6	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

 Received:
 12/12/2022
 Sampling Date:
 12/12/2022

 Reported:
 12/15/2022
 Sampling Type:
 Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes)
Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: 1H /

Project Location: COP - EDDY CO, NM

Sample ID: B - 8 (2'-3') (H225848-12)

RTFY 8021R

BIEX 8021B	mg	/ kg	Anaiyze	ea By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.25	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.41	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.17	109	2.00	0.453	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.66	111	6.00	0.413	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	108	% 69.9-14	0						
Chloride, SM4500Cl-B	mg	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	12/13/2022	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	222	111	200	0.145	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	199	99.5	200	0.927	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	71.7	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	76.7	% 46.3-17	<i>'8</i>						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: 12/15/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes)

Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: 1H /

Project Location: COP - EDDY CO, NM

Sample ID: B - 8 (3'-4') (H225848-13)

RTFY 8021R

BIEX 8021B	mg	/ kg	Anaiyze	ea By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.25	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.41	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.17	109	2.00	0.453	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.66	111	6.00	0.413	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	108	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	12/13/2022	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	222	111	200	0.145	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	199	99.5	200	0.927	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	76.7	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	81.3	% 46.3-17	78						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701

Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: 12/15/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes)

Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: 1H /

Project Location: COP - EDDY CO, NM

Sample ID: B - 8 (4'-5') (H225848-14)

RTFY 8021R

BIEX 8021B	mg	/ kg	Anaiyze	a By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.25	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.41	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.17	109	2.00	0.453	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.66	111	6.00	0.413	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	108	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	12/13/2022	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	222	111	200	0.145	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	199	99.5	200	0.927	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	78.0	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	82.8	% 46.3-17	8						

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Celey D. Keene



Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701

(432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: Sampling Type: Soil 12/15/2022

Fax To:

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes) Sample Received By: Project Number: 212C-MD-02792 Shalyn Rodriguez

Project Location: COP - EDDY CO, NM

Sample ID: B - 8 (6'-7') (H225848-15)

BTEX 8021B	mg/	/kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.25	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.41	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.17	109	2.00	0.453	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.66	111	6.00	0.413	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	110 9	% 69.9-14	0						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	12/13/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	222	111	200	0.145	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	199	99.5	200	0.927	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	67.0	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	68.8	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET, STE 100 MIDLAND TX, 79701

(432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: Sampling Type: Soil 12/15/2022

Fax To:

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes) Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Project Location: COP - EDDY CO, NM

Sample ID: B - 8 (8'-9') (H225848-16)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.22	111	2.00	1.83	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.89	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.26	113	2.00	3.09	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.83	114	6.00	3.12	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	113 9	69.9-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	12/13/2022	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	222	111	200	0.145	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	199	99.5	200	0.927	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	66.4	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	71.1	% 46.3-17	8						

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Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701

Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: 12/15/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes)

Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Analyzed By: MS

Project Location: COP - EDDY CO, NM

Sample ID: B - 8 (14'-15') (H225848-17)

BTEX 8021B

DIEX OUZID	mg/ kg		Allulyzed by: PIS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.22	111	2.00	1.83	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.89	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.26	113	2.00	3.09	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.83	114	6.00	3.12	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	111 9	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	12/13/2022	ND	416	104	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	197	98.6	200	0.758	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	204	102	200	0.639	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	60.6 % 45.3-16		1						
Surrogate: 1-Chlorooctadecane	65.5	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: 12/15/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes)

Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Applyzod By: MC

Project Location: COP - EDDY CO, NM

Sample ID: B - 8 (19'-20') (H225848-18)

RTFY 8021R

B1EX 8021B	тд/кд		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.22	111	2.00	1.83	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.89	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.26	113	2.00	3.09	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.83	114	6.00	3.12	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	111 9	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	12/13/2022	ND	416	104	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	197	98.6	200	0.758	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	204	102	200	0.639	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	81.5	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	87.4	% 46.3-17	8						

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Analytical Results For:

TETRA TECH
CHRISTIAN LLULL
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: 12/15/2022 Sampling Type: Soil

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes)

Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Applyzod By: MC

Project Location: COP - EDDY CO, NM

Sample ID: B - 8 (24'-25') (H225848-19)

RTFY 8021R

BIEX 8021B	тд/кд		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.22	111	2.00	1.83	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.89	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.26	113	2.00	3.09	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.83	114	6.00	3.12	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	111	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	12/13/2022	ND	416	104	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	199	99.3	200	2.06	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	217	108	200	1.24	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	99.6% 45.3-16		1						
Surrogate: 1-Chlorooctadecane	102	% 46.3-17	8						

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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH CHRISTIAN LLULL 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701

(432) 682-3946

Received: 12/12/2022 Sampling Date: 12/12/2022

Reported: 12/15/2022 Sampling Type: Soil

Fax To:

Project Name: JAMES A WATERFLOOD Sampling Condition: ** (See Notes)

Project Number: 212C-MD-02792 Sample Received By: Shalyn Rodriguez

Applyzod By: MC

Project Location: COP - EDDY CO, NM

Sample ID: B - 8 (29'-30') (H225848-20)

RTFY 8021R

BIEX 8021B	mg	/кд	Anaiyze	а ву: м5					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2022	ND	2.22	111	2.00	1.83	
Toluene*	<0.050	0.050	12/13/2022	ND	2.23	112	2.00	1.89	
Ethylbenzene*	<0.050	0.050	12/13/2022	ND	2.26	113	2.00	3.09	
Total Xylenes*	<0.150	0.150	12/13/2022	ND	6.83	114	6.00	3.12	
Total BTEX	<0.300	0.300	12/13/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	113	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	12/13/2022	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	199	99.3	200	2.06	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	217	108	200	1.24	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					
Surrogate: 1-Chlorooctane	91.9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	94.2	% 46.3-17	8						

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Celeg & Freene

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST



101 East Marland, Hobbs, NM 88240

			1,
(575) 393		ANALYSIS REQUEST	
Project Manager: / h	P.O. #:		
Address:	Company: Tella	TOMA TECK	- 1
City:	State: Zip: Attn: Ch	Mitten Hill	
Phone #:	Fax #: Address:	by ernest	
Project #: 212-40-02792	Project Owner: City:		
Project Name: Tank A Lan	ERWOOD State:	Zip:	
Project Location: Bolle Coun	My WW Phone #:		
Sampler Name: Sitte	Fax #:		
FOR LAB USE ONLY	MATRIX PRESERV	SAMPLING	
Lab I.D. Sample I.D.	(G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER: ACID/BASE: ICE / COOL	TPH BTBX Chlorade	
8-7 (0-1') 8-7 (2'-3')	# (C)	2	
3 8-7(3-4)			
5 8-7(6-7)			
5 B-7(191-201)			
10 8-1/29-200		-	
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affiliates or successors arising out of or related to the performanc Relinquished By:	Date: Received By:	Verbal Result: ☐ Yes ☑ No Add'l Phone #: All Results are emailed. Please provide Email address:	
Relifiquished By:	Date: Received By:	REMARKS: LINK @ total tech. com	
			ndition
Delivered By: (Circle One)	Sample Condition Cool Intact	me: Standard M Bacteria (only) S Rush Cool Intact	Observed Temp. °C
Sampler - UPS - Bus - Other: C	Corrected Temp. °C 2 1. UC TWO TO NO TO NO	Correction Factor -0.5°C O C No No Corrected	Corrected Temp. °C

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2	(575) 393-2320	101 East Marlar		שלחכוני	CIXIT	
	(575) 393-2326 FAX (575) 393-2476	101 East Marland, Hobbs, NM 88240	7000	Thoratories		

	bsnm.com	Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com	ges. Please email chang	ot accept verbal chan	† Cardinal cann	OKIVI-000 K 3.3 01/10/22	1
L	No	Correction Factor -0.6°C	200	U'C No No No	Corrected Temp. °C	- UPS - Bus - Other:	Sampler - UPS
		me:	CHECKED BY: (Initials)	Sample Cor	Observed Temp. °C 33.2	Delivered By: (Circle One)	Delivere
					Time:		
		a Just a	72	Received By:	Date: Re	Relinquished By:	Relinqui
	Costantophy Con	Later Chillest	2 / 0 / 8	X SVI	Time:	110	1
	Add'l Phone #: vide Email address:	Verbal Result: ☐ Yes ☑ No Add'I Phone #: All Results are emailed. Please provide Email address:		d By:	Date:	Relinquished By:	Relinqui
			ss interruptions, loss of use, or loss of profits incurred by client, ther such claim is based upon any of the above stated reason	ut limitation, business interruptions, lost	ariaryses, All damins including whose or integration in the process of sensions and ariaryses and carries in the process of profits incurred by client, its subsidiaries service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries services. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries services.	event shall Cardinal be liable for incidental	service. In no e
		ne client for the applicable	arising whether based in contract or tort, shall be limited to the amount paid by the client for the waived unless made in writing and received by Cardinal within 30 days after completion of the a	n arising whether based in contract or d waived unless made in writing and re	PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any dairn arising whether based in contract or tort, shall be limited to the amount paid by the client to use publicable and larger including those for pedigenous and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable	PLEASE NOTE: Liability and Damages. Cardinal's liability and those for negligence and a	PLEASE NOTE
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					575) 393-2326 FAX (575) 393-2476	(575) 393-2326	

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Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400

Midland, Texas 79701

Generated 12/19/2022 4:40:31 PM

JOB DESCRIPTION

James A Waterflood SDG NUMBER Lea County NM

JOB NUMBER

890-3603-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

Generated 12/19/2022 4:40:31 PM

Authorized for release by Jessica Kramer, Project Manager <u>Jessica.Kramer@et.eurofinsus.com</u> (432)704-5440

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

Page 2 of 21

Client: Ensolum
Project/Site: James A Waterflood
Laboratory Job ID: 890-3603-1
SDG: Lea County NM

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Definitions/Glossary

Job ID: 890-3603-1 Client: Ensolum Project/Site: James A Waterflood SDG: Lea County NM

Qualifiers

GC VOA

Qualifier **Qualifier Description** F1 MS and/or MSD recovery exceeds control limits.

F2 MS/MSD RPD exceeds control limits

Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier **Qualifier Description**

*1 LCS/LCSD RPD exceeds control limits.

S1+ Surrogate recovery exceeds control limits, high biased. Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier **Qualifier Description**

U Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery CFL Contains Free Liquid CFU Colony Forming Unit Contains No Free Liquid **CNF**

Duplicate Error Ratio (normalized absolute difference) DER

Dil Fac **Dilution Factor**

Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) Limit of Quantitation (DoD/DOE) LOQ

MCL EPA recommended "Maximum Contaminant Level" MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit ML Minimum Level (Dioxin) MPN Most Probable Number MOI Method Quantitation Limit

NC Not Calculated

Not Detected at the reporting limit (or MDL or EDL if shown) ND

NEG Negative / Absent POS Positive / Present **Practical Quantitation Limit PQL**

PRES Presumptive **Quality Control** QC

Relative Error Ratio (Radiochemistry) **RER**

Reporting Limit or Requested Limit (Radiochemistry) RL

RPD Relative Percent Difference, a measure of the relative difference between two points

Toxicity Equivalent Factor (Dioxin) TEF Toxicity Equivalent Quotient (Dioxin) **TEQ**

TNTC Too Numerous To Count

Case Narrative

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3603-1

SDG: Lea County NM

Job ID: 890-3603-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3603-1

Receipt

The samples were received on 12/8/2022 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: BH06 (890-3603-1) and BH06 (890-3603-2).

GC VOA

Method 8021B: The following samples were diluted due to the nature of the sample matrix: (890-3601-A-1-C MS) and (890-3601-A-1-D MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD NM: The surrogate recovery for the blank associated with preparation batch 880-41625 and analytical batch 880-41693 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-41693/5) and (LCS 880-41625/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD NM: The method blank for preparation batch 880-41625 and analytical batch 880-41693 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-41625 and analytical batch 880-41693 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Matrix: Solid

Lab Sample ID: 890-3603-1

Client Sample Results

Client: Ensolum Job ID: 890-3603-1 Project/Site: James A Waterflood SDG: Lea County NM

Client Sample ID: BH06

Date Collected: 12/06/22 15:00 Date Received: 12/08/22 11:20

Sample Depth: 1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 10:11	1
Toluene	< 0.00199	U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 10:11	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 10:11	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/15/22 15:22	12/17/22 10:11	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 10:11	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/15/22 15:22	12/17/22 10:11	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			12/15/22 15:22	12/17/22 10:11	1
1,4-Difluorobenzene (Surr)	100		70 - 130			12/15/22 15:22	12/17/22 10:11	1
Method: TAL SOP Total BTEX -	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/19/22 16:21	1
	•		•		_	_		
	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte	•	Qualifier	•	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 12/14/22 12:15	Dil Fac
Analyte Total TPH	Result <50.0 sel Range Orga	Qualifier U	50.0		<u> </u>			
Analyte Total TPH Method: SW846 8015B NM - Die	Result <50.0 sel Range Orga	Qualifier Unics (DRO) Qualifier	50.0		D	Prepared Prepared		1
Analyte Total TPH Method: SW846 8015B NM - Die Analyte Gasoline Range Organics	Result <50.0 sel Range Orga	Qualifier Unics (DRO) Qualifier	RL 50.0	mg/Kg	-		12/14/22 12:15	1
Analyte Total TPH Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <50.0 sel Range Orga	Qualifier U nics (DRO) Qualifier U	RL 50.0 (GC)	mg/Kg	-	Prepared	12/14/22 12:15 Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)	Result <50.0 sel Range Orga Result <50.0	Qualifier U nics (DRO) Qualifier U U *1	RL 50.0 (GC) RL 50.0	mg/Kg Unit mg/Kg	-	Prepared 12/12/22 11:00	12/14/22 12:15 Analyzed 12/13/22 16:06	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result <50.0	Qualifier U nics (DRO) Qualifier U U*1	RL 50.0 (GC) RL 50.0 50.0	mg/Kg Unit mg/Kg mg/Kg	-	Prepared 12/12/22 11:00 12/12/22 11:00	12/14/22 12:15 Analyzed 12/13/22 16:06 12/13/22 16:06	1 Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result <50.0	Qualifier U nics (DRO) Qualifier U U*1	RL 50.0 (GC) RL 50.0 50.0 50.0	mg/Kg Unit mg/Kg mg/Kg	-	Prepared 12/12/22 11:00 12/12/22 11:00 12/12/22 11:00	Analyzed 12/13/22 16:06 12/13/22 16:06 12/13/22 16:06	Dil Fac 1 1 Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	Result <50.0	Qualifier U nics (DRO) Qualifier U U*1	RL 50.0 (GC) RL 50.0 50.0 50.0 <i>Limits</i>	mg/Kg Unit mg/Kg mg/Kg	-	Prepared 12/12/22 11:00 12/12/22 11:00 12/12/22 11:00 Prepared	Analyzed 12/13/22 16:06 12/13/22 16:06 12/13/22 16:06 Analyzed	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	Result <50.0	Qualifier U nics (DRO) Qualifier U U*1 U Qualifier	RL 50.0 (GC) RL 50.0 50.0 50.0 Limits 70 - 130 70 - 130	mg/Kg Unit mg/Kg mg/Kg	-	Prepared 12/12/22 11:00 12/12/22 11:00 12/12/22 11:00 Prepared 12/12/22 11:00	Analyzed 12/13/22 16:06 12/13/22 16:06 12/13/22 16:06 Analyzed 12/13/22 16:06	1 Dil Fac 1 1
Analyte Total TPH Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl	Result	Qualifier U nics (DRO) Qualifier U U*1 U Qualifier	RL 50.0 (GC) RL 50.0 50.0 50.0 Limits 70 - 130 70 - 130	mg/Kg Unit mg/Kg mg/Kg	-	Prepared 12/12/22 11:00 12/12/22 11:00 12/12/22 11:00 Prepared 12/12/22 11:00	Analyzed 12/13/22 16:06 12/13/22 16:06 12/13/22 16:06 Analyzed 12/13/22 16:06	1 1 1 Dil Fac 1

Client Sample ID: BH06 Lab Sample ID: 890-3603-2

Date Collected: 12/06/22 15:30 Date Received: 12/08/22 11:20

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 13:40	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 13:40	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 13:40	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/15/22 15:22	12/17/22 13:40	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 13:40	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/15/22 15:22	12/17/22 13:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130			12/15/22 15:22	12/17/22 13:40	1

Eurofins Carlsbad

Matrix: Solid

Client Sample Results

Client: Ensolum Job ID: 890-3603-1 Project/Site: James A Waterflood SDG: Lea County NM

Client Sample ID: BH06 Date Collected: 12/06/22 15:30

171

Lab Sample ID: 890-3603-2

12/14/22 10:23

Matrix: Solid

Sample Depth: 4

Chloride

Date Received: 12/08/22 11:20

/ortecovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
94		70 - 130			12/15/22 15:22	12/17/22 13:40	1
Total BTEX Calc	culation						
		RL	Unit	D	Prepared	Analyzed	Dil Fac
<0.00399	U	0.00399	mg/Kg			12/19/22 16:21	1
sel Range Organ	ics (DRO) (GC)					
		RL	Unit	D	Prepared	Analyzed	Dil Fac
<50.0	U	50.0	mg/Kg			12/14/22 12:15	1
Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
esel Range Orga	nics (DRO)	(GC)					
<50.0	U	50.0	mg/Kg		12/12/22 11:00	12/13/22 16:28	1
<50.0	U *1	50.0	ma/Ka		12/12/22 11:00	12/13/22 16:28	1
33.3		55.5	9/. 19		,,	.2, .0,22 .0.20	·
<50.0	U	50.0	mg/Kg		12/12/22 11:00	12/13/22 16:28	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
102		70 - 130			12/12/22 11:00	12/13/22 16:28	1
103		70 - 130			12/12/22 11:00	12/13/22 16:28	1
	rotal BTEX Calc Result <0.00399 sel Range Organi Result <50.0 esel Range Orga Result <50.0 <50.0 %Recovery 102	Total BTEX Calculation Result Qualifier <0.00399 U Sel Range Organics (DRO) (Result Qualifier <50.0 U Sel Range Organics (DRO) Result Qualifier U <50.0 U*1 <50.0 U **Recovery Qualifier 102	Total BTEX Calculation Result Qualifier RL	Total BTEX Calculation Result Qualifier RL O.00399 O.0	Total BTEX Calculation Result Qualifier RL Unit D mg/Kg	Total BTEX Calculation Result Qualifier RL Unit D Prepared	Total BTEX Calculation Result Qualifier RL Unit D Prepared Analyzed 12/19/22 16:21

4.99

mg/Kg

Surrogate Summary

Client: Ensolum

Job ID: 890-3603-1

Project/Site: James A Waterflood

SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3601-A-1-C MS	Matrix Spike	85	92	
890-3601-A-1-D MSD	Matrix Spike Duplicate	86	89	
890-3603-1	BH06	116	100	
890-3603-2	BH06	99	94	
LCS 880-41943/1-A	Lab Control Sample	97	95	
LCSD 880-41943/2-A	Lab Control Sample Dup	94	94	
MB 880-41938/5-A	Method Blank	92	93	
MB 880-41943/5-A	Method Blank	97	90	

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid Prep Type: Total/NA

-			
		1001	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-22478-A-1-E MS	Matrix Spike	125	104
880-22478-A-1-F MSD	Matrix Spike Duplicate	127	106
890-3603-1	BH06	95	99
890-3603-2	BH06	102	103
LCS 880-41625/2-A	Lab Control Sample	165 S1+	162 S1+
LCSD 880-41625/3-A	Lab Control Sample Dup	127	128
MB 880-41625/1-A	Method Blank	148 S1+	209 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Client: Ensolum Job ID: 890-3603-1 Project/Site: James A Waterflood SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41938/5-A

Matrix: Solid Analysis Batch: 41993 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 41938

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/15/22 14:55	12/16/22 22:04	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 130	12/15/22 14:55	12/16/22 22:04	1
1,4-Difluorobenzene (Surr)	93		70 - 130	12/15/22 14:55	12/16/22 22:04	1

Lab Sample ID: MB 880-41943/5-A

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 41943

MR MR Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac Benzene <0.00200 U 0.00200 mg/Kg 12/15/22 15:22 12/17/22 08:47 Toluene <0.00200 U 0.00200 mg/Kg 12/15/22 15:22 12/17/22 08:47 Ethylbenzene <0.00200 U 0.00200 mg/Kg 12/15/22 15:22 12/17/22 08:47 0.00400 12/15/22 15:22 12/17/22 08:47 m-Xylene & p-Xylene <0.00400 U mg/Kg <0.00200 U 0.00200 12/17/22 08:47 o-Xylene mg/Kg 12/15/22 15:22 Xylenes, Total <0.00400 U 0.00400 mg/Kg 12/15/22 15:22 12/17/22 08:47

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	12/15/22 15:22	12/17/22 08:47	1
1,4-Difluorobenzene (Surr)	90		70 - 130	12/15/22 15:22	2 12/17/22 08:47	1

Lab Sample ID: LCS 880-41943/1-A

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 41943

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.09030		mg/Kg		90	70 - 130	
Toluene	0.100	0.08409		mg/Kg		84	70 - 130	
Ethylbenzene	0.100	0.07938		mg/Kg		79	70 - 130	
m-Xylene & p-Xylene	0.200	0.1705		mg/Kg		85	70 - 130	
o-Xylene	0.100	0.08759		mg/Kg		88	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	97	70 - 130
1.4-Difluorobenzene (Surr)	95	70 - 130

Lab Sample ID: LCSD 880-41943/2-A

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Lab	Control Sample Dup
	Date of Taxable Taxable I/NIA

Prep Type: Total/NA

Prep Batch: 41943

	Бріке	LCSD LCSD				%Rec		RPD
Analyte	Added	Result Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09270	mg/Kg		93	70 - 130	3	35

Client: Ensolum Job ID: 890-3603-1 Project/Site: James A Waterflood SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-41943/2-A

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 41943

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Toluene	0.100	0.08517		mg/Kg		85	70 - 130	1	35	
Ethylbenzene	0.100	0.07903		mg/Kg		79	70 - 130	0	35	
m-Xylene & p-Xylene	0.200	0.1679		mg/Kg		84	70 - 130	2	35	
o-Xylene	0.100	0.08660		mg/Kg		87	70 - 130	1	35	

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	94	70 - 130
1,4-Difluorobenzene (Surr)	94	70 - 130

Lab Sample ID: 890-3601-A-1-C MS

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Matrix Spike Prep Type: Total/NA

Prep Batch: 41943

MS MS %Rec Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Benzene <0.00200 U F2 F1 0.100 <0.00200 U F1 70 - 130 mg/Kg Toluene <0.00200 UF1 0.100 <0.00200 UF1 70 - 130 mg/Kg 0.6 Ethylbenzene 0.100 70 - 130 <0.00200 UF1 <0.00200 UF1 mg/Kg 0 0.200 <0.00401 UF1 m-Xylene & p-Xylene <0.00401 UF1 70 - 130 mg/Kg 0.6 o-Xylene <0.00200 UF1 0.100 <0.00200 UF1 mg/Kg 0.5 70 - 130

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	85	70 - 130
1,4-Difluorobenzene (Surr)	92	70 - 130

Lab Sample ID: 890-3601-A-1-D MSD

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA Prep Batch: 41943

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00200	U F2 F1	0.0996	<0.00199	U F2 F1	mg/Kg		0.4	70 - 130	113	35
Toluene	<0.00200	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzene	<0.00200	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00401	U F1	0.199	<0.00398	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene	<0.00200	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35

MSD MSD

мв мв Result Qualifier

<50.0 U

Surrogate	76Recovery	Qualifier	LIIIIII
4-Bromofluorobenzene (Surr)	86		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-41625/1-A

Matrix: Solid

Analysis Batch: 41693

Gasoline Range Organics

Client Sample ID: Method Blank Prep Type: Total/NA

Prepared

12/12/22 11:00

Prep Batch: 41625

12/13/22 08:06

(GRO)-C6-C10

Eurofins Carlsbad

RL

50.0

Unit

mg/Kg

Client: Ensolum Job ID: 890-3603-1 Project/Site: James A Waterflood SDG: Lea County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-41625/1-A

Lab Sample ID: LCS 880-41625/2-A

Analysis Batch: 41693

Matrix: Solid

Analysis Batch: 41693

Matrix: Solid

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 41625

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		12/12/22 11:00	12/13/22 08:06	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/12/22 11:00	12/13/22 08:06	1

MB MB

MR MR

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	148	S1+	70 - 130	12/12/22 11:00	12/13/22 08:06	1
o-Terphenyl	209	S1+	70 - 130	12/12/22 11:00	12/13/22 08:06	1

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 41625

LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Gasoline Range Organics 1000 949.4 95 70 - 130 mg/Kg (GRO)-C6-C10 1000 1175 Diesel Range Organics (Over mg/Kg 118 70 - 130 C10-C28)

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	165	S1+	70 - 130
o-Terphenyl	162	S1+	70 - 130

Lab Sample ID: LCSD 880-41625/3-A

Matrix: Solid

Analysis Batch: 41693

Prep Type: Total/NA

Prep Batch: 41625

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics	1000	922.3		mg/Kg		92	70 - 130	3	20	
(GRO)-C6-C10										
Diesel Range Organics (Over	1000	925.4	*1	mg/Kg		93	70 - 130	24	20	
C10-C28)										

LCSD LCSD Surrogate %Recovery Qualifier Limits 1-Chlorooctane 127 70 - 130 o-Terphenyl 128 70 - 130

Lab Sample ID: 880-22478-A-1-E MS

Matrix: Solid

Analysis Batch: 41693

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 41625

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits <50.0 U 999 70 - 130 Gasoline Range Organics 1156 113 mg/Kg (GRO)-C6-C10 999 Diesel Range Organics (Over <50.0 U *1 1148 mg/Kg 113 70 - 130

C10-C28)

	IVIS	IVIS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	125		70 - 130
o-Terphenyl	104		70 - 130

Lab Sample ID: 880-22478-A-1-F MSD

QC Sample Results

Client: Ensolum Job ID: 890-3603-1 Project/Site: James A Waterflood SDG: Lea County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 41625

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	<50.0	U	997	1120		mg/Kg		109	70 - 130	3	20
(GRO)-C6-C10											
Diesel Range Organics (Over	<50.0	U *1	997	1190		mg/Kg		117	70 - 130	4	20
C10-C28)											

Matrix: Solid

Analysis Batch: 41693

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	127		70 - 130
o-Terphenyl	106		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41471/1-A Client Sample ID: Method Blank

Matrix: Solid Prep Type: Soluble

Analysis Batch: 41738

мв мв

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			12/14/22 08:09	1

Lab Sample ID: LCS 880-41471/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Soluble**

Analysis Batch: 41738

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	254.3		mg/Kg		102	90 - 110	

Lab Sample ID: LCSD 880-41471/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble**

Analysis Batch: 41738

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	268.2		mg/Kg		107	90 - 110	5	20	

Lab Sample ID: 890-3603-1 MS Client Sample ID: BH06 **Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 41738

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	146		251	401.1		ma/Ka		102	90 110	

Lab Sample ID: 890-3603-1 MSD Client Sample ID: BH06 **Matrix: Solid Prep Type: Soluble**

Analysis Batch: 41738

Sample Sample Spike MSD MSD %Rec RPD Result Qualifier Added Result Qualifier Limits Limit Analyte %Rec RPD Unit 251 406.4 104 Chloride 146 90 - 110 mg/Kg

QC Association Summary

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3603-1 SDG: Lea County NM

GC VOA

Prep Batch: 41938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-41938/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 41943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3603-1	BH06	Total/NA	Solid	5035	
890-3603-2	BH06	Total/NA	Solid	5035	
MB 880-41943/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41943/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3601-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3601-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 41993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3603-1	BH06	Total/NA	Solid	8021B	41943
890-3603-2	BH06	Total/NA	Solid	8021B	41943
MB 880-41938/5-A	Method Blank	Total/NA	Solid	8021B	41938
MB 880-41943/5-A	Method Blank	Total/NA	Solid	8021B	41943
LCS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	8021B	41943
LCSD 880-41943/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41943
890-3601-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	41943
890-3601-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	41943

Analysis Batch: 42248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3603-1	BH06	Total/NA	Solid	Total BTEX	
890-3603-2	BH06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3603-1	BH06	Total/NA	Solid	8015NM Prep	
890-3603-2	BH06	Total/NA	Solid	8015NM Prep	
MB 880-41625/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41625/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41625/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-22478-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-22478-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3603-1	BH06	Total/NA	Solid	8015B NM	41625
890-3603-2	BH06	Total/NA	Solid	8015B NM	41625
MB 880-41625/1-A	Method Blank	Total/NA	Solid	8015B NM	41625
LCS 880-41625/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41625
LCSD 880-41625/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41625
880-22478-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	41625
880-22478-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41625

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QC Association Summary

Client: Ensolum

Job ID: 890-3603-1 Project/Site: James A Waterflood SDG: Lea County NM

GC Semi VOA

Analysis Batch: 41809

	Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
	890-3603-1	BH06	Total/NA	Solid	8015 NM	
Į	890-3603-2	BH06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3603-1	BH06	Soluble	Solid	DI Leach	_
890-3603-2	BH06	Soluble	Solid	DI Leach	
MB 880-41471/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41471/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41471/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3603-1 MS	BH06	Soluble	Solid	DI Leach	
890-3603-1 MSD	BH06	Soluble	Solid	DI Leach	

Analysis Batch: 41738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3603-1	BH06	Soluble	Solid	300.0	41471
890-3603-2	BH06	Soluble	Solid	300.0	41471
MB 880-41471/1-A	Method Blank	Soluble	Solid	300.0	41471
LCS 880-41471/2-A	Lab Control Sample	Soluble	Solid	300.0	41471
LCSD 880-41471/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41471
890-3603-1 MS	BH06	Soluble	Solid	300.0	41471
890-3603-1 MSD	BH06	Soluble	Solid	300.0	41471

Lab Chronicle

Client: Ensolum Job ID: 890-3603-1 Project/Site: James A Waterflood SDG: Lea County NM

Client Sample ID: BH06

Date Received: 12/08/22 11:20

Lab Sample ID: 890-3603-1 Date Collected: 12/06/22 15:00

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	41943	12/15/22 15:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 10:11	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42248	12/19/22 16:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			41809	12/14/22 12:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	41625	12/12/22 11:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41693	12/13/22 16:06	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	41471	12/09/22 13:16	KS	EET MID
Soluble	Analysis	300.0		1			41738	12/14/22 10:03	CH	EET MID

Lab Sample ID: 890-3603-2 **Client Sample ID: BH06**

Date Collected: 12/06/22 15:30 **Matrix: Solid**

Date Received: 12/08/22 11:20

Batch Dil Initial Final Batch Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab 5035 41943 Total/NA Prep 5.01 g 5 mL 12/15/22 15:22 MNR EET MID 8021B Total/NA 5 mL 12/17/22 13:40 **EET MID** Analysis 1 5 mL 41993 MNR Total/NA Total BTEX 42248 12/19/22 16:21 Analysis 1 SM **EET MID** Total/NA Analysis 8015 NM 41809 12/14/22 12:15 SM **EET MID** 41625 12/12/22 11:00 Total/NA Prep 8015NM Prep 10.00 g 10 mL DM **EET MID** Total/NA Analysis 8015B NM 1 uL 1 uL 41693 12/13/22 16:28 SM **EET MID** Soluble 5.01 g 12/09/22 13:16 Leach DI Leach 50 mL 41471 KS **EET MID** Soluble Analysis 300.0 41738 12/14/22 10:23 СН **EET MID**

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Released to Imaging: 9/20/2023 1:41:30 PM

Accreditation/Certification Summary

Client: Ensolum

Project/Site: James A Waterflood

SDG: Lea County NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority Texas		ogram	Identification Number	Expiration Date	
		ELAP	T104704400-22-24		
The following analytes	are included in this report, bu	it the laboratory is not certific	ed by the governing authority. This list ma	av include analytes for	
the agency does not of	fer certification.	•	, , ,	.,	
the agency does not of Analysis Method	fer certification . Prep Method	Matrix	Analyte	-,	
0 ,		Matrix Solid	Analyte Total TPH		

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Method Summary

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3603-1 SDG: Lea County NM

Method **Method Description** Protocol Laboratory 8021B Volatile Organic Compounds (GC) SW846 EET MID **Total BTEX Calculation** Total BTEX TAL SOP EET MID 8015 NM Diesel Range Organics (DRO) (GC) SW846 **EET MID** 8015B NM Diesel Range Organics (DRO) (GC) SW846 **EET MID** 300.0 Anions, Ion Chromatography MCAWW **EET MID** 5035 SW846 **EET MID** Closed System Purge and Trap 8015NM Prep Microextraction SW846 EET MID DI Leach Deionized Water Leaching Procedure ASTM **EET MID**

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Carlsbad

Released to Imaging: 9/20/2023 1:41:30 PM

Sample Summary

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3603-1 SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3603-1	BH06	Solid	12/06/22 15:00	12/08/22 11:20	1
890-3603-2	BH06	Solid	12/06/22 15:30	12/08/22 11:20	4

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Circle Method(s) and Metal(s) to be analyzed

Total 200.7 / 6010

200.8 / 6020:

lotice: Signature of this document and relinquishment of samp

service. Eurofins Xenco will be liable only for the cost of san Eurofins Xenco. A minimum charge of \$85.00 will be applied

Relinquished by: (Signature)

9-50-00 0-10-00

eurofins

Phone:

817.683.2503 Midland, TX 79701

City, State ZIP:

Company Name: Project Manager:

Ensolum, LLC Kalei Jennings

Company Name: Bill to: (if different)

Ensolum, LLC Kalei Jennings

Address:

601 N Marienfeld St Suite 400

State of Project:

Program: UST/PST 🗌 PRP 🗌 Brownfields 🗌 RRC 🗌 Superfund 🗎

Work Order Comments

www.xenco.com

601 N Marienfeld St Suite 400

SAMPLE RECEIPT

Samples Received Intact:

Yes Temp Blank:

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Z

ooler Custody Seals:

imple Custody Seals:

Yes Yes

NO NIA O

otal Containers:

Sample Identification

Matrix

BH06 BH06

S S Sampler's Name:

Project Location: Project Number: Project Name:

03D2024119 & 03D20241

Lea County, NM Conner Shore

James A Waterflood

Environment Testing

Xenco

Chain of Custody

Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334 EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199 Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300

Work Order No:

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	0	City, State ZIP:	Ō	Midla	Midland, TX 79701	79701					Rep	orting:	Level	Reporting: Level III Devel III PST/UST TRRP	/el III [_ PST	TSU/	_ TRF	RP Level IVL
	Email: k	Email: kjennings@ensolum.com; jadams@ensolum.com	ensolun	n.com	jadan	ns@er	solun	.com	1		Deli	verable	Deliverables: EDD			ADaPT		Other:	er:
rflood	Turn /	Turn Around							NAL	ANALYSIS REQUEST	QUES	T					סי	resen	Preservative Codes
120	Routine	Rush	Pres.									_					None: NO	Ö	DI Water: H ₂ O
ore NM	Due Date: TAT starts the day received by the lab, if received by 4:30pm	day received															Cool: Cool HCL: HC H ₂ S0 ₄ : H ₂	τ ό <u>δ</u>	MeOH: Me HNO ₃ : HN NaOH: Na
Thermometer ID:	Wet Ice:	- Charles	Parameter	PA: 300.0)													H ₃ PO ₄ : HP NaHSO ₄ : NABIS Na ₂ S ₂ O ₃ : NaSO ₃	HP D ₄ : NAF D ₃ : NaS	BIS SO ₃
Temperature Reading: Corrected Temperature:	Reading:	20		IDES (E	015)	8021			890-3	890-3603 Chain of Custody	ain of C	ustod	-	- 1	ļ		Zn Ace NaOH-	tate+N +Ascor	Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC
Date Sampled 1	Time Sampled	Depth Grab/	np Cont		TPH (8	BTEX ((a)	ample	Sample Comments
12.6.22	1500 1	G	1	×	×	×					\vdash	-							
12.6.22	1580 4	G	<u>-</u>	×	×	×			_	+		+	+-					id.	District Name of the Control of the
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/zed	TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	LP 6010:	8RCRA	Sb /	\s Ba	Be	S G	င္ပ္ပင္	u Pb	Mn Mc	Ni Si	e Ag	∃ ∪		Hg: 1	Hg: 1631 /	245.1	/ 7470	245.1 / 7470 / 7471
t of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions set of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control and the control of the c	utes a valid pu shall not assun	rchase order i	rom client sibility for	compar any loss	y to Eur	ofins Xe	nco, its	affiliates by the c	and sub lient If s	contracto ich losse:	s. It ass are due	igns sta	ndard t	erms and es beyond	condition the consideration	trol tiated.			
Received	Received by: (Signature)	ıre)		Date	Date/Time		Re	linquis	hed by	Relinquished by: (Signature)	ature)		Rec	Received by: (Signature)	oy: (Si	gnatur	е)		Date/Time

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-3603-1 SDG Number: Lea County NM

Login Number: 3603 List Source: Eurofins Carlsbad

List Number: 1 Creator: Clifton, Cloe

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3603-1

SDG Number: Lea County NM

List Source, Eurofine Midland

List Source: Eurofins Midland
List Creation: 12/09/22 11:39 AM

Creator: Rodriguez, Leticia

Login Number: 3603

List Number: 2

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	N/A	

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<6mm (1/4").

Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701

Generated 12/19/2022 4:40:40 PM

JOB DESCRIPTION

James A Waterflood SDG NUMBER Lea County NM

JOB NUMBER

890-3604-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

Generated 12/19/2022 4:40:40 PM

Authorized for release by Jessica Kramer, Project Manager <u>Jessica.Kramer@et.eurofinsus.com</u> (432)704-5440

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Released to Imaging: 9/20/2023 1:41:30 PM

Client: Ensolum
Project/Site: James A Waterflood
Laboratory Job ID: 890-3604-1
SDG: Lea County NM

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Definitions/Glossary

Job ID: 890-3604-1 Client: Ensolum Project/Site: James A Waterflood SDG: Lea County NM

Qualifiers

GC VOA

Qualifier **Qualifier Description** F1 MS and/or MSD recovery exceeds control limits.

F2 MS/MSD RPD exceeds control limits

Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier **Qualifier Description**

*1 LCS/LCSD RPD exceeds control limits.

S1+ Surrogate recovery exceeds control limits, high biased. Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier **Qualifier Description**

U Indicates the analyte was analyzed for but not detected.

Glossary

These commonly used abbreviations may or may not be present in this report.
Listed under the "D" column to designate that the result is reported on a dry weight basis
Percent Recovery
Contains Free Liquid
Colony Forming Unit
Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor**

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) Limit of Quantitation (DoD/DOE) LOQ

MCL EPA recommended "Maximum Contaminant Level" MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit ML Minimum Level (Dioxin) MPN Most Probable Number MOI Method Quantitation Limit

NC Not Calculated

Not Detected at the reporting limit (or MDL or EDL if shown) ND

NEG Negative / Absent POS Positive / Present **Practical Quantitation Limit PQL**

PRES Presumptive **Quality Control** QC

Relative Error Ratio (Radiochemistry) **RER**

Reporting Limit or Requested Limit (Radiochemistry) RL

RPD Relative Percent Difference, a measure of the relative difference between two points

Toxicity Equivalent Factor (Dioxin) TEF Toxicity Equivalent Quotient (Dioxin) **TEQ**

TNTC Too Numerous To Count

Case Narrative

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3604-1

SDG: Lea County NM

Job ID: 890-3604-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3604-1

Receipt

The samples were received on 12/8/2022 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: BH05 (890-3604-1) and BH05 (890-3604-2).

GC VOA

Method 8021B: The following samples were diluted due to the nature of the sample matrix: (890-3601-A-1-C MS) and (890-3601-A-1-D MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD NM: The surrogate recovery for the blank associated with preparation batch 880-41625 and analytical batch 880-41693 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-41693/5) and (LCS 880-41625/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD NM: The method blank for preparation batch 880-41625 and analytical batch 880-41693 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-41625 and analytical batch 880-41693 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Carlsbad 12/19/2022

Matrix: Solid

Lab Sample ID: 890-3604-1

Client Sample Results

Client: Ensolum Job ID: 890-3604-1
Project/Site: James A Waterflood SDG: Lea County NM

Client Sample ID: BH05

Date Collected: 12/06/22 14:00 Date Received: 12/08/22 11:20

Sample Depth: 1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 14:01	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 14:01	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 14:01	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/15/22 15:22	12/17/22 14:01	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 14:01	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/15/22 15:22	12/17/22 14:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130			12/15/22 15:22	12/17/22 14:01	1
1,4-Difluorobenzene (Surr)	102		70 - 130			12/15/22 15:22	12/17/22 14:01	1
Method: TAL SOP Total BTEX	- Total BTEX Cald	ulation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/19/22 16:21	1
Method: SW846 8015 NM - Die	esel Range Organ	ics (DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/14/22 12:15	1

Method: SW846 8015B NM - Dies	el Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/12/22 11:00	12/13/22 16:51	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		12/12/22 11:00	12/13/22 16:51	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/12/22 11:00	12/13/22 16:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130			12/12/22 11:00	12/13/22 16:51	
o-Terphenyl	119		70 - 130			12/12/22 11:00	12/13/22 16:51	1

Method: MCAWW 300.0 - Anions, I	on Chromato	graphy - Soli	aldı					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23.5		4.95	mg/Kg			12/14/22 10:29	1

Client Sample ID: BH05
Date Collected: 12/06/22 14:10

Date Received: 12/08/22 11:20

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 14:43	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 14:43	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 14:43	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		12/15/22 15:22	12/17/22 14:43	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 14:43	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/15/22 15:22	12/17/22 14:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130			12/15/22 15:22	12/17/22 14:43	1

Eurofins Carlsbad

Lab Sample ID: 890-3604-2

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Matrix: Solid

Client Sample Results

Client: Ensolum

Job ID: 890-3604-1

Project/Site: James A Waterflood

SDG: Lea County NM

Client Sample ID: BH05

Date Collected: 12/06/22 14:10

93.9

Lab Sample ID: 890-3604-2

12/14/22 10:49

Matrix: Solid

Sample Depth: 4

Chloride

Date Received: 12/08/22 11:20

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	97		70 - 130			12/15/22 15:22	12/17/22 14:43	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	ulation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			12/19/22 16:21	1
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/14/22 12:15	1
Analyte	Result	Qualifier	RL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Method: SW846 8015B NM - Dies				Unit	n	Drangrad	Analyzod	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/12/22 11:00	12/13/22 17:13	1
Diesel Range Organics (Over	<49.9	U *1	49.9	mg/Kg		12/12/22 11:00	12/13/22 17:13	1
C10-C28)		•					,	•
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/12/22 11:00	12/13/22 17:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130			12/12/22 11:00	12/13/22 17:13	1
	105		70 - 130			12/12/22 11:00	12/13/22 17:13	

4.98

mg/Kg

Surrogate Summary

Client: Ensolum

Job ID: 890-3604-1

Project/Site: James A Waterflood

SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Re
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3601-A-1-C MS	Matrix Spike	85	92	
890-3601-A-1-D MSD	Matrix Spike Duplicate	86	89	
890-3604-1	BH05	114	102	
890-3604-2	BH05	120	97	
LCS 880-41943/1-A	Lab Control Sample	97	95	
LCSD 880-41943/2-A	Lab Control Sample Dup	94	94	
MB 880-41938/5-A	Method Blank	92	93	
MB 880-41943/5-A	Method Blank	97	90	
Surrogate Legend				
BFB = 4-Bromofluorobenzen	e (Surr)			

DEBT 4.4 DEBT (Oct.)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid Prep Type: Total/NA

-			
		1001	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-22478-A-1-E MS	Matrix Spike	125	104
880-22478-A-1-F MSD	Matrix Spike Duplicate	127	106
890-3604-1	BH05	118	119
890-3604-2	BH05	105	105
LCS 880-41625/2-A	Lab Control Sample	165 S1+	162 S1+
LCSD 880-41625/3-A	Lab Control Sample Dup	127	128
MB 880-41625/1-A	Method Blank	148 S1+	209 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Job ID: 890-3604-1 Client: Ensolum Project/Site: James A Waterflood SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41938/5-A

Analysis Batch: 41993

Matrix: Solid

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 41938

	МВ	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/15/22 14:55	12/16/22 22:04	1

MB MB

MR MR

<0.00200 U

Result Qualifier

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 130	12/15/22 14	:55 12/16/22 22:04	1
1,4-Difluorobenzene (Surr)	93		70 - 130	12/15/22 14	:55 12/16/22 22:04	1

Lab Sample ID: MB 880-41943/5-A

Matrix: Solid

Analyte

Benzene

Analysis Batch: 41993

Client Sample ID: Method Blank

Analyzed

12/17/22 08:47

Prepared

12/15/22 15:22

Prep Type: Total/NA

Prep Batch: 41943

Dil Fac

Toluene <0.00200 U 0.00200 mg/Kg 12/15/22 15:22 12/17/22 08:47 Ethylbenzene <0.00200 U 0.00200 mg/Kg 12/15/22 15:22 12/17/22 08:47 12/15/22 15:22 12/17/22 08:47 m-Xylene & p-Xylene <0.00400 U 0.00400 mg/Kg o-Xylene <0.00200 U 0.00200 mg/Kg 12/15/22 15:22 12/17/22 08:47 12/15/22 15:22 Xylenes, Total <0.00400 U 0.00400 12/17/22 08:47 mg/Kg

0.00200

RL

Unit

mg/Kg

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	12/15/22 15:22	12/17/22 08:47	1
1,4-Difluorobenzene (Surr)	90		70 - 130	12/15/22 15:22	2 12/17/22 08:47	1

Lab Sample ID: LCS 880-41943/1-A

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 41943

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.09030 mg/Kg 90 70 - 130 Toluene 0.100 0.08409 mg/Kg 84 70 - 130 Ethylbenzene 0.100 0.07938 mg/Kg 79 70 - 130 m-Xylene & p-Xylene 0.200 0.1705 mg/Kg 85 70 - 130 0.100 0.08759 70 - 130 o-Xylene mg/Kg 88

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	97	70 _ 130
1.4-Difluorobenzene (Surr)	95	70 - 130

Lab Sample ID: LCSD 880-41943/2-A

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 41943

	Spike	LCSD LCSD				70Rec		KFD	
Analyte	Added	Result Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.09270	mg/Kg		93	70 - 130	3	35	

LCCD LCCD

Chiles

Job ID: 890-3604-1 Client: Ensolum Project/Site: James A Waterflood SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-41943/2-A

Matrix: Solid

Analysis Batch: 41993

Prep Type: Total/NA

Prep Batch: 41943

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Toluene	0.100	0.08517		mg/Kg		85	70 - 130	1	35
Ethylbenzene	0.100	0.07903		mg/Kg		79	70 - 130	0	35
m-Xylene & p-Xylene	0.200	0.1679		mg/Kg		84	70 - 130	2	35
o-Xylene	0.100	0.08660		mg/Kg		87	70 - 130	1	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 890-3601-A-1-C MS Client Sample ID: Matrix Spike

Matrix: Solid Prep Type: Total/NA **Analysis Batch: 41993** Prep Batch: 41943

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U F2 F1	0.100	<0.00200	U F1	mg/Kg		1	70 - 130	
Toluene	<0.00200	U F1	0.100	<0.00200	U F1	mg/Kg		0.6	70 - 130	
Ethylbenzene	<0.00200	U F1	0.100	<0.00200	U F1	mg/Kg		0	70 - 130	
m-Xylene & p-Xylene	<0.00401	U F1	0.200	<0.00401	U F1	mg/Kg		0.6	70 - 130	
o-Xylene	<0.00200	U F1	0.100	<0.00200	U F1	mg/Kg		0.5	70 - 130	

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	85	70 - 130
1,4-Difluorobenzene (Surr)	92	70 - 130

Lab Sample ID: 890-3601-A-1-D MSD

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA Prep Batch: 41943

7 mary or Datom 11000											
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00200	U F2 F1	0.0996	<0.00199	U F2 F1	mg/Kg		0.4	70 - 130	113	35
Toluene	<0.00200	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzene	<0.00200	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00401	U F1	0.199	<0.00398	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene	<0.00200	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35
I and the second											

MSD MSD

мв мв Result Qualifier

<50.0 U

Surrogate	%Recovery	Quaimer	Limits
4-Bromofluorobenzene (Surr)	86		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-41625/1-A

Matrix: Solid

Analysis Batch: 41693

Gasoline Range Organics

Client Sample ID: Method Blank Prep Type: Total/NA

Prepared

12/12/22 11:00

Prep Batch: 41625

12/13/22 08:06

(GRO)-C6-C10

Eurofins Carlsbad

50.0

Unit

mg/Kg

o-Terphenyl

12/12/22 11:00

12/13/22 08:06

QC Sample Results

Client: Ensolum

Job ID: 890-3604-1

Project/Site: James A Waterflood

SDG: Lea County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

209 S1+

Lab Sample ID: MB 880-41625/1-A

Matrix: Solid

Analysis Batch: 41693

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41625

		MB	MB						
Ar	nalyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	esel Range Organics (Over I0-C28)	<50.0	U	50.0	mg/Kg		12/12/22 11:00	12/13/22 08:06	1
OI	I Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/12/22 11:00	12/13/22 08:06	1
		MB	МВ						
Sι	ırrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-	Chlorooctane	148	S1+	70 - 130			12/12/22 11:00	12/13/22 08:06	1

70 - 130

Lab Sample ID: LCS 880-41625/2-A **Client Sample ID: Lab Control Sample Matrix: Solid** Prep Type: Total/NA Analysis Batch: 41693 Prep Batch: 41625 LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Gasoline Range Organics 1000 949.4 95 70 - 130 mg/Kg (GRO)-C6-C10 1000 1175 Diesel Range Organics (Over mg/Kg 118 70 - 130 C10-C28) LCS LCS %Recovery Qualifier Limits Surrogate 1-Chlorooctane 165 S1+ 70 - 130 o-Terphenyl 162 S1+ 70 - 130

Lab Sample ID: LCSD 880-41625/3-A

Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Analysis Batch: 41693

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 41625

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics	1000	922.3		mg/Kg		92	70 - 130	3	20	
(GRO)-C6-C10										
Diesel Range Organics (Over	1000	925.4	*1	mg/Kg		93	70 - 130	24	20	
C10-C28)										

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	127		70 - 130
o-Terphenyl	128		70 - 130

Lab Sample ID: 880-22478-A-1-E MS

Client Sample ID: Matrix Spike
Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 41693 Prep Batch: 41625

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1156		mg/Kg		113	70 - 130	
Diesel Range Organics (Over C10-C28)	<50.0	U *1	999	1148		mg/Kg		113	70 - 130	
	MS	MS								

 Surrogate
 %Recovery
 Qualifier
 Limits

 1-Chlorooctane
 125
 70 - 130

 o-Terphenyl
 104
 70 - 130

Lab Sample ID: 880-22478-A-1-F MSD

QC Sample Results

Job ID: 890-3604-1 Client: Ensolum Project/Site: James A Waterflood SDG: Lea County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA Prep Batch: 41625

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1120		mg/Kg		109	70 - 130	3	20
Diesel Range Organics (Over	<50.0	U *1	997	1190		mg/Kg		117	70 - 130	4	20

C10-C28)

Matrix: Solid

Analysis Batch: 41693

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	127		70 - 130
o-Terphenyl	106		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41471/1-A Client Sample ID: Method Blank

Matrix: Solid Prep Type: Soluble

Analysis Batch: 41738

мв мв

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			12/14/22 08:09	1

Lab Sample ID: LCS 880-41471/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Soluble**

Analysis Batch: 41738

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	254.3		mg/Kg		102	90 - 110	 ·

Lab Sample ID: LCSD 880-41471/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble**

Analysis Batch: 41738

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	268.2		mg/Kg		107	90 - 110	5	20	

Lab Sample ID: 890-3603-A-1-B MS Client Sample ID: Matrix Spike **Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 41738

	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	146		251	401.1		ma/Ka		102	90 110		_

Lab Sample ID: 890-3603-A-1-C MSD Client Sample ID: Matrix Spike Duplicate **Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 41738

Analysis Batom 41700												
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	146		251	406.4		ma/Ka		104	90 - 110	1	20	

QC Association Summary

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3604-1 SDG: Lea County NM

GC VOA

Prep Batch: 41938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-41938/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 41943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3604-1	BH05	Total/NA	Solid	5035	
890-3604-2	BH05	Total/NA	Solid	5035	
MB 880-41943/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41943/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3601-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3601-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 41993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3604-1	BH05	Total/NA	Solid	8021B	41943
890-3604-2	BH05	Total/NA	Solid	8021B	41943
MB 880-41938/5-A	Method Blank	Total/NA	Solid	8021B	41938
MB 880-41943/5-A	Method Blank	Total/NA	Solid	8021B	41943
LCS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	8021B	41943
LCSD 880-41943/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41943
890-3601-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	41943
890-3601-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	41943

Analysis Batch: 42251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3604-1	BH05	Total/NA	Solid	Total BTEX	
890-3604-2	BH05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3604-1	BH05	Total/NA	Solid	8015NM Prep	
890-3604-2	BH05	Total/NA	Solid	8015NM Prep	
MB 880-41625/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41625/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41625/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-22478-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-22478-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3604-1	BH05	Total/NA	Solid	8015B NM	41625
890-3604-2	BH05	Total/NA	Solid	8015B NM	41625
MB 880-41625/1-A	Method Blank	Total/NA	Solid	8015B NM	41625
LCS 880-41625/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41625
LCSD 880-41625/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41625
880-22478-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	41625
880-22478-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41625

QC Association Summary

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3604-1 SDG: Lea County NM

GC Semi VOA

Analysis Batch: 41810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3604-1	BH05	Total/NA	Solid	8015 NM	
890-3604-2	BH05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3604-1	BH05	Soluble	Solid	DI Leach	
890-3604-2	BH05	Soluble	Solid	DI Leach	
MB 880-41471/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41471/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41471/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3603-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3603-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 41738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3604-1	BH05	Soluble	Solid	300.0	41471
890-3604-2	BH05	Soluble	Solid	300.0	41471
MB 880-41471/1-A	Method Blank	Soluble	Solid	300.0	41471
LCS 880-41471/2-A	Lab Control Sample	Soluble	Solid	300.0	41471
LCSD 880-41471/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41471
890-3603-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	41471
890-3603-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41471

Eurofins Carlsbad

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4.0

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Date Received: 12/08/22 11:20

Job ID: 890-3604-1

Client: Ensolum Project/Site: James A Waterflood SDG: Lea County NM

Client Sample ID: BH05 Lab Sample ID: 890-3604-1 Date Collected: 12/06/22 14:00

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	41943	12/15/22 15:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 14:01	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42251	12/19/22 16:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			41810	12/14/22 12:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41625	12/12/22 11:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41693	12/13/22 16:51	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	41471	12/09/22 13:16	KS	EET MID
Soluble	Analysis	300.0		1			41738	12/14/22 10:29	CH	EET MID

Lab Sample ID: 890-3604-2 **Client Sample ID: BH05**

Date Collected: 12/06/22 14:10 **Matrix: Solid**

Date Received: 12/08/22 11:20

Batch Dil Initial Final Batch Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab 5035 41943 Total/NA Prep 4.99 g 5 mL 12/15/22 15:22 MNR EET MID Total/NA 8021B 5 mL 12/17/22 14:43 **EET MID** Analysis 1 5 mL 41993 MNR Total/NA Total BTEX 42251 12/19/22 16:21 Analysis 1 SM **EET MID** Total/NA Analysis 8015 NM 41810 12/14/22 12:15 SM **EET MID** 41625 Total/NA Prep 8015NM Prep 10.03 g 10 mL 12/12/22 11:00 DM **EET MID** Total/NA Analysis 8015B NM 1 uL 1 uL 41693 12/13/22 17:13 SM **EET MID** Soluble 12/09/22 13:16 Leach DI Leach 5.02 g 50 mL 41471 KS **EET MID** Soluble Analysis 300.0 41738 12/14/22 10:49 СН **EET MID**

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Ensolum

Project/Site: James A Waterflood

SDG: Lea County NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Pr	ogram	Identification Number	Expiration Date
Texas	NE	ELAP	T104704400-22-24	06-30-23
The following analytes	are included in this report, but	t the laboratory is not certific	ed by the governing authority. This list ma	av include analytes for y
the agency does not of	• •	it the laboratory is not certific	ed by the governing additionty. This list the	ay iliciude allalytes for t
,	• •	Matrix	Analyte	ay include analytes for v
the agency does not of	fer certification.	,	, , ,	ay include analytes for v

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Method Summary

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3604-1

SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3604-1

SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3604-1	BH05	Solid	12/06/22 14:00	12/08/22 11:20	1
890-3604-2	BH05	Solid	12/06/22 14:10	12/08/22 11:20	4

Chain of Custody

	DI Water: H ₂ O	None: NO			Rush Code	Routine Rush	03D2024119 & 03D2024120	03D2
	Preservative Codes	Preserva	QUEST	ANALYSIS REQUEST	Turn Around	Turn	James A Waterflood	ن
		ADaP1 LJ Other	Deliverables: EDD	Email: kjennings@ensolum.com; jadams@ensolum.com	kjennings@ensolun	Email:	.2503	17.683.2503
	LevelIV	II PSI/USI IRRH	Reporting: Level III PST/UST TRRP Level IV	Midland, TX 79701	City, State ZIP:		idland, TX 79701	dland
			State of Project:	601 N Marienfeld St Suite 400	Address:		01 N Marienfeld St Suite 400	N
	Superfund	☐ Brownfields ☐ RRC	Program: UST/PST PRP Brownfields RRC Superfund	Ensolum, LLC	Company Name:		, LLC	nsolum, LLC
		Work Order Comments	Work	Kalei Jennings	Bill to: (if different)		alei Jennings	alei Je
	2	www.xenco.com Page	www.xer	Hobbs, NM (575) 392-7550, Carisbad, NM (575) 988-3199	Hobbs, NM			
	2			EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296	EL Paso, TX		X 62 6	
12/1		der No:	Work Order No:	Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300 Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334	Houston, T. Midland, TX (4	sting	Environment Testing	Sul

Phone:

817.683.2503 Midland, TX 79701

City, State ZIP:

Company Name: Project Manager:

Ensolum, LLC Kalei Jennings

601 N Marienfeld St Suite 400

Project Location: Project Number: Project Name:

Samples Received Infact: Cooler Custody Seals: Yes No MA Correction Facility: Confection Facility: Correction Facility: Correction Facility: Corrected Temperature Reading: Corrected Temperature: Corrected Tem	SAMPLE RECEIPT Temp Blank: \$\frac{1}{2}\text{No}\$ \ \text{No}\$ \ \text{Thermometer ID:} \ \text{Wink No}\$ \ \text{Sample Castody Seals:} \ \text{Yes No Wink Correction Factor:} \ \text{Vex No Wink Temperature:} \ \text{Q-V.} \ \text{Q-V.} \ \text{Sample Containers:} \ \text{Sample Identification} \ \text{Mark:} \ \text{Sample Identification} \ \text{Sample Identification} \ \text{Mark:} \ \text{Mark:} \ \te			1 (Signature) (M. (Signature) (D-8-28
Sample Custody Seals: Ves No MA Correction Factor: 2 2 2 2 1410 4 G 1 x x x x x x x x x x x x x x x x x x	Samples Received Infact: (Yes) No Thermometer ID: 10 No Thermomete	Project Location: Conner Shore		Y Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge or so for each sample subm
### Paramometer ID:	Section Sect	Due Date: TAT starts the day received by the lab, if received by 4:30pm rection Factor: Trection Factor: Time Depth Comp Cont E H H EXAMPLE AS Sampled Sampled Sampled Cont E H H EXAMPLE AS SAS BAS BAS BAS BAS BAS BAS BAS BAS	s stan	lotice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client compai f service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any loss
Certection Factor: Yes No M/A Correction Factor: Yes No M/A Temperature Reading: Yes No M/A Temperature Reading: Corrected Temperature: S 12.6.22 I/(0) 1' G 1 x x PA: 300 X 12.6.22 I/(0) 4' G 1 x x BTEX (8021 BTEX (8021	Temp Blank: Yes No Wet Ice: Yes No Thermometer ID: WWY Yes No MAX Correction Factor: Yes No MAX Corrected Temperature: 2-10 Batrix Sampled Sampled Sampled Comp Cont Cont Cont Cont Cont Cont Cont Cont	Lea County, NM Due Date: Conner Shore TAT starts the day received by the lab if received by 4:30pm Temp Blank: Yes No Wet Ice: Yes No Min Correction Factor: Yes No No Tinemometer ID: Yes No No Tinemometer ID: Yes No No No No No No No N	Ag 7	TCLP / SPLP 6010: 8RCRA
ct: (Yes No Thermometer ID: Yes No M/A Correction Factor: - () \ Yes No M/A Correction Factor: - () \ Yes No M/A Temperature Reading: - \ Yes No M/A Temperature Reading: - \ Yes No M/A Temperature Reading: - \ Yes No M/A Temperature: - \ Yes No M/A Tempe	Temp Blank: Yes No Wet Ice: Kes No Thermometer ID: Why And Temperature Reading: Yes No MA Temperature Reading: Corrected Temperature: S 12.6.22 I4(0 4' G 1 x x TPH (8015) S 12.6.22 I4(0 4' G 1 x x X BTEX (8021)	Lea County, NM Due Date: Tat starts the day received by the lab, if received by 4:30pm Thempolar ID:		
ct: (Yek No Thermometer ID: WWW Thermometer ID: Yes No M/A Correction Factor: Correction Factor: Corrected Temperature Reading: Corrected Temperature: Correc	Temp Blank: Yes No Wet Ice: Kes No Cit: Yes No MiA Correction Factor: Yes No MiA Corrected Temperature Reading: Corrected Temperature: Sampled Sampled Depth Comp Cont CH House S 12.6.22 I400 1" G 1 x x TPH (8015) BTEX (8021	Lea County, NM Due Date:		
ct: (Yes No Thermometer ID: Yes No M/A Correction Factor: - 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Temp Blank: Yes No Wet Ice: Kes No Thermometer ID: Why And Temperature Reading: Yes No MA Temperature Reading: Corrected Temperature: Sampled Sampled Depth Comp Cont CH House S 12.6.22 I4(0 4' G 1 x x TPH (8015) BTEX (8021	Lea County, NM Due Date:		
ct: (Yes No Thermometer ID: WWWW are No W/A Correction Factor: - (2)	C: (Yes No MA Correction Factor: Yes No MA Correction Factor: No MA Temperature Reading: Corrected Temperature: Corrected Temperature: Comp Cont CH L H L Comp Cont CH L Ch L Cont Ch L Ch	Lea County, NM Due Date:		
ct: (Ye) No Thermometer ID: (NAME) Thermometer ID: (Yes No MA) Correction Factor: (EPA: No NA) Temperature Reading: (EPA: 300 Sampled Sampled Sampled Comp Cont CH LORIDES STATE (BOOM) TO SAMPLE SAMP	CI: (Yes No MA Correction Factor: Yes No MA Correction Factor: Yes No MA Corrected Temperature: 2 (0) Corrected Temperature: 2 (0) S 12.6.22	Lea County, NM Due Date:		
ct: (Yes No Thermometer ID: WWYN Aran aran aran aran aran aran aran aran	CI: (Yes No Thermometer ID: Wes No Thermometer ID: WWY) Yes No MA Correction Factor: Yes No N/A Temperature Reading: Corrected Temperature: S 12.6.22 I4(0) 1' G 1 x x x X BTEX (80021	Lea County, NM Due Date: Indian		2002
ct: (Yes No Thermometer ID: WWW Arrivers No W/A Correction Factor: - (2) - (2) Parameter ID: Yes No W/A Correction Factor: - (2) - (2) Parameter IT Ime Corrected Temperature: (EP A) Parameter IT Ime IC IT I	Temp Blank: Yes No Wet Ice: Kes No Ct: (Yes No MA) Temperature Reading: Yes No MA Temperature Reading: Parameter ICE NO MA Temperature: Parameter ICE NO MA TEMPERATURE I	IPLE RECEIPT Temp Blank: Temp Blank: Yes No MA Corrected Temperature: Containers: Yes No MA Temperature Reading: Containers: Yes No MA Temperature Reading: Containers: Sample Identification Matrix Sampled S		
Ct: (Yes No Thermometer ID: WWW.) A rail of the result of	Ct: Yes No MA Correction Factor: Why A Temperature Reading: Parameter (Corrected Temperature: A Computed Sampled Sampled Comp Cont CHLOROLD S 12.6.22 1400 1 G 1 x x x 1 PH H H H H H H H H H H H H H H H H H	Lea County, NM Due Date: Interest In		S 12.6.22 14(0 4' G 1
ct: (Yes No Thermometer ID: WWWW 4 range of the component	Temp Blank: Yes No Wet Ice: Yes No Thermometer ID: Wyww A Yes No M/A Correction Factor: - C A Yes No N/A Temperature Reading: - C A Corrected Temperature: - C A Corrected Temperature: - C A Corrected Temperature: - C A BTEX (8021	Containers: Lea County, NM Due Date: TAT starts the day received by the lab, if received by 4:30pm PLE RECEIPT Temp Blank: Temp Blank: Temp Blank: Temp Blank: Thermometer ID: Wet Ice: Mo Par		S 12.6.22 1400 1' G 1
ct: (Yes No Thermometer ID: WWW.) A rail Yes No WA Correction Factor: - O Parall Corrected Temperature: O-(0) 8021	Temp Blank: Yes No Wet Ice: Kes No Ct: Yes No MA Correction Factor: Yes No MA Temperature Reading: Corrected Temperature: Corrected Temperature: 2 (0 2005) Parameter (EPA: 3000.0) RIDES (8021)	Iler's Name: Conner Shore Conner Shore TAT starts the day received by the lab, if received by 4:30pm the lab, if received		Matrix Sampled Sampled Depth Comp Cont
Ct: (Yes No Thermometer ID: WINTOW) A rail Yes No NIA Temperature Reading: PA: 300	Temp Blank: Yes No Wet Ice: Kes No Thermometer ID: Why Yes No MA Correction Factor: 2000.0) Yes No MA Temperature Reading: 25 SEPA: 3000.0)	Ider's Name: Conner Shore TAT starts the day received by the lab, if received by 4:30pm the	5	Corrected Temperature: 2-10
Yes No MA Correction Factor: - O Para	T Temp Blank: Tes No Wet Ice: Yes No Thermometer ID: WMX A Correction Factor: - 0 - 0	ler's Name: Conner Shore TAT starts the day received by the lab, if received by 4:30pm PLE RECEIPT Temp Blank: PS No MA Correction Factor: Temp Starts the day received by 4:30pm Wet Ice: Thermometer ID: Thermometer ID:		Yes No WA Temperature Reading:
(Yes No Thermometer ID: NUMBER Ara	Yes No Thermometer ID: West No are	ler's Name: Conner Shore TAT starts the day received by the lab, if received by 4:30pm PLE RECEIPT Temp Blank: Temp B		Yes No MA Correction Factor:
	Temp Blank: Tes No Wet Ice: Wes No	Ica County, NM Due Date: Icar's Name: Conner Shore TAT starts the day received by the lab, if received by 4:30pm the lab, if received by 4:30pm to the lab, if received by 4		(Yes No Thermometer ID: WWW. arai
the lab, if received by 4:30pm		Lea County, NM		Conner Shore
ler's Name: Conner Shore TAT starts the day received by the lab, if received by 4:30pm	Conner Shore			Lea County, NM

Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-3604-1 SDG Number: Lea County NM

List Source: Eurofins Carlsbad

Login Number: 3604 List Number: 1 Creator: Clifton, Cloe

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-3604-1 SDG Number: Lea County NM

List Source: Eurofins Midland

Login Number: 3604 List Number: 2

List Creation: 12/09/22 11:39 AM

Creator: Rodriguez, Leticia

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	N/A	

<6mm (1/4").

Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701

Generated 12/19/2022 4:41:15 PM

JOB DESCRIPTION

JAMES A WATERFLOOD SDG NUMBER Lea County NM

JOB NUMBER

890-3605-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

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Authorized for release by Jessica Kramer, Project Manager <u>Jessica.Kramer@et.eurofinsus.com</u> (432)704-5440 3

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Client: Ensolum
Project/Site: JAMES A WATERFLOOD

Laboratory Job ID: 890-3605-1 SDG: Lea County NM

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Definitions/Glossary

Job ID: 890-3605-1 Client: Ensolum Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Qualifiers

GC VOA Qualifier

Qualifier Description F1 MS and/or MSD recovery exceeds control limits.

F2 MS/MSD RPD exceeds control limits

Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier **Qualifier Description**

S1+ Surrogate recovery exceeds control limits, high biased. Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier **Qualifier Description**

Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report. Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery

CFL Contains Free Liquid CFU Colony Forming Unit **CNF** Contains No Free Liquid

DFR Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor**

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

Decision Level Concentration (Radiochemistry) DLC

EDL Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

EPA recommended "Maximum Contaminant Level" MCL MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

Method Detection Limit MDL Minimum Level (Dioxin) MPN Most Probable Number MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present PQL Practical Quantitation Limit

PRES Presumptive QC **Quality Control**

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

Toxicity Equivalent Factor (Dioxin) TEF Toxicity Equivalent Quotient (Dioxin) TEQ

TNTC Too Numerous To Count

Case Narrative

Client: Ensolum

Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1

SDG: Lea County NM

Job ID: 890-3605-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3605-1

Receipt

The samples were received on 12/8/2022 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: BH04 (890-3605-1) and BH04 (890-3605-2).

GC VOA

Method 8021B: The following samples were diluted due to the nature of the sample matrix: (890-3601-A-1-C MS) and (890-3601-A-1-D MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD NM: The surrogate recovery for the blank associated with preparation batch 880-41626 and analytical batch 880-41693 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: BH04 (890-3605-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Matrix: Solid

Lab Sample ID: 890-3605-1

Client Sample Results

Client: Ensolum Job ID: 890-3605-1 Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Client Sample ID: BH04

Date Collected: 12/06/22 13:00 Date Received: 12/08/22 11:20

Sample Depth: 1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		12/15/22 15:22	12/17/22 15:04	1
Toluene	<0.00201	U	0.00201	mg/Kg		12/15/22 15:22	12/17/22 15:04	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		12/15/22 15:22	12/17/22 15:04	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		12/15/22 15:22	12/17/22 15:04	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		12/15/22 15:22	12/17/22 15:04	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		12/15/22 15:22	12/17/22 15:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130			12/15/22 15:22	12/17/22 15:04	1
1,4-Difluorobenzene (Surr)	99		70 - 130			12/15/22 15:22	12/17/22 15:04	1
- Method: TAL SOP Total BTEX - 1	otal BTEX Cal	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			12/19/22 16:21	1
Total TPH			50.0	mg/Kg			12/14/22 12:15	
Analyte Total TPH		Qualifier	RL	Unit mg/Kg	D	Prepared	Analyzed	Dil Fac
				3 3				
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	
Gasoline Range Organics	<50.0	U	50.0			12/12/22 11:03		Dil Fac
(GRO)-C6-C10				mg/Kg		12/12/22 11.03	12/13/22 20:58	Dil Fac
•								1
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 20:58 12/13/22 20:58	1
Diesel Range Organics (Over C10-C28)				mg/Kg		12/12/22 11:03	12/13/22 20:58	1
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	<50.0 <50.0		50.0 50.0					
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)		U		mg/Kg		12/12/22 11:03	12/13/22 20:58	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/12/22 11:03 12/12/22 11:03	12/13/22 20:58 12/13/22 20:58	1
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	<50.0	U Qualifier S1+	50.0 <i>Limits</i>	mg/Kg		12/12/22 11:03 12/12/22 11:03 Prepared	12/13/22 20:58 12/13/22 20:58 Analyzed	1 1 1 1 Dil Fac
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	<50.0 **Recovery 138 139 5, lon Chromato	Qualifier S1+ S1+ pgraphy - Sc	50.0 Limits 70 - 130 70 - 130	mg/Kg		12/12/22 11:03 12/12/22 11:03 Prepared 12/12/22 11:03	12/13/22 20:58 12/13/22 20:58 Analyzed 12/13/22 20:58	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl	<50.0 **Recovery 138 139 5, lon Chromato	Qualifier S1+ S1+	50.0 Limits 70 - 130 70 - 130	mg/Kg	<u>D</u>	12/12/22 11:03 12/12/22 11:03 Prepared 12/12/22 11:03	12/13/22 20:58 12/13/22 20:58 Analyzed 12/13/22 20:58	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Client Sample ID: BH04

Date Collected: 12/06/22 13:30 Date Received: 12/08/22 11:20

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		12/15/22 15:22	12/17/22 15:25	1
Toluene	<0.00201	U	0.00201	mg/Kg		12/15/22 15:22	12/17/22 15:25	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		12/15/22 15:22	12/17/22 15:25	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		12/15/22 15:22	12/17/22 15:25	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		12/15/22 15:22	12/17/22 15:25	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		12/15/22 15:22	12/17/22 15:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			12/15/22 15:22	12/17/22 15:25	1

Eurofins Carlsbad

Lab Sample ID: 890-3605-2

Matrix: Solid

Client Sample Results

Client: Ensolum Job ID: 890-3605-1 Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Client Sample ID: BH04

87.5

Lab Sample ID: 890-3605-2 Date Collected: 12/06/22 13:30

Matrix: Solid

12/14/22 11:02

Sample Depth: 4

Chloride

Date Received: 12/08/22 11:20

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	98		70 - 130			12/15/22 15:22	12/17/22 15:25	1
Method: TAL SOP Total BTEX -	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			12/19/22 16:21	1
Method: SW846 8015 NM - Dies	el Range Organ	ics (DRO) (GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/14/22 12:15	1
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Method: SW846 8015B NM - Did	esel Range Orga	nics (DRO)	(GC)					
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/12/22 11:03	12/13/22 22:04	1
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		12/12/22 11:03	12/13/22 22:04	1
C10-C28)				99		,,	,	
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/12/22 11:03	12/13/22 22:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane			70 - 130			12/12/22 11:03	12/13/22 22:04	1
			70 - 130			12/12/22 11:03	12/13/22 22:04	

5.02

mg/Kg

Surrogate Summary

Client: Ensolum Job ID: 890-3605-1
Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

•				Percent Surrogate
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3601-A-1-C MS	Matrix Spike	85	92	
890-3601-A-1-D MSD	Matrix Spike Duplicate	86	89	
890-3605-1	BH04	113	99	
890-3605-2	BH04	121	98	
LCS 880-41943/1-A	Lab Control Sample	97	95	
LCSD 880-41943/2-A	Lab Control Sample Dup	94	94	
MB 880-41938/5-A	Method Blank	92	93	
MB 880-41943/5-A	Method Blank	97	90	
Surrogate Legend				
BFB = 4-Bromofluorobe	nzene (Surr)			

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1001	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
390-3605-1	BH04	138 S1+	139 S1+	
890-3605-1 MS	BH04	104	91	
390-3605-1 MSD	BH04	94	93	
390-3605-2	BH04	110	112	
CS 880-41626/2-A	Lab Control Sample	102	116	
LCSD 880-41626/3-A	Lab Control Sample Dup	114	127	
MB 880-41626/1-A	Method Blank	152 S1+	207 S1+	

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum Job ID: 890-3605-1 Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41938/5-A

Analysis Batch: 41993

Analyte

Matrix: Solid

Prep Batch: 41938 MB MB Dil Fac Result Qualifier RL Unit Prepared Analyzed 12/15/22 14:55 Benzene <0.00200 U 0.00200 mg/Kg 12/16/22 22:04 Toluene <0.00200 U 0.00200 mg/Kg 12/15/22 14:55 12/16/22 22:04 Ethylbenzene <0.00200 U 0.00200 12/16/22 22:04 mg/Kg 12/15/22 14:55 <0.00400 U 0.00400 12/16/22 22:04 m-Xylene & p-Xylene mg/Kg 12/15/22 14:55 o-Xylene <0.00200 U 0.00200 mg/Kg 12/15/22 14:55 12/16/22 22:04

mg/Kg

MB MB

<0.00400 U

Surrogate	%Recovery Qu	ualifier Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92	70 - 130	12/15/22 14:55	12/16/22 22:04	1
1,4-Difluorobenzene (Surr)	93	70 - 130	12/15/22 14:55	12/16/22 22:04	1

0.00400

Lab Sample ID: MB 880-41943/5-A

Matrix: Solid

Xylenes, Total

Analysis Batch: 41993

Client Sample ID: Method Blank

12/16/22 22:04

12/15/22 14:55

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 41943

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 08:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 08:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 08:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/15/22 15:22	12/17/22 08:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 08:47	1
Xylenes, Total	< 0.00400	U	0.00400	mg/Kg		12/15/22 15:22	12/17/22 08:47	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	12/15/22 15:22	12/17/22 08:47	1
1,4-Difluorobenzene (Surr)	90		70 - 130	12/15/22 15:22	12/17/22 08:47	1

Lab Sample ID: LCS 880-41943/1-A

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 41943

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.09030		mg/Kg		90	70 - 130	
Toluene	0.100	0.08409		mg/Kg		84	70 - 130	
Ethylbenzene	0.100	0.07938		mg/Kg		79	70 - 130	
m-Xylene & p-Xylene	0.200	0.1705		mg/Kg		85	70 - 130	
o-Xylene	0.100	0.08759		mg/Kg		88	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	97	70 - 130
1.4-Difluorobenzene (Surr)	95	70 - 130

Lab Sample ID: LCSD 880-41943/2-A

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Lab	Control Sample Dup
	Dunn Times Tetal/NIA

Prep Type: Total/NA

Prep Batch: 41943

	Spike	LCSD LCSD				%Rec		RPD	
Analyte	Added	Result Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.09270	mg/Kg		93	70 - 130	3	35	

QC Sample Results

Job ID: 890-3605-1 Client: Ensolum Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-41943/2-A

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 41943

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Toluene	0.100	0.08517		mg/Kg		85	70 - 130	1	35
Ethylbenzene	0.100	0.07903		mg/Kg		79	70 - 130	0	35
m-Xylene & p-Xylene	0.200	0.1679		mg/Kg		84	70 - 130	2	35
o-Xylene	0.100	0.08660		mg/Kg		87	70 - 130	1	35

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	94	70 - 130
1,4-Difluorobenzene (Surr)	94	70 - 130

Lab Sample ID: 890-3601-A-1-C MS

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Prep Batch: 41943

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U F2 F1	0.100	<0.00200	U F1	mg/Kg		1	70 - 130	
Toluene	<0.00200	U F1	0.100	<0.00200	U F1	mg/Kg		0.6	70 - 130	
Ethylbenzene	<0.00200	U F1	0.100	<0.00200	U F1	mg/Kg		0	70 - 130	
m-Xylene & p-Xylene	<0.00401	U F1	0.200	<0.00401	U F1	mg/Kg		0.6	70 - 130	
o-Xylene	<0.00200	U F1	0.100	<0.00200	U F1	mg/Kg		0.5	70 - 130	

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	85	70 - 130
1,4-Difluorobenzene (Surr)	92	70 - 130

Lab Sample ID: 890-3601-A-1-D MSD

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 41943

		Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte		Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene		<0.00200	U F2 F1	0.0996	<0.00199	U F2 F1	mg/Kg		0.4	70 - 130	113	35
Toluene		<0.00200	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzer	ne	<0.00200	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene &	p-Xylene	<0.00401	U F1	0.199	<0.00398	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene		<0.00200	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35

MSD MSD

Surrogate	%Recovery	Quaimer	Limits
4-Bromofluorobenzene (Surr)	86		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-41626/1-A

Matrix: Solid

Analysis Batch: 41693

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 41626

мв мв Result Qualifier Unit Prepared <50.0 U 50.0 mg/Kg 12/12/22 11:03 12/13/22 19:51 Gasoline Range Organics (GRO)-C6-C10

QC Sample Results

Client: Ensolum Job ID: 890-3605-1
Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-41626/1-A

Matrix: Solid

Analysis Batch: 41693

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41626

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 19:51	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 19:51	1
	МВ	MB						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	152	S1+	70 - 130			12/12/22 11:03	12/13/22 19:51	1
o-Terphenyl	207	S1+	70 - 130			12/12/22 11:03	12/13/22 19:51	1

Lab Sample ID: LCS 880-41626/2-A Client Sample ID: Lab Control Sample **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 41693 Prep Batch: 41626 LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Gasoline Range Organics 1000 811.3 81 70 - 130 mg/Kg (GRO)-C6-C10 1000 825.1 Diesel Range Organics (Over mg/Kg 83 70 - 130 C10-C28) LCS LCS %Recovery Qualifier Limits Surrogate 1-Chlorooctane 70 - 130 102 o-Terphenyl 116 70 - 130

Lab Sample ID: LCSD 880-41626/3-A

Matrix: Solid

Analysis Batch: 41693

Spike

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41626
RPD

%Rec RPD

	Sp	ke LCSI	LCSD				%Rec		RPD	
Analyte	Add	ed Resul	t Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics	10	928.5	5	mg/Kg		93	70 - 130	13	20	
(GRO)-C6-C10										
Diesel Range Organics (Over	10	00 910.5	5	mg/Kg		91	70 - 130	10	20	
C10-C28)										

	LUSD LUS	D
Surrogate	%Recovery Qua	lifier Limits
1-Chlorooctane	114	70 - 130
o-Terphenyl	127	70 - 130

91

Lab Sample ID: 890-3605-1 MS

Matrix: Solid

Client Sample ID: BH04

Prep Type: Total/NA

Analysis Batch: 41693

Prep Type: Total/NA

Prep Ty

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	939.4		mg/Kg		92	70 - 130	
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1020		mg/Kg		102	70 - 130	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	104		70 - 130							

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70 - 130

3

7

8

10

12

М

o-Terphenyl

Client: Ensolum Job ID: 890-3605-1 Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

MSD MSD

910.9

1037

Result Qualifier

Unit

mg/Kg

mg/Kg

Spike

Added

997

997

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-3605-1 MSD

Matrix: Solid

Analysis Batch: 41693

Gasoline Range Organics

Client Sample ID: BH04

Prep Type: Total/NA Prep Batch: 41626

2

	Fieh	Datcii.	41020		
	%Rec		RPD		
%Rec	Limits	RPD	Limit		
89	70 - 130	3	20		

70 - 130

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Prep Type: Soluble

Prep Type: Soluble

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

104

Diesel Range Organics (Over C10-C28)

(GRO)-C6-C10

Analyte

MSD MSD

Sample Sample

<50.0 U

<50.0 U

Result Qualifier

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	93		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41471/1-A Client Sample ID: Method Blank **Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 41738

мв мв

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			12/14/22 08:09	1

Lab Sample ID: LCS 880-41471/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Soluble**

Analysis Batch: 41738

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	254.3		mg/Kg		102	90 - 110	

Lab Sample ID: LCSD 880-41471/3-A

Matrix: Solid

Analysis Batch: 41738

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	268.2		mg/Kg	_	107	90 - 110	5	20	

Lab Sample ID: 890-3603-A-1-B MS

Matrix: Solid

Analysis Batch: 41738

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	146		251	401.1		ma/Ka		102	90 - 110	

Lab Sample ID: 890-3603-A-1-C MSD

Matrix: Solid

Analysis Batch: 41738

Analysis Daton. 41700												
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	146		251	406.4		ma/Ka		104	90 - 110		20	

QC Association Summary

Client: Ensolum

Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1 SDG: Lea County NM

GC VOA

Prep Batch: 41938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-41938/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 41943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3605-1	BH04	Total/NA	Solid	5035	
890-3605-2	BH04	Total/NA	Solid	5035	
MB 880-41943/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41943/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3601-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3601-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 41993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3605-1	BH04	Total/NA	Solid	8021B	41943
890-3605-2	BH04	Total/NA	Solid	8021B	41943
MB 880-41938/5-A	Method Blank	Total/NA	Solid	8021B	41938
MB 880-41943/5-A	Method Blank	Total/NA	Solid	8021B	41943
LCS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	8021B	41943
LCSD 880-41943/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41943
890-3601-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	41943
890-3601-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	41943

Analysis Batch: 42252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3605-1	BH04	Total/NA	Solid	Total BTEX	
890-3605-2	BH04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3605-1	BH04	Total/NA	Solid	8015NM Prep	
890-3605-2	BH04	Total/NA	Solid	8015NM Prep	
MB 880-41626/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41626/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41626/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3605-1 MS	BH04	Total/NA	Solid	8015NM Prep	
890-3605-1 MSD	BH04	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3605-1	BH04	Total/NA	Solid	8015B NM	41626
890-3605-2	BH04	Total/NA	Solid	8015B NM	41626
MB 880-41626/1-A	Method Blank	Total/NA	Solid	8015B NM	41626
LCS 880-41626/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41626
LCSD 880-41626/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41626
890-3605-1 MS	BH04	Total/NA	Solid	8015B NM	41626
890-3605-1 MSD	BH04	Total/NA	Solid	8015B NM	41626

QC Association Summary

Client: Ensolum

Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1 SDG: Lea County NM

GC Semi VOA

Analysis Batch: 41813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3605-1	BH04	Total/NA	Solid	8015 NM	
890-3605-2	BH04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3605-1	BH04	Soluble	Solid	DI Leach	
890-3605-2	BH04	Soluble	Solid	DI Leach	
MB 880-41471/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41471/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41471/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3603-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3603-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 41738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3605-1	BH04	Soluble	Solid	300.0	41471
890-3605-2	BH04	Soluble	Solid	300.0	41471
MB 880-41471/1-A	Method Blank	Soluble	Solid	300.0	41471
LCS 880-41471/2-A	Lab Control Sample	Soluble	Solid	300.0	41471
LCSD 880-41471/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41471
890-3603-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	41471
890-3603-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41471

Eurofins Carlsbad

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Client: Ensolum

Project/Site: JAMES A WATERFLOOD

Client Sample ID: BH04

Date Collected: 12/06/22 13:00

Date Received: 12/08/22 11:20

Job ID: 890-3605-1

SDG: Lea County NM

Lab Sample ID: 890-3605-1

Matrix: Solid

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	41943	12/15/22 15:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 15:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42252	12/19/22 16:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			41813	12/14/22 12:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41626	12/12/22 11:03	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41693	12/13/22 20:58	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	41471	12/09/22 13:16	KS	EET MID
Soluble	Analysis	300.0		1			41738	12/14/22 10:56	CH	EET MID

Client Sample ID: BH04 Lab Sample ID: 890-3605-2

Date Collected: 12/06/22 13:30

Date Received: 12/08/22 11:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	41943	12/15/22 15:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 15:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42252	12/19/22 16:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			41813	12/14/22 12:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41626	12/12/22 11:03	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41693	12/13/22 22:04	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	41471	12/09/22 13:16	KS	EET MID
Soluble	Analysis	300.0		1			41738	12/14/22 11:02	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Ensolum Job ID: 890-3605-1
Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority Texas		ogram	Identification Number	Expiration Date	
		ELAP	T104704400-22-24		
The following analytes	are included in this report hi	it the laboratory is not certific	ed by the governing authority. This list ma	vindudo analytas for y	
the agency does not of	. ,	at the laboratory is not certify	ed by the governing admonty. This list his	ay include analytes for t	
0 ,	. ,	Matrix	Analyte	ay include analytes for t	
the agency does not of	fer certification.	•	, , ,	ay include analytes for v	

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Method Summary

Client: Ensolum

Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1

SDG: Lea County NM

otocol	Laboratory
/846	EET MID
SOP	EET MID
/846	EET MID
/846	EET MID

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum

Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1

SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3605-1	BH04	Solid	12/06/22 13:00	12/08/22 11:20	1
890-3605-2	BH04	Solid	12/06/22 13:30	12/08/22 11:20	4

Relinquished by: (Signature)

Received by: (Signature)

0000 Date/Time

Relinquished by: (Signature)

Received by: (Signature)

Date/Time

Revised Date: 08/25/2020 Rev. 2020.2

eurofins Xenco **Environment Testing**

Phone:

Chain of Custody

Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334 Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300

				Hobbs	NM (575) 392-755	Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199	www.xenco.com	com Page 1 of 2
Project Manager: K	Kalei Jennings			Bill to: (if different)	Kalei Jennings	ngs	Work Or	Con
	Ensolum, LLC			Company Name:	Ensolum, LLC	LC	Program: UST/PST PRP	Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
	601 N Marienfeld St Suite 400	St Suite 400		Address:	601 N Mari	601 N Marienfeld St Suite 400	State of Project:	
e ZIP:	Midland, TX 79701	01		City, State ZIP:	Midland, TX 79701	(79701	Reporting: Level III Level III PST/UST TRRP	PST/UST TRRP Level IV
	817.683.2503		Email:	kjennings@en	olum.com; jada	Email: kjennings@ensolum.com; jadams@ensolum.com	Deliverables: EDD	ADaPT Other:
Project Name:	James A Waterflood	Vaterflood	Turn	Turn Around		ANALYSIS	SIS REQUEST	Preservative Codes
Project Number:	03D2024119 & 03D2024120	03D2024120	☑ Routine	Rush	Pres.			None: NO DI Water: H ₂ O
Project Location:	Lea County, NM	nty, NM	Due Date:					<u>u</u>
Sampler's Name:	Conner Shore	Shore	TAT starts the	TAT starts the day received by				
PO#:		2	the lab, if received	eived by 4:30pm	ers			H ₂ SO ₄ : H ₂ NaCH: Na
SAMPLE RECEIPT	Temp Blank:	nk: (les) No	Wet ice:	Yes No	nete			H ₃ PO ₄ : HP
Samples Received Intact:		lo Thermometer ID:	her ID:	UNGOL				NaHSC4: NABIS
Cooler Custody Seals:	: Yes No	Correction Factor:	Factor:	とうっつ				Na ₂ S ₂ O ₃ : NaSO ₃
Sample Custody Seals:	s: Yes No	N/A Temperature Reading:	re Reading:	2	_		890-3605 Chain of Custody	Zn Acetate+NaOH: Zn
Total Containers:		Corrected T	Corrected Temperature:	2.10	_		-	NaOH+Ascorbic Acid: SAFC
Sample Identification		Matrix Sampled	Time Sampled	Depth Comp	Cont CHLOF	BTEX		Sample Comments
BH04	S	12.6.22	1900	1' G	×	×		
BH04			1330	4' G		×		
				\				Incident Number
			27					
		5	100					
)	10						
		\						
	1							
7								
Total 200.7 / 6010	10 200.8 / 6020:		8RCRA 13PPM	PM Texas 11	Texas 11 Al Sb As Ba	Be B Cd Ca Cr Co Cu Fe	Pb Mg Mn Mo Ni K Se A	
Circle Method(s) and Metal(s) to be analyzed	d Metal(s) to be	analyzed	TCLP / SF	P 6010: 8R	CRA Sb As B	TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn	Mo Ni Se Ag II U	Hg: 1631 / 245.1 / /4/0 / /4/1
totice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions	ocument and relinquis	hment of samples co	nstitutes a valid p	urchase order from	client company to Eu	lotice. Signature of this document and relinguishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontra	ontractors. It assigns standard terms and conditions	NRS .

Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-3605-1 SDG Number: Lea County NM

Login Number: 3605 List Number: 1 Creator: Clifton, Cloe List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-3605-1 SDG Number: Lea County NM

List Source: Eurofins Midland

Login Number: 3605 List Number: 2

List Creation: 12/09/22 11:39 AM

Creator: Rodriguez, Leticia

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	N/A	

<6mm (1/4").

Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400

Midland, Texas 79701

Generated 12/19/2022 4:41:43 PM

JOB DESCRIPTION

James A Waterflood SDG NUMBER Lea County NM

JOB NUMBER

890-3606-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

Generated 12/19/2022 4:41:43 PM

Authorized for release by Jessica Kramer, Project Manager Jessica.Kramer@et.eurofinsus.com (432)704-5440

Companies

Client: Ensolum
Project/Site: James A Waterflood
Laboratory Job ID: 890-3606-1
SDG: Lea County NM

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Definitions/Glossary

Client: Ensolum Job ID: 890-3606-1
Project/Site: James A Waterflood SDG: Lea County NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits

U Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

LOD

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)

LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level"

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

Limit of Detection (DoD/DOE)

MDC Minimum Detectable Concentrate
MDL Method Detection Limit
ML Minimum Level (Dioxin)
MPN Most Probable Number
MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

 NEG
 Negative / Absent

 POS
 Positive / Present

 PQL
 Practical Quantitation Limit

 PRES
 Presumptive

QC Quality Control
RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

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Case Narrative

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3606-1

SDG: Lea County NM

Job ID: 890-3606-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3606-1

Receipt

The samples were received on 12/8/2022 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: BH03 (890-3606-1) and BH03 (890-3606-2).

GC VOA

Method 8021B: The following samples were diluted due to the nature of the sample matrix: (890-3601-A-1-C MS) and (890-3601-A-1-D MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD NM: The surrogate recovery for the blank associated with preparation batch 880-41626 and analytical batch 880-41693 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-3605-A-1-B). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

Method 300 ORGFM 28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41479 and analytical batch 880-41945 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Ensolum Job ID: 890-3606-1 Project/Site: James A Waterflood SDG: Lea County NM

Client Sample ID: BH03

Date Received: 12/08/22 11:20

Lab Sample ID: 890-3606-1 Date Collected: 12/06/22 12:30

Matrix: Solid

Sample Depth: 1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		12/15/22 15:22	12/17/22 15:45	1
Toluene	<0.00198	U	0.00198	mg/Kg		12/15/22 15:22	12/17/22 15:45	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		12/15/22 15:22	12/17/22 15:45	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		12/15/22 15:22	12/17/22 15:45	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		12/15/22 15:22	12/17/22 15:45	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		12/15/22 15:22	12/17/22 15:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130			12/15/22 15:22	12/17/22 15:45	1
1,4-Difluorobenzene (Surr)	93		70 - 130			12/15/22 15:22	12/17/22 15:45	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			12/19/22 16:21	1
			•					
Analyte	Result	Qualifier	RL	Unit	<u>D</u>	Prepared	Analyzed	
Analyte		Qualifier	•	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 12/14/22 12:15	
Analyte Total TPH	Result 56.9	Qualifier	49.9		<u>D</u>	Prepared		
Analyte Total TPH Method: SW846 8015B NM - Dies	Result 56.9	Qualifier	49.9		<u>D</u>	Prepared Prepared		1
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	Result 56.9	Qualifier nics (DRO) Qualifier	RL 49.9	mg/Kg	<u> </u>		12/14/22 12:15	1 Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result 56.9 sel Range Orga	Qualifier nics (DRO) Qualifier U	RL 49.9 (GC)	mg/Kg	<u> </u>	Prepared	12/14/22 12:15 Analyzed	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result 56.9 sel Range Orga Result <49.9	Qualifier nics (DRO) Qualifier U	RL 49.9 (GC) RL 49.9	mg/Kg Unit mg/Kg	<u> </u>	Prepared 12/12/22 11:03	12/14/22 12:15 Analyzed 12/13/22 22:26	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result 56.9 sel Range Orga Result <49.9 56.9	Qualifier nics (DRO) Qualifier U	RL 49.9 (GC) RL 49.9 49.9	mg/Kg Unit mg/Kg mg/Kg	<u> </u>	Prepared 12/12/22 11:03 12/12/22 11:03	12/14/22 12:15 Analyzed 12/13/22 22:26 12/13/22 22:26	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	Result 56.9 sel Range Orga	Qualifier nics (DRO) Qualifier U	RL 49.9 (GC) RL 49.9 49.9	mg/Kg Unit mg/Kg mg/Kg	<u> </u>	Prepared 12/12/22 11:03 12/12/22 11:03	Analyzed 12/13/22 22:26 12/13/22 22:26 12/13/22 22:26	1 Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result	Qualifier nics (DRO) Qualifier U	RL 49.9 (GC) RL 49.9 49.9 49.9 Limits	mg/Kg Unit mg/Kg mg/Kg	<u> </u>	Prepared 12/12/22 11:03 12/12/22 11:03 12/12/22 11:03 Prepared	Analyzed 12/13/22 22:26 12/13/22 22:26 12/13/22 22:26 Analyzed	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	Result	Qualifier nics (DRO) Qualifier U	RL 49.9 (GC) RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	mg/Kg Unit mg/Kg mg/Kg	<u> </u>	Prepared 12/12/22 11:03 12/12/22 11:03 12/12/22 11:03 Prepared 12/12/22 11:03	Analyzed 12/13/22 22:26 12/13/22 22:26 12/13/22 22:26 Analyzed 12/13/22 22:26	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl	Result	Qualifier nics (DRO) Qualifier U	RL 49.9 (GC) RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	mg/Kg Unit mg/Kg mg/Kg	<u> </u>	Prepared 12/12/22 11:03 12/12/22 11:03 12/12/22 11:03 Prepared 12/12/22 11:03	Analyzed 12/13/22 22:26 12/13/22 22:26 12/13/22 22:26 Analyzed 12/13/22 22:26	Dil Fac 1 Dil Fac 1 1 Dil Fac 1 Dil Fac 1 Dil Fac

Client Sample ID: BH03 Lab Sample ID: 890-3606-2

Date Collected: 12/06/22 12:45 **Matrix: Solid**

Date Received: 12/08/22 11:20

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 16:06	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 16:06	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 16:06	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		12/15/22 15:22	12/17/22 16:06	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 16:06	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/15/22 15:22	12/17/22 16:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			12/15/22 15:22	12/17/22 16:06	1

Client Sample Results

Client: Ensolum

Project/Site: James A Waterflood

SDG: Lea County NM

Client Sample ID: BH03 Lab Sample ID: 890-3606-2

Date Collected: 12/06/22 12:45
Date Received: 12/08/22 11:20
Matrix: Solid

Sample Depth: 4

Chloride

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	102		70 - 130			12/15/22 15:22	12/17/22 16:06	1
Method: TAL SOP Total BTEX -	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			12/19/22 16:21	1
Method: SW846 8015 NM - Dies	el Range Organ	ics (DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	65.5		50.0	mg/Kg			12/14/22 12:15	1
Analyte	Result	Qualifier	RL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Method: SW846 8015B NM - Die	esel Range Orga	nics (DRO)	(GC)					
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 22:48	1
(GRO)-C6-C10 Diesel Range Organics (Over	65.5		50.0	mg/Kg		12/12/22 11:03	12/13/22 22:48	1
C10-C28)	03.3		00.0	mg/rtg		12/12/22 11:00	12/10/22 22.40	
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 22:48	1
	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Surrogate			70 - 130			12/12/22 11:03	12/13/22 22:48	1
Surrogate 1-Chlorooctane	114		70 - 130					

4.97

mg/Kg

542

12/16/22 02:51

Surrogate Summary

Client: Ensolum Job ID: 890-3606-1 Project/Site: James A Waterflood SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Re
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3601-A-1-C MS	Matrix Spike	85	92	
890-3601-A-1-D MSD	Matrix Spike Duplicate	86	89	
890-3606-1	BH03	104	93	
890-3606-2	BH03	110	102	
LCS 880-41943/1-A	Lab Control Sample	97	95	
LCSD 880-41943/2-A	Lab Control Sample Dup	94	94	
MB 880-41938/5-A	Method Blank	92	93	
MB 880-41943/5-A	Method Blank	97	90	
Surrogate Legend				
BFB = 4-Bromofluorobenz	ene (Surr)			

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid Prep Type: Total/NA

-			
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3605-A-1-C MS	Matrix Spike	104	91
890-3605-A-1-D MSD	Matrix Spike Duplicate	94	93
890-3606-1	BH03	117	118
890-3606-2	BH03	114	112
LCS 880-41626/2-A	Lab Control Sample	102	116
LCSD 880-41626/3-A	Lab Control Sample Dup	114	127
MB 880-41626/1-A	Method Blank	152 S1+	207 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Client: Ensolum Job ID: 890-3606-1
Project/Site: James A Waterflood SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41938/5-A

Matrix: Solid Analysis Batch: 41993 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 41938

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/15/22 14:55	12/16/22 22:04	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 130	12/15/22 14:55	12/16/22 22:04	1
1,4-Difluorobenzene (Surr)	93		70 - 130	12/15/22 14:55	12/16/22 22:04	1

Lab Sample ID: MB 880-41943/5-A

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 41943

14

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 08:47	
Toluene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 08:47	
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 08:47	
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/15/22 15:22	12/17/22 08:47	
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 08:47	
Xvlenes Total	<0.00400	U	0.00400	ma/Ka		12/15/22 15:22	12/17/22 08:47	

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	12/15/22 15:22	12/17/22 08:47	1
1,4-Difluorobenzene (Surr)	90		70 - 130	12/15/22 15:22	12/17/22 08:47	1

Lab Sample ID: LCS 880-41943/1-A

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 41943

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.09030		mg/Kg		90	70 - 130	
Toluene	0.100	0.08409		mg/Kg		84	70 - 130	
Ethylbenzene	0.100	0.07938		mg/Kg		79	70 - 130	
m-Xylene & p-Xylene	0.200	0.1705		mg/Kg		85	70 - 130	
o-Xylene	0.100	0.08759		mg/Kg		88	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	97	70 - 130
1.4-Difluorobenzene (Surr)	95	70 - 130

Lab Sample ID: LCSD 880-41943/2-A

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Lab	Conti	rol Sar	mple Dup	
	_	_		

Prep Type: Total/NA

Prep Batch: 41943

	Бріке	LCSD LCSD				%Rec		RPD
Analyte	Added	Result Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09270	mg/Kg		93	70 - 130	3	35

Client: Ensolum Job ID: 890-3606-1 Project/Site: James A Waterflood SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-41943/2-A

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 41943

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit Toluene 0.100 0.08517 70 - 130 35 mg/Kg 85 Ethylbenzene 0.100 0.07903 mg/Kg 79 70 - 130 0 35 0.200 70 - 130 m-Xylene & p-Xylene 0.1679 mg/Kg 84 2 35 o-Xylene 0.100 0.08660 mg/Kg 87 70 - 130

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 890-3601-A-1-C MS

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 41943

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U F2 F1	0.100	<0.00200	U F1	mg/Kg		1	70 - 130	
Toluene	<0.00200	U F1	0.100	<0.00200	U F1	mg/Kg		0.6	70 - 130	
Ethylbenzene	<0.00200	U F1	0.100	<0.00200	U F1	mg/Kg		0	70 - 130	
m-Xylene & p-Xylene	<0.00401	U F1	0.200	<0.00401	U F1	mg/Kg		0.6	70 - 130	
o-Xylene	<0.00200	U F1	0.100	<0.00200	U F1	mg/Kg		0.5	70 - 130	

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	85	70 - 130
1,4-Difluorobenzene (Surr)	92	70 - 130

Lab Sample ID: 890-3601-A-1-D MSD

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 41943

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00200	U F2 F1	0.0996	<0.00199	U F2 F1	mg/Kg		0.4	70 - 130	113	35
Toluene	<0.00200	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzene	<0.00200	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00401	U F1	0.199	<0.00398	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene	<0.00200	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35

MSD MSD

Surrogate	%Recovery	Quaimer	Limits
4-Bromofluorobenzene (Surr)	86		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-41626/1-A

Matrix: Solid

Analysis Batch: 41693

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 41626

мв мв Result Qualifier RL Unit Prepared <50.0 U 50.0 mg/Kg 12/12/22 11:03 12/13/22 19:51 Gasoline Range Organics (GRO)-C6-C10

Client: Ensolum

Job ID: 890-3606-1

Project/Site: James A Waterflood

SDG: Lea County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-41626/1-A	Client Sample ID: Method Blank
Matrix: Solid	Prep Type: Total/NA
Analysis Batch: 41693	Prep Batch: 41626
MD MD	

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 19:51	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 19:51	1
	МВ	MB						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	152	S1+	70 - 130			12/12/22 11:03	12/13/22 19:51	1
o-Terphenyl	207	S1+	70 - 130			12/12/22 11:03	12/13/22 19:51	1

<u> </u>										
Lab Sample ID: LCS 880-41	626/2-A						Client	Sample	ID: Lab Cont	rol Sample
Matrix: Solid									Prep Typ	e: Total/N/
Analysis Batch: 41693									Prep Ba	tch: 4162
			Spike	LCS	LCS				%Rec	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics			1000	811.3		mg/Kg		81	70 - 130	
(GRO)-C6-C10										
Diesel Range Organics (Over			1000	825.1		mg/Kg		83	70 - 130	
C10-C28)										
	LCS	LCS								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	102		70 - 130							
o-Terphenyl	116		70 - 130							

Lab Sample ID: LCSD 880-41626/3-A Clie						it Sample ID: Lab Control Sample Dup					
Matrix: Solid					Prep Type: Total/NA						
Analysis Batch: 41693							Prep	Batch:	41626		
	Spike	LCSD	LCSD				%Rec		RPD		
Analyte	Added	Result	Qualifier	Unit	_ D	%Rec	Limits	RPD	Limit		
Gasoline Range Organics (GRO)-C6-C10	1000	928.5		mg/Kg		93	70 - 130	13	20		
Diesel Range Organics (Over C10-C28)	1000	910.5		mg/Kg		91	70 - 130	10	20		
	Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Matrix: Solid Analysis Batch: 41693 Spike Analyte Added Gasoline Range Organics 1000 (GRO)-C6-C10 1000 Diesel Range Organics (Over 1000	Matrix: Solid Analysis Batch: 41693 Spike LCSD Analyte Added Result Gasoline Range Organics 1000 928.5 (GRO)-C6-C10 0 910.5 Diesel Range Organics (Over 1000 910.5	Matrix: Solid Analysis Batch: 41693 Spike LCSD LCSD Analyte Added Result Qualifier Gasoline Range Organics 1000 928.5 (GRO)-C6-C10 1000 910.5 Diesel Range Organics (Over 1000 910.5	Matrix: Solid Analysis Batch: 41693 Spike LCSD LCSD Analyte Added Result Qualifier Unit Gasoline Range Organics (GRO)-C6-C10 1000 928.5 mg/Kg Diesel Range Organics (Over 1000 910.5 mg/Kg	Matrix: Solid Analysis Batch: 41693 Spike LCSD LCSD Analyte Added Result Qualifier Unit Democration Democration Gasoline Range Organics (GRO)-C6-C10 1000 928.5 mg/Kg Diesel Range Organics (Over 1000 910.5 mg/Kg	Matrix: Solid Analysis Batch: 41693 Spike LCSD LCSD Analyte Added Result Qualifier Unit D %Rec Gasoline Range Organics (GRO)-C6-C10 1000 928.5 mg/Kg 93 (GRO)-C6-C10 Diesel Range Organics (Over 1000 910.5 mg/Kg 91	Matrix: Solid Prep 1 Analysis Batch: 41693 Spike LCSD LCSD WRec Analyte Added Result Gasoline Range Organics 1000 928.5 mg/Kg 93 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over 1000 910.5 mg/Kg 91 70 - 130	Matrix: Solid Prep Type: To Prep Batch: To Prep		

C10-C28)				
	LCSD	LCSD		
Surrogate	%Recovery	Qualifier	Limits	
1-Chlorooctane	114		70 - 130	

o-Terphenyl	127	70 - 130	
Lab Sample ID: 890-3605-A-1-C MS			Client Sample ID: Matrix Spike
Matrix: Solid			Prep Type: Total/NA

Analysis Batch: 41693									Prep	Batch:	41626
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	939.4		mg/Kg		92	70 - 130		
Diesel Range Organics (Over	<50.0	U	999	1020		mg/Kg		102	70 - 130		

(GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<50.0	U	999	1020	mg/Kg	102	70 - 130
	MS	MS					
Surrogate	%Recovery	Qualifier	Limits				
1-Chlorooctane	104		70 - 130				
o-Terphenyl	91		70 - 130				

Job ID: 890-3606-1 SDG: Lea County NM

Project/Site: James A Waterflood

Lab Sample ID: 890-3605-A-1-D MSD

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA Prep Batch: 41626

Analysis Batch: 41693 Sample Sample Spike MSD MSD RPD Limit Result Qualifier RPD Analyte Added Result Qualifier Unit %Rec Limits Gasoline Range Organics <50.0 U 997 910.9 mg/Kg 89 70 - 130 3 20 (GRO)-C6-C10 997 Diesel Range Organics (Over <50.0 U 1037 mg/Kg 104 70 - 130 2

C10-C28)

Client: Ensolum

Matrix: Solid

MSD MSD

Surrogate	%Recovery Qu	ıalifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	93		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41479/1-A Client Sample ID: Method Blank **Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 41945

мв мв

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00 U	5.00	mg/Kg			12/16/22 02:07	1

Lab Sample ID: LCS 880-41479/2-A **Client Sample ID: Lab Control Sample Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 41945

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	253.5		mg/Kg		101	90 - 110	

Lab Sample ID: LCSD 880-41479/3-A Client Sample ID: Lab Control Sample Dup **Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 41945

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	251.3		mg/Kg	_	101	90 - 110	1	20	

Lab Sample ID: 890-3606-1 MS **Client Sample ID: BH03 Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 41945

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	506	F1	252	812.0	F1	ma/Ka		82	90 110	

Lab Sample ID: 890-3606-1 MSD Client Sample ID: BH03 **Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 41945

Alialysis Datell. +1343												
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	506	F1	252	812.4	F1	mg/Kg		82	90 - 110	0	20	

QC Association Summary

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3606-1 SDG: Lea County NM

GC VOA

Prep Batch: 41938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-41938/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 41943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3606-1	BH03	Total/NA	Solid	5035	
890-3606-2	BH03	Total/NA	Solid	5035	
MB 880-41943/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41943/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3601-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3601-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 41993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3606-1	BH03	Total/NA	Solid	8021B	41943
890-3606-2	BH03	Total/NA	Solid	8021B	41943
MB 880-41938/5-A	Method Blank	Total/NA	Solid	8021B	41938
MB 880-41943/5-A	Method Blank	Total/NA	Solid	8021B	41943
LCS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	8021B	41943
LCSD 880-41943/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41943
890-3601-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	41943
890-3601-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	41943

Analysis Batch: 42253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3606-1	BH03	Total/NA	Solid	Total BTEX	
890-3606-2	BH03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3606-1	BH03	Total/NA	Solid	8015NM Prep	
890-3606-2	BH03	Total/NA	Solid	8015NM Prep	
MB 880-41626/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41626/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41626/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3605-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3605-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3606-1	BH03	Total/NA	Solid	8015B NM	41626
890-3606-2	BH03	Total/NA	Solid	8015B NM	41626
MB 880-41626/1-A	Method Blank	Total/NA	Solid	8015B NM	41626
LCS 880-41626/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41626
LCSD 880-41626/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41626
890-3605-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	41626
890-3605-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41626

QC Association Summary

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3606-1 SDG: Lea County NM

GC Semi VOA

Analysis Batch: 41814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3606-1	BH03	Total/NA	Solid	8015 NM	
890-3606-2	BH03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3606-1	BH03	Soluble	Solid	DI Leach	_
890-3606-2	BH03	Soluble	Solid	DI Leach	
MB 880-41479/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41479/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41479/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3606-1 MS	BH03	Soluble	Solid	DI Leach	
890-3606-1 MSD	BH03	Soluble	Solid	DI Leach	

Analysis Batch: 41945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3606-1	BH03	Soluble	Solid	300.0	41479
890-3606-2	BH03	Soluble	Solid	300.0	41479
MB 880-41479/1-A	Method Blank	Soluble	Solid	300.0	41479
LCS 880-41479/2-A	Lab Control Sample	Soluble	Solid	300.0	41479
LCSD 880-41479/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41479
890-3606-1 MS	BH03	Soluble	Solid	300.0	41479
890-3606-1 MSD	BH03	Soluble	Solid	300.0	41479

Eurofins Carlsbad

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Date Received: 12/08/22 11:20

Client: Ensolum

Job ID: 890-3606-1 Project/Site: James A Waterflood SDG: Lea County NM

Client Sample ID: BH03 Lab Sample ID: 890-3606-1 Date Collected: 12/06/22 12:30

Matrix: Solid

Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab 5035 41943 Total/NA Prep 5.05 g 5 mL 12/15/22 15:22 MNR **EET MID** 8021B Total/NA Analysis 1 5 mL 5 mL 41993 12/17/22 15:45 MNR **EET MID** Total/NA Analysis Total BTEX 42253 12/19/22 16:21 SM **EET MID** Total/NA 8015 NM 12/14/22 12:15 **EET MID** Analysis 1 41814 SM Total/NA 8015NM Prep 41626 12/12/22 11:03 EET MID Prep 10.02 g 10 mL DM Total/NA Analysis 8015B NM 1 uL 1 uL 41693 12/13/22 22:26 SM **EET MID** 50 mL Soluble DI Leach 4.97 g 41479 12/09/22 13:24 KS Leach **EET MID** Soluble Analysis 300.0 50 mL 50 mL 41945 12/16/22 02:29 СН **EET MID**

Client Sample ID: BH03 Lab Sample ID: 890-3606-2

Date Collected: 12/06/22 12:45 **Matrix: Solid**

Date Received: 12/08/22 11:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	41943	12/15/22 15:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 16:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42253	12/19/22 16:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			41814	12/14/22 12:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	41626	12/12/22 11:03	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41693	12/13/22 22:48	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	41479	12/09/22 13:24	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	41945	12/16/22 02:51	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Released to Imaging: 9/20/2023 1:41:30 PM

Accreditation/Certification Summary

Client: Ensolum Job ID: 890-3606-1
Project/Site: James A Waterflood SDG: Lea County NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Pr	ogram	Identification Number	Expiration Date
Texas	NE	ELAP	T104704400-22-24	06-30-23
The following analytes	are included in this report, but	t the laboratory is not certific	ed by the governing authority. This list ma	av include analytes fo
the agency does not of	• •	it the laboratory is not certific	su by the governing authority. This list his	ay include analytes to
,	• •	Matrix	Analyte	ay include analytes to
the agency does not of	fer certification.	,	, , ,	ay illicitude allalytes lo

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Method Summary

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3606-1

SDG: Lea County NM

oratory	

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3606-1

SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depti
890-3606-1	BH03	Solid	12/06/22 12:30	12/08/22 11:20	1
890-3606-2	BH03	Solid	12/06/22 12:45	12/08/22 11:20	4

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Chain of Custody

Revised Date 08/25/2020 Rev. 2020 2		6							(h
		4	9.0,88 1190	0.			XX		3
Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Te N	5	ure)	Received by: (Signature)	Recei	gnature)	Relinquished by: (Signature)
	of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be entorced unless previously negoniated.	Xenco, but not analyzed. These terms will	submitted to Eurofins)	sample	arge of \$5 for each	ch project and a ch	e applied to ea	charge of \$85.00 will be	of Eurofins Xenco. A minimum
	esigns standard terms and conditions ue to circumstances beyond the control	Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control	ompany to Eurofins Xer ly losses or expenses i	client c	ırchase order from me any responsibil	onstitutes a valid po and shall not assur	t of samples cost of samples	nent and relinquishment be liable only for the co	Notice: Signature of this docur of service. Eurofins Xenco wil
17470 17471	TI U Hg: 163	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag	Sb As Ba Be C	ŘA	LP 6010: 8R	TCLP / SPLP 6010:	/zed	etal(s) to be analy	
TI Sn U V Zn	Mn Mo Ni K Se A	Cd Ca Cr Co Cu Fe Pb Mg	Sb As Ba Be B	≥	OM Texas 11	8RCRA 13PPM		200.8 / 6020:	Total 200.7 / 6010
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Incident Number									
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			× ×			1930	12.6.22	S	вноз
Sample Comments			CHLOI TPH (8 BTEX	# of Cont	Depth Comp	Time Sampled	Date Sampled	ition Matrix	Sample Identification
NaOH+Ascorbic Acid: SAPC	NaOH	-	015		2-G	Corrected Temperature:	Corrected		Total Containers:
Zn Acetate+NaCH: Zn		890-3606 Chain of Custody			0.0	Temperature Reading:		Yes No NIA	Sample Custody Seals:
Na ₂ S ₂ O ₃ : NaSO ₃			EPA	P	0.0	Factor:	Correction Factor:	Yes No NIA	Cooler Custody Seals:
NaHSO4: NABIS	NaHy		300	araı	300	eter ID: N	Thermometer ID:	(Kes) No	Samples Received Intact:
HP	H ₃ PO ₄ : HP).0)	mete	Yes No	Wet Ice:	(es) No	Temp Blank:	SAMPLE RECEIPT
H ₂ NaOH: Na	H ₂ SO ₄ : H ₂			ers	the lab, if received by 4:30pm	the lab, if rece			PO#:
	HCL: HC				TAT starts the day received by	TAT starts the	re	Conner Shore	Sampler's Name:
	Cool: Cool					Due Date:	N	Lea County, NM	Project Location:
NO DI Water: H ₂ O	None: NO			Code	Rush	☑ Routine)2024120	03D2024119 & 03D2024120	ň
Preservative Codes	-	ANALYSIS REQUEST			Turn Around	Turn.	rflood	James A Waterflood	Project Name:
Other:	Deliverables: EDD		kjennings@ensolum.com; jadams@ensolum.com	solum.	iennings@en	Email:		817.683.2503	
L Level IV	Level III	20	Midland, TX 79701		City, State ZIP:			Midland, TX 79701	City, State ZIP: Mid
	State of Project:		601 N Marienfeld St Suite 400		Address:		suite 400	601 N Marienfeld St Suite 400	Address: 601
RRC Superfund	Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	P	Ensolum, LLC		Company Name:			Ensolum, LLC	
ents	Work Order Comments		Kalei Jennings		Bill to: (if different)			Kalei Jennings	Project Manager: Kale
ge + of +	www.xenco.com Page								
		EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199	915) 585-3443, Lubbo 75) 392-7550, Carlsb	SO, TX (EL Pa			Xenco	
	Work Order No:	Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334	2) 704-5440, San Ant	, TX (43	Midland	Suites	CIVIOSIDENT IESTINE		
		Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300	(281) 240-4200, Dalli	ton, TX	Hous				eurofins

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3606-1

SDG Number: Lea County NM

List Source: Eurofins Carlsbad

Login Number: 3606 List Number: 1 Creator: Clifton, Cloe

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-3606-1 SDG Number: Lea County NM

List Source: Eurofins Midland

List Creation: 12/09/22 11:39 AM

Login Number: 3606 List Number: 2

Creator: Rodriguez, Leticia

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	N/A	

<6mm (1/4").

Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701

Generated 12/19/2022 4:42:00 PM

JOB DESCRIPTION

James A Waterflood SDG NUMBER Lea County NM

JOB NUMBER

890-3607-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

Generated 12/19/2022 4:42:00 PM

Authorized for release by Jessica Kramer, Project Manager Jessica.Kramer@et.eurofinsus.com (432)704-5440

Page 2 of 21

Client: Ensolum
Project/Site: James A Waterflood
Laboratory Job ID: 890-3607-1
SDG: Lea County NM

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Definitions/Glossary

Client: Ensolum Job ID: 890-3607-1 Project/Site: James A Waterflood SDG: Lea County NM

Qualifiers

_	$\overline{}$		$\overline{}$	
G	u	v	u	А

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qu	ialitier	Qualifier Description
S1	+	Surrogate recovery exceeds control limits, high biased.
U		Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

MCL

QC

Glossary	
Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)

MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry) MDL Method Detection Limit ML Minimum Level (Dioxin)

MPN Most Probable Number MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

EPA recommended "Maximum Contaminant Level"

NEG Negative / Absent Positive / Present POS **Practical Quantitation Limit** PQL **PRES** Presumptive

Quality Control RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin) **TEQ** Toxicity Equivalent Quotient (Dioxin)

Too Numerous To Count TNTC

Case Narrative

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3607-1

SDG: Lea County NM

Job ID: 890-3607-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3607-1

Receipt

The samples were received on 12/8/2022 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: BH02 (890-3607-1) and BH02 (890-3607-2).

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41943 and analytical batch 880-41993 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD NM: The surrogate recovery for the blank associated with preparation batch 880-41626 and analytical batch 880-41693 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-3605-A-1-B). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

Method 300 ORGFM 28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41479 and analytical batch 880-41945 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Matrix: Solid

Lab Sample ID: 890-3607-1

Client Sample Results

Client: Ensolum Job ID: 890-3607-1 Project/Site: James A Waterflood SDG: Lea County NM

Client Sample ID: BH02

Date Collected: 12/06/22 12:15 Date Received: 12/08/22 11:20

Sample Depth: 1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 16:27	1
Toluene	< 0.00199	U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 16:27	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 16:27	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/15/22 15:22	12/17/22 16:27	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 16:27	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/15/22 15:22	12/17/22 16:27	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130			12/15/22 15:22	12/17/22 16:27	1
1,4-Difluorobenzene (Surr)	105		70 - 130			12/15/22 15:22	12/17/22 16:27	1
Method: TAL SOP Total BTEX -	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00398	U	0.00398	mg/Kg			12/19/22 16:21	1
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (GC)					
Method: SW846 8015 NM - Diese Analyte	•	ics (DRO) (0 Qualifier	GC)	Unit	D	Prepared	Analyzed	Dil Fac
	•	Qualifier	•	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 12/14/22 12:15	Dil Fac
Analyte Total TPH	Result <49.9	Qualifier U	RL 49.9		<u>D</u>	Prepared		
Analyte	Result <49.9	Qualifier U	RL 49.9		<u>D</u>	Prepared Prepared		1
Analyte Total TPH Method: SW846 8015B NM - Die Analyte Gasoline Range Organics	Result <49.9	Qualifier Unics (DRO) Qualifier	RL 49.9	mg/Kg		<u> </u>	12/14/22 12:15	1 Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <49.9 sel Range Orga Result	Qualifier U nics (DRO) Qualifier U	RL 49.9 (GC)	mg/Kg		Prepared	12/14/22 12:15 Analyzed	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Die Analyte	Result Result Sel Range Orga Result <49.9	Qualifier U nics (DRO) Qualifier U	RL 49.9 (GC) RL 49.9	mg/Kg Unit mg/Kg		Prepared 12/12/22 11:03	12/14/22 12:15 Analyzed 12/13/22 23:10	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result	Qualifier U nics (DRO) Qualifier U U	RL 49.9 (GC) RL 49.9 49.9	mg/Kg Unit mg/Kg mg/Kg		Prepared 12/12/22 11:03 12/12/22 11:03	12/14/22 12:15 Analyzed 12/13/22 23:10 12/13/22 23:10	1 Dil Fac 1 1
Analyte Total TPH Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result	Qualifier U nics (DRO) Qualifier U U	RL 49.9 (GC) RL 49.9 49.9	mg/Kg Unit mg/Kg mg/Kg		Prepared 12/12/22 11:03 12/12/22 11:03	Analyzed 12/13/22 23:10 12/13/22 23:10 12/13/22 23:10	Dil Fac 1 1 Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	Result	Qualifier U nics (DRO) Qualifier U U	RL 49.9 (GC) RL 49.9 49.9 49.9 Limits	mg/Kg Unit mg/Kg mg/Kg		Prepared 12/12/22 11:03 12/12/22 11:03 12/12/22 11:03 Prepared	Analyzed 12/13/22 23:10 12/13/22 23:10 12/13/22 23:10 12/13/22 23:10 Analyzed	1 Dil Fac 1 1 1 Dil Fac 7
Analyte Total TPH Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	Result	Qualifier U nics (DRO) Qualifier U U Qualifier	RL 49.9 (GC) RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	mg/Kg Unit mg/Kg mg/Kg		Prepared 12/12/22 11:03 12/12/22 11:03 12/12/22 11:03 Prepared 12/12/22 11:03	Analyzed 12/13/22 23:10 12/13/22 23:10 12/13/22 23:10 12/13/22 23:10 Analyzed 12/13/22 23:10	1 Dil Fac 1
Analyte Total TPH Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl	Result	Qualifier U nics (DRO) Qualifier U U Qualifier	RL 49.9 (GC) RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	mg/Kg Unit mg/Kg mg/Kg		Prepared 12/12/22 11:03 12/12/22 11:03 12/12/22 11:03 Prepared 12/12/22 11:03	Analyzed 12/13/22 23:10 12/13/22 23:10 12/13/22 23:10 12/13/22 23:10 Analyzed 12/13/22 23:10	1 Dil Fac 1 Dil Fac 1

Client Sample ID: BH02

Date Collected: 12/06/22 12:25 Date Received: 12/08/22 11:20

Sample Depth: 4

Method: SW846 8021B - Volatile Organic Compounds (GC) Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Benzene <0.00199 U 0.00199 mg/Kg 12/15/22 15:22 12/17/22 16:47 Toluene <0.00199 U 0.00199 mg/Kg 12/15/22 15:22 12/17/22 16:47 Ethylbenzene <0.00199 U 0.00199 mg/Kg 12/15/22 15:22 12/17/22 16:47 <0.00398 U 0.00398 12/15/22 15:22 12/17/22 16:47 m-Xylene & p-Xylene mg/Kg o-Xylene <0.00199 U 0.00199 12/15/22 15:22 12/17/22 16:47 mg/Kg Xylenes, Total <0.00398 U 0.00398 12/15/22 15:22 12/17/22 16:47 mg/Kg Qualifier Limits Prepared Surrogate %Recovery Analyzed Dil Fac 4-Bromofluorobenzene (Surr) 121 70 - 130 12/15/22 15:22 12/17/22 16:47

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Matrix: Solid

Lab Sample ID: 890-3607-2

Matrix: Solid

Lab Sample ID: 890-3607-2

12/12/22 11:03

Prepared

D

12/13/22 23:32

Analyzed

12/16/22 03:05

Client Sample Results

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3607-1

SDG: Lea County NM

Client Sample ID: BH02

Date Collected: 12/06/22 12:25 Date Received: 12/08/22 11:20

Sample Depth: 4

o-Terphenyl

Analyte

Chloride

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	102		70 - 130			12/15/22 15:22	12/17/22 16:47	1
- Method: TAL SOP Total BTEX - T	otal BTEX Cald	ulation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/19/22 16:21	1
Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (GC)					
Analyte	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/14/22 12:15	1
- Method: SW846 8015B NM - Dies	el Range Orga	nics (DRO)	(GC)					
Analyte	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 23:32	1
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 23:32	
C10-C28)								
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 23:32	,
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

70 - 130

RL

4.98

Unit

mg/Kg

123

35.4

Result Qualifier

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Released to Imaging: 9/20/2023 1:41:30 PM

Eurofins Carlsbad

Dil Fac

Surrogate Summary

Client: Ensolum Job ID: 890-3607-1 Project/Site: James A Waterflood SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3601-A-1-C MS	Matrix Spike	85	92	
890-3601-A-1-D MSD	Matrix Spike Duplicate	86	89	
890-3607-1	BH02	115	105	
890-3607-2	BH02	121	102	
LCS 880-41943/1-A	Lab Control Sample	97	95	
LCSD 880-41943/2-A	Lab Control Sample Dup	94	94	
MB 880-41938/5-A	Method Blank	92	93	
MB 880-41943/5-A	Method Blank	97	90	

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid Prep Type: Total/NA

-			
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3605-A-1-C MS	Matrix Spike	104	91
890-3605-A-1-D MSD	Matrix Spike Duplicate	94	93
890-3607-1	BH02	112	111
890-3607-2	BH02	128	123
LCS 880-41626/2-A	Lab Control Sample	102	116
LCSD 880-41626/3-A	Lab Control Sample Dup	114	127
MB 880-41626/1-A	Method Blank	152 S1+	207 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Client: Ensolum Job ID: 890-3607-1 SDG: Lea County NM Project/Site: James A Waterflood

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41938/5-A

Matrix: Solid Analysis Batch: 41993 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 41938

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/15/22 14:55	12/16/22 22:04	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 130	12/15/22 14:	55 12/16/22 22:04	1
1,4-Difluorobenzene (Surr)	93		70 - 130	12/15/22 14:	55 12/16/22 22:04	1

Lab Sample ID: MB 880-41943/5-A

Client Sample ID: Method Blank

Prep Batch: 41943

Matrix: Solid Prep Type: Total/NA Analysis Batch: 41993 MB MB

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 08:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 08:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 08:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/15/22 15:22	12/17/22 08:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/15/22 15:22	12/17/22 08:47	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/15/22 15:22	12/17/22 08:47	1

мв мв

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	12/15/22 15:22	12/17/22 08:47	1
1,4-Difluorobenzene (Surr)	90		70 - 130	12/15/22 15:22	2 12/17/22 08:47	1

Lab Sample ID: LCS 880-41943/1-A

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 41943

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.09030		mg/Kg		90	70 - 130	
Toluene	0.100	0.08409		mg/Kg		84	70 - 130	
Ethylbenzene	0.100	0.07938		mg/Kg		79	70 - 130	
m-Xylene & p-Xylene	0.200	0.1705		mg/Kg		85	70 - 130	
o-Xylene	0.100	0.08759		mg/Kg		88	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	97	70 - 130
1.4-Difluorobenzene (Surr)	95	70 - 130

Lab Sample ID: LCSD 880-41943/2-A

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Lab	Control Sample Dup
	Date of Towns To 4 - 1/N LA

Prep Type: Total/NA

Prep Batch: 41943

	Бріке	LCSD LCSD				%Rec		KPD	
Analyte	Added	Result Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.09270	mg/Kg		93	70 - 130	3	35	

Client: Ensolum Job ID: 890-3607-1
Project/Site: James A Waterflood SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-41943/2-A Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 41943

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Toluene	0.100	0.08517		mg/Kg		85	70 - 130	1	35
Ethylbenzene	0.100	0.07903		mg/Kg		79	70 - 130	0	35
m-Xylene & p-Xylene	0.200	0.1679		mg/Kg		84	70 - 130	2	35
o-Xylene	0.100	0.08660		mg/Kg		87	70 - 130	1	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 890-3601-A-1-C MS

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 41943

MS MS %Rec Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Benzene 0.100 <0.00200 U F1 70 - 130 <0.00200 U F2 F1 mg/Kg Toluene <0.00200 UF1 0.100 <0.00200 UF1 70 - 130 mg/Kg 0.6 Ethylbenzene <0.00200 UF1 0.100 <0.00200 UF1 70 - 130 mg/Kg 0 0.200 m-Xylene & p-Xylene <0.00401 UF1 <0.00401 UF1 70 - 130 mg/Kg 0.6 o-Xylene <0.00200 UF1 0.100 <0.00200 UF1 mg/Kg 0.5 70 - 130

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	85	70 - 130
1,4-Difluorobenzene (Surr)	92	70 - 130

Lab Sample ID: 890-3601-A-1-D MSD

Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA Prep Batch: 41943

- DDD

		Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte		Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene		<0.00200	U F2 F1	0.0996	<0.00199	U F2 F1	mg/Kg		0.4	70 - 130	113	35
Toluene		<0.00200	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzer	ne	<0.00200	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene &	p-Xylene	<0.00401	U F1	0.199	<0.00398	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene		<0.00200	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35

MSD MSD

MD MD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	86		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-41626/1-A

Matrix: Solid

Analysis Batch: 41693

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 41626

	1410 1							
Analyte	Result (Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0 L	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 19:51	1
(CDO) C6 C40								

(GRO)-C6-C10

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Client: Ensolum Project/Site: James A Waterflood

Job ID: 890-3607-1

SDG: Lea County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-41626/1-A

Lab Sample ID: LCS 880-41626/2-A

Matrix: Solid

Matrix: Solid

Analysis Batch: 41693

Analysis Batch: 41693

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 41626

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 19:51	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 19:51	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	152	S1+	70 - 130	12/12/22 11:03	12/13/22 19:51	1
o-Terphenyl	207	S1+	70 - 130	12/12/22 11:03	12/13/22 19:51	1

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 41626

		Spike	LCS	LCS				%Rec	
Analyte	A	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics		1000	811.3		mg/Kg		81	70 - 130	
(GRO)-C6-C10									
Diesel Range Organics (Over		1000	825.1		mg/Kg		83	70 - 130	
C10-C28)									

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	116		70 - 130

Lab Sample ID: LCSD 880-41626/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 41693

Diesel Range Organics (Over

Prep Batch: 41626 Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit %Rec Limits RPD Limit D Gasoline Range Organics 1000 928.5 mg/Kg 93 70 - 130 13 20 (GRO)-C6-C10

910.5

mg/Kg

1000

C10-C28) LCSD LCSD

	2002	2002	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane			70 - 130
o-Terphenyl	127		70 - 130

Lab Sample ID: 890-3605-A-1-C MS

Matrix: Solid

Analysis Batch: 41693

Client Sample ID: Matrix Spike

70 - 130

91

Prep Type: Total/NA Prep Batch: 41626

10

20

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	939.4		mg/Kg		92	70 - 130	
Diesel Range Organics (Over	<50.0	U	999	1020		mg/Kg		102	70 - 130	

C10-C28)

	IVIS	IVIS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: 890-3605-A-1-D MSD

QC Sample Results

Job ID: 890-3607-1 Client: Ensolum Project/Site: James A Waterflood SDG: Lea County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 41626

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	<50.0	U	997	910.9		mg/Kg		89	70 - 130	3	20
(GRO)-C6-C10											
Diesel Range Organics (Over	<50.0	U	997	1037		mg/Kg		104	70 - 130	2	20
C10-C28)											

Matrix: Solid

Analysis Batch: 41693

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	93		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41479/1-A Client Sample ID: Method Blank **Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 41945

мв мв

Analyte	Result Qualit	her RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00 U	5.00	mg/Kg			12/16/22 02:07	1

Lab Sample ID: LCS 880-41479/2-A **Client Sample ID: Lab Control Sample Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 41945

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	253.5		mg/Kg		101	90 - 110	 -

Lab Sample ID: LCSD 880-41479/3-A Client Sample ID: Lab Control Sample Dup **Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 41945

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	251.3		ma/Ka		101	90 - 110		20	

Lab Sample ID: 890-3606-A-1-C MS Client Sample ID: Matrix Spike

Matrix: Solid

Analysis Batch: 41945

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	606	F1	252	812 9	F1	ma/Ka		82	90 110	

Lab Sample ID: 890-3606-A-1-D MSD

Matrix: Solid

Analysis Ratch: 41945

Analysis Batch: 41945											
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	606	F1	252	812.4	F1	mg/Kg		82	90 - 110	0	20

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Prep Type: Soluble

Prep Type: Soluble

Client Sample ID: Matrix Spike Duplicate

QC Association Summary

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3607-1 SDG: Lea County NM

GC VOA

Prep Batch: 41938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-41938/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 41943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3607-1	BH02	Total/NA	Solid	5035	
890-3607-2	BH02	Total/NA	Solid	5035	
MB 880-41943/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41943/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3601-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3601-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 41993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3607-1	BH02	Total/NA	Solid	8021B	41943
890-3607-2	BH02	Total/NA	Solid	8021B	41943
MB 880-41938/5-A	Method Blank	Total/NA	Solid	8021B	41938
MB 880-41943/5-A	Method Blank	Total/NA	Solid	8021B	41943
LCS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	8021B	41943
LCSD 880-41943/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41943
890-3601-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	41943
890-3601-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	41943

Analysis Batch: 42254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3607-1	BH02	Total/NA	Solid	Total BTEX	
890-3607-2	BH02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3607-1	BH02	Total/NA	Solid	8015NM Prep	
890-3607-2	BH02	Total/NA	Solid	8015NM Prep	
MB 880-41626/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41626/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41626/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3605-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3605-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3607-1	BH02	Total/NA	Solid	8015B NM	41626
890-3607-2	BH02	Total/NA	Solid	8015B NM	41626
MB 880-41626/1-A	Method Blank	Total/NA	Solid	8015B NM	41626
LCS 880-41626/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41626
LCSD 880-41626/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41626
890-3605-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	41626
890-3605-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41626

QC Association Summary

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3607-1 SDG: Lea County NM

GC Semi VOA

Analysis Batch: 41815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3607-1	BH02	Total/NA	Solid	8015 NM	
890-3607-2	BH02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3607-1	BH02	Soluble	Solid	DI Leach	
890-3607-2	BH02	Soluble	Solid	DI Leach	
MB 880-41479/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41479/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41479/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3606-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3606-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 41945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3607-1	BH02	Soluble	Solid	300.0	41479
890-3607-2	BH02	Soluble	Solid	300.0	41479
MB 880-41479/1-A	Method Blank	Soluble	Solid	300.0	41479
LCS 880-41479/2-A	Lab Control Sample	Soluble	Solid	300.0	41479
LCSD 880-41479/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41479
890-3606-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	41479
890-3606-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41479

Eurofins Carlsbad

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Job ID: 890-3607-1

Client: Ensolum Project/Site: James A Waterflood SDG: Lea County NM

Lab Sample ID: 890-3607-1 **Client Sample ID: BH02**

Date Collected: 12/06/22 12:15 Matrix: Solid Date Received: 12/08/22 11:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	41943	12/15/22 15:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 16:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42254	12/19/22 16:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			41815	12/14/22 12:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	41626	12/12/22 11:03	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41693	12/13/22 23:10	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	41479	12/09/22 13:24	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	41945	12/16/22 02:58	CH	EET MID

Client Sample ID: BH02 Lab Sample ID: 890-3607-2

Date Collected: 12/06/22 12:25 Matrix: Solid

Date Received: 12/08/22 11:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	41943	12/15/22 15:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 16:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42254	12/19/22 16:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			41815	12/14/22 12:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41626	12/12/22 11:03	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41693	12/13/22 23:32	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	41479	12/09/22 13:24	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	41945	12/16/22 03:05	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Ensolum

Job ID: 890-3607-1

Project/Site: James A Waterflood

SDG: Lea County NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Pr	ogram	Identification Number	Expiration Date		
Texas	NE	ELAP	T104704400-22-24	06-30-23		
The following analytes	are included in this report by	it the laboratory is not cortifi	iad butba gavarning authority. This list was			
the agency does not of	' '	it the laboratory is not certifi	ied by the governing authority. This list ma	ay include analytes for v		
,	' '	Matrix	Analyte	ay include analytes for v		
the agency does not of	fer certification.	•	, , ,	ay include analytes for v		

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Method Summary

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3607-1

SDG: Lea County NM

tocol	Laboratory
846	EET MID
SOP	EET MID
846	EET MID
846	EET MID
AWW	EET MID

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum

Project/Site: James A Waterflood

Job ID: 890-3607-1

SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Dep
890-3607-1	BH02	Solid	12/06/22 12:15	12/08/22 11:20	1
890-3607-2	BH02	Solid	12/06/22 12:25	12/08/22 11:20	4

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Chain of Custody

mples constitutes a valid purchase order from client on samples and shall not assume any responsibility for a led to each project and a charge of \$5 for each sample.		Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 AI Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn N Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag	Ŷ.	0	, X-0			S 12.6.22	BH02 S 12.6.22 13\S 1' G 1 x x x	Sample Identification Matrix Sampled Sampled Sampled Depth Comp C	Corrected Temperature:		Yes No MA Correction Factor:	Thermometer ID:	SAMPLE RECEIPT Temp Blank: (Yes) No Wet Ice: (Yes) No etc.	the lab, if received by 4:30pm	Conner Shore	Project Location: Lea County, NM Due Date:	#: 03D2024119 & 03D2024120	Project Name: James A Waterflood Turn Around ANALYS	Phone: 817.683.2503 Email: kjennings@ensolum.com; jadams@ensolum.com	City, State ZIP: Midland, TX 79701 City, State ZIP: Midland, TX 79701	Address: 601 N Marienfeld St Suite 400 Address: 601 N Marienfeld St Suite 400		Project Manager: Kalei Jennings Bill to: (if different) Kalei Jennings	FIGURE INITION OF THE PROPERTY	Xenco EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296	Environment Testing	eurofins Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300	
	subcontractors. It assigns standard terms and conditions if such losses are due to circumstances beyond the control earns will be enforced unless previously negotiated.	Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn Pb Mn Mo Ni Se Ag Ti U Hg: 1631/245.1/7470/7471					Incident Number			Sample Comments	NaOH+Ascorbic Acid: SAPC	Chain of Custody	Na ₂ S ₂ O ₃ : NaSO ₃	NaHSO ₄ : NABIS	H ₃ PO ₄ : HP	H ₂ SQ ₄ : H ₂ NaOH: Na	HCL: HC HNO3: HN	Cool: Cool MeOH: Me	None: NO DI Water: H ₂ O	LYSIS REQUEST Preservative Codes	Deliverables: EDD	Reporting: Level III Level III PST/JST TRRP Level IVL		Program: UST/PST PRP Brownfields RRC Superfund	Work Order Comments	www.xenco.com Page 1 of 1		3334 Work Order No:		

Revised Date: 08/25/2020 Rev. 2020.2

Creator: Clifton, Cloe

Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-3607-1 SDG Number: Lea County NM

Login Number: 3607 List Source: Eurofins Carlsbad List Number: 1

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-3607-1 SDG Number: Lea County NM

Login Number: 3607 List Source: Eurofins Midland List Number: 2

List Creation: 12/09/22 11:39 AM

Creator: Rodriguez, Leticia

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	N/A	

<6mm (1/4").

Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400

Midland, Texas 79701

Generated 12/16/2022 1:23:04 PM

JOB DESCRIPTION

JAMES A WATERFLOOD SDG NUMBER Lea County NM

JOB NUMBER

890-3608-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

Generated 12/16/2022 1:23:04 PM

Authorized for release by Jessica Kramer, Project Manager Jessica.Kramer@et.eurofinsus.com (432)704-5440

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

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Client: Ensolum
Project/Site: JAMES A WATERFLOOD
Laboratory Job ID: 890-3608-1
SDG: Lea County NM

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Definitions/Glossary

Job ID: 890-3608-1 Client: Ensolum Project/Site: JAMES A WATERFLOOD

SDG: Lea County NM

Qualifiers

GC VOA Qualifier

F1 MS and/or MSD recovery exceeds control limits. F2 MS/MSD RPD exceeds control limits

Qualifier Description

S1+ Surrogate recovery exceeds control limits, high biased.

U Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier **Qualifier Description** LCS/LCSD RPD exceeds control limits. S1+ Surrogate recovery exceeds control limits, high biased. Indicates the analyte was analyzed for but not detected. U

HPLC/IC

Qualifier **Qualifier Description** F1

MS and/or MSD recovery exceeds control limits. U Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report. Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery CFL Contains Free Liquid CFU Colony Forming Unit CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor**

Detection Limit (DoD/DOE) DL

DL. RA. RE. IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

Estimated Detection Limit (Dioxin) **EDL** LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

EPA recommended "Maximum Contaminant Level" MCL Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit MI Minimum Level (Dioxin) MPN Most Probable Number MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present Practical Quantitation Limit **PQL**

PRES Presumptive **Quality Control** QC

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin) **TEQ** Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

Case Narrative

Client: Ensolum

Job ID: 890-3608-1 Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Job ID: 890-3608-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3608-1

Receipt

The samples were received on 12/8/2022 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: BH01 (890-3608-1) and BH01 (890-3608-2).

GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: BH01 (890-3608-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41899 and analytical batch 880-41993 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-41625 and analytical batch 880-41693 was outside the upper control limits.

Method 8015MOD NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-41693/5) and (LCS 880-41625/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD NM: The method blank for preparation batch 880-41625 and analytical batch 880-41693 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-41625 and analytical batch 880-41693 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

Method 300 ORGFM 28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41479 and analytical batch 880-41945 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Matrix: Solid

Lab Sample ID: 890-3608-1

Client Sample Results

Client: Ensolum Job ID: 890-3608-1 Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Client Sample ID: BH01

Date Collected: 12/05/22 09:40 Date Received: 12/08/22 11:20

Sample Depth: 1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		12/15/22 10:18	12/16/22 12:38	1
Toluene	<0.00202	U	0.00202	mg/Kg		12/15/22 10:18	12/16/22 12:38	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		12/15/22 10:18	12/16/22 12:38	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		12/15/22 10:18	12/16/22 12:38	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		12/15/22 10:18	12/16/22 12:38	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		12/15/22 10:18	12/16/22 12:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	135	S1+	70 - 130			12/15/22 10:18	12/16/22 12:38	1
1,4-Difluorobenzene (Surr)	75		70 - 130			12/15/22 10:18	12/16/22 12:38	1
- Method: TAL SOP Total BTEX - T	otal BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			12/16/22 14:05	1
- Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/14/22 12:15	1
- Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/12/22 11:00	12/13/22 15:00	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		12/12/22 11:00	12/13/22 15:00	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/12/22 11:00	12/13/22 15:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130			12/12/22 11:00	12/13/22 15:00	1
o-Terphenyl -	125		70 - 130			12/12/22 11:00	12/13/22 15:00	1
- Mathada MCANNA 200 0 Antana	Jan Chramata	aranhu C	alubla					
Method: MCAWW 300.0 - Anions	i, ion Unromate	ygrapny - S	oluble					

Client Sample ID: BH01

Date Collected: 12/05/22 09:55 Date Received: 12/08/22 11:20

Sample Depth: 4

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/15/22 10:18	12/16/22 12:58	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/15/22 10:18	12/16/22 12:58	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/15/22 10:18	12/16/22 12:58	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/15/22 10:18	12/16/22 12:58	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/15/22 10:18	12/16/22 12:58	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/15/22 10:18	12/16/22 12:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130			12/15/22 10:18	12/16/22 12:58	1

4.98

mg/Kg

16.8

Eurofins Carlsbad

12/16/22 03:12

Lab Sample ID: 890-3608-2

Matrix: Solid

12/16/2022

Matrix: Solid

Lab Sample ID: 890-3608-2

12/16/22 03:34

Client Sample Results

Client: Ensolum

Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1

SDG: Lea County NM

Client Sample ID: BH01

Date Collected: 12/05/22 09:55 Date Received: 12/08/22 11:20

Sample Depth: 4

Chloride

%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
97		70 - 130			12/15/22 10:18	12/16/22 12:58	1
Total BTEX Calc	culation						
Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<0.00398	U	0.00398	mg/Kg			12/16/22 14:05	1
el Range Organi	ics (DRO) (GC)					
		RL	Unit	D	Prepared	Analyzed	Dil Fac
<49.8	U	49.8	mg/Kg			12/14/22 12:15	1
Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
sel Range Orga	nics (DRO)	(GC)					
<49.8	U	49.8	mg/Kg		12/12/22 11:00	12/13/22 15:44	1
<10.8	11*1	40.8	ma/Ka		12/12/22 11:00	12/13/22 15:44	1
140.0	0 1	40.0	mg/rtg		12/12/22 11:00	12/10/22 10.44	
<49.8	U	49.8	mg/Kg		12/12/22 11:00	12/13/22 15:44	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
115		70 - 130			12/12/22 11:00	12/13/22 15:44	1
119		70 - 130			12/12/22 11:00	12/13/22 15:44	1
•	97 Total BTEX Calc Result <0.00398 el Range Organ Result <49.8 esel Range Orga Result <49.8 49.8 49.8 49.8 49.8 %Recovery 115	Total BTEX Calculation Result Qualifier <0.00398 U el Range Organics (DRO) (Result Qualifier <49.8 U esel Range Organics (DRO) Result Qualifier <49.8 U 49.8 U *1 49.8 U **Recovery Qualifier 115	Total BTEX Calculation Result Qualifier RL	Total BTEX Calculation Result Qualifier RL Unit <0.00398 U 0.00398 mg/Kg	Total BTEX Calculation Result Qualifier RL Unit D mg/Kg	Total BTEX Calculation Result Qualifier RL Unit D Prepared	Total BTEX Calculation Result Qualifier RL Unit D Prepared Analyzed 12/16/22 12:58

4.96

mg/Kg

54.4

Surrogate Summary

Client: Ensolum Job ID: 890-3608-1 Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Rec
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3590-A-1-D MS	Matrix Spike	105	73	
890-3590-A-1-E MSD	Matrix Spike Duplicate	100	90	
890-3608-1	BH01	135 S1+	75	
890-3608-2	BH01	119	97	
LCS 880-41899/1-A	Lab Control Sample	99	94	
LCSD 880-41899/2-A	Lab Control Sample Dup	106	89	
MB 880-41899/5-A	Method Blank	102	87	

BFB = 4-Bromofluorobenzene (Surr) DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Prep Type: Total/NA **Matrix: Solid**

		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-22478-A-1-E MS	Matrix Spike	125	104
880-22478-A-1-F MSD	Matrix Spike Duplicate	127	106
890-3608-1	BH01	127	125
890-3608-2	BH01	115	119
LCS 880-41625/2-A	Lab Control Sample	165 S1+	162 S1+
LCSD 880-41625/3-A	Lab Control Sample Dup	127	128
MB 880-41625/1-A	Method Blank	148 S1+	209 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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QC Sample Results

Client: Ensolum Job ID: 890-3608-1 Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41899/5-A

Lab Sample ID: LCS 880-41899/1-A

Matrix: Solid Analysis Batch: 41993 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 41899

	IVIB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/15/22 10:18	12/16/22 10:53	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/15/22 10:18	12/16/22 10:53	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/15/22 10:18	12/16/22 10:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/15/22 10:18	12/16/22 10:53	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/15/22 10:18	12/16/22 10:53	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/15/22 10:18	12/16/22 10:53	1

MB MB

MD MD

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	12/15/22 10	:18 12/16/22 10:53	1
1,4-Difluorobenzene (Surr)	87		70 - 130	12/15/22 10	:18 12/16/22 10:53	1

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 41899

LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.1057 mg/Kg 106 70 - 130 Toluene 0.100 0.1002 mg/Kg 100 70 - 130 0.100 0.09641 Ethylbenzene mg/Kg 96 70 - 130 0.200 0.2086 70 - 130 m-Xylene & p-Xylene mg/Kg 104 0.100 70 - 130 o-Xylene 0.1033 mg/Kg 103

Spike

Added

0.100

0.100

0.100

0.200

0.100

LCSD LCSD

0.1010

0.09757

0.09721

0.2124

0.1060

Result Qualifier

Unit

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

LCS LCS

Surrogate	%Recovery Qualifie	r Limits
4-Bromofluorobenzene (Surr)	99	70 - 130
1,4-Difluorobenzene (Surr)	94	70 - 130

Client Sample ID: Lab Control Sample Dup

106

Matrix: Solid

Analyte

Benzene

Toluene

o-Xylene

Ethylbenzene

m-Xylene & p-Xylene

Matrix: Solid

Analysis Batch: 41993

Analysis Batch: 41993

Lab Sample ID: LCSD 880-41899/2-A

Prep Type: Total/NA Prep Batch: 41899 %Rec

70 - 130

%Rec Limits Limit 101 70 - 130 5 35 98 70 - 130 3 35 97 70 - 130 35 106 70 - 130 35

LCSD LCSD

Surrogate	%Recovery Q	ualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Lab Sample ID: 890-3590-A-1-D MS

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Matrix: Solid

Analysis Batch: 41993

Client Sample ID: Matrix Spike Prep Type: Total/NA

Prep Batch: 41899

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00199	U F1 F2	0.101	0.04468	F1	mg/Kg		44	70 - 130	
Toluene	< 0.00199	U	0.101	0.08001		mg/Kg		79	70 - 130	

Eurofins Carlsbad

RPD

QC Sample Results

Client: Ensolum Job ID: 890-3608-1 Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-3590-A-1-E MSD

Matrix: Solid

Analysis Batch: 41993

Lab Sample ID: 890-3590-A-1-D MS Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 41899

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00199	U	0.101	0.09723		mg/Kg		96	70 - 130	
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1697		mg/Kg		84	70 - 130	
o-Xylene	<0.00199	U	0.101	0.08477		mg/Kg		84	70 - 130	

MS MS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	73		70 - 130

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 41899

Analysis Batch: 41993

Matrix: Solid

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00199	U F1 F2	0.0996	0.08835	F2	mg/Kg		89	70 - 130	66	35
Toluene	< 0.00199	U	0.0996	0.08545		mg/Kg		86	70 - 130	7	35
Ethylbenzene	< 0.00199	U	0.0996	0.08497		mg/Kg		85	70 - 130	13	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1852		mg/Kg		93	70 - 130	9	35
o-Xylene	< 0.00199	U	0.0996	0.09154		mg/Kg		92	70 - 130	8	35

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-41625/1-A

Matrix: Solid

Analysis Batch: 41693

Client Sample ID: Method Blank
Prep Type: Total/NA

Prep Batch: 41625

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/12/22 11:00	12/13/22 08:06	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/12/22 11:00	12/13/22 08:06	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/12/22 11:00	12/13/22 08:06	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	148	S1+	70 - 130	12/12/22 11:00	12/13/22 08:06	1
o-Terphenyl	209	S1+	70 - 130	12/12/22 11:00	12/13/22 08:06	1

Lab Sample ID: LCS 880-41625/2-A

Matrix: Solid

Analysis Batch: 41693

Client Sample	ID:	Lab	Control	Sample	
		Droi	Type:	Total/NA	

Prep Type: Total/NA Prep Batch: 41625

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	949.4		mg/Kg		95	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	1175		mg/Kg		118	70 - 130	
C10-C28)								

Job ID: 890-3608-1

Client: Ensolum Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

LCS LCS

Lab Sample ID: LCS 880-41625/2-A Client Sample ID: Lab Control Sample

Matrix: Solid

o-Terphenyl

Analysis Batch: 41693

Prep Type: Total/NA Prep Batch: 41625

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 165 S1+ 70 - 130 o-Terphenyl 162 S1+ 70 - 130

Lab Sample ID: LCSD 880-41625/3-A Client Sample ID: Lab Control Sample Dup

Matrix: Solid Prep Type: Total/NA

Analysis Batch: 41693 Prep Batch: 41625

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits **RPD** Limit 1000 922.3 92 70 - 1303 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 925.4 *1 93 mg/Kg 70 - 13024 20 C10-C28)

LCSD LCSD Surrogate %Recovery Qualifier Limits 127 70 - 130 1-Chlorooctane 128 70 - 130 o-Terphenyl

Lab Sample ID: 880-22478-A-1-E MS Client Sample ID: Matrix Spike

Matrix: Solid Prep Type: Total/NA

Analysis Batch: 41693 Prep Batch: 41625 Sample Sample MS MS Spike

Added Analyte Result Qualifier Result Qualifier Unit D %Rec Limits Gasoline Range Organics <50.0 U 999 1156 mg/Kg 113 70 - 130 (GRO)-C6-C10 <50.0 U *1 Diesel Range Organics (Over 999 1148 mg/Kg 113 70 - 130 C10-C28)

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 125

Lab Sample ID: 880-22478-A-1-F MSD Client Sample ID: Matrix Spike Duplicate

70 - 130

Matrix: Solid Prep Type: Total/NA Analysis Batch: 41693 Prep Batch: 41625

Sample Sample Snika MeD MeD ___

	Sample	Sample	Spike	INIOD	IVIOD				70 Rec		KPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics	<50.0	U	997	1120		mg/Kg		109	70 - 130	3	20	
(GRO)-C6-C10												
Diesel Range Organics (Over	<50.0	U *1	997	1190		mg/Kg		117	70 - 130	4	20	
C10-C28)												

	MSD I	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	127		70 - 130
o-Terphenyl	106		70 - 130

104

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

%Rec

Limits

90 - 110

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

QC Sample Results

Client: Ensolum Job ID: 890-3608-1 Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41479/1-A

Matrix: Solid

Analysis Batch: 41945

MB MB

Dil Fac Analyte Result Qualifier RL Unit D Prepared Analyzed Chloride <5.00 U 5.00 mg/Kg 12/16/22 02:07

Lab Sample ID: LCS 880-41479/2-A

Matrix: Solid

Analysis Batch: 41945

Spike LCS LCS Added Analyte Result Qualifier Unit D %Rec Chloride 250 253.5 mg/Kg 101

Lab Sample ID: LCSD 880-41479/3-A

Matrix: Solid

Analysis Batch: 41945

LCSD LCSD %Rec RPD Spike Analyte Added Result Qualifier Unit Limits RPD Limit Chloride 250 251.3 mg/Kg 101 90 - 110

Lab Sample ID: 890-3606-A-1-C MS

Matrix: Solid

Analysis Batch: 41945

Spike MS MS Sample Sample %Rec Analyte Result Qualifier Added Result Qualifier %Rec Unit Limits 252 812.9 F1 Chloride 606 F1 82 90 - 110 mg/Kg

Lab Sample ID: 890-3606-A-1-D MSD

Matrix: Solid

Analysis Batch: 41945

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	606	F1	252	812.4	F1	mg/Kg	_	82	90 - 110	0	20

QC Association Summary

Client: Ensolum

Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1 SDG: Lea County NM

GC VOA

Prep Batch: 41899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3608-1	BH01	Total/NA	Solid	5035	
890-3608-2	BH01	Total/NA	Solid	5035	
MB 880-41899/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41899/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41899/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3590-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3590-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 41993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3608-1	BH01	Total/NA	Solid	8021B	41899
890-3608-2	BH01	Total/NA	Solid	8021B	41899
MB 880-41899/5-A	Method Blank	Total/NA	Solid	8021B	41899
LCS 880-41899/1-A	Lab Control Sample	Total/NA	Solid	8021B	41899
LCSD 880-41899/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41899
890-3590-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	41899
890-3590-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	41899

Analysis Batch: 42042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3608-1	BH01	Total/NA	Solid	Total BTEX	
890-3608-2	BH01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3608-1	BH01	Total/NA	Solid	8015NM Prep	
890-3608-2	BH01	Total/NA	Solid	8015NM Prep	
MB 880-41625/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41625/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41625/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-22478-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-22478-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3608-1	BH01	Total/NA	Solid	8015B NM	41625
890-3608-2	BH01	Total/NA	Solid	8015B NM	41625
MB 880-41625/1-A	Method Blank	Total/NA	Solid	8015B NM	41625
LCS 880-41625/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41625
LCSD 880-41625/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41625
880-22478-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	41625
880-22478-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41625

Analysis Batch: 41808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3608-1	BH01	Total/NA	Solid	8015 NM	
890-3608-2	BH01	Total/NA	Solid	8015 NM	

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14

QC Association Summary

Client: Ensolum

Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1 SDG: Lea County NM

HPLC/IC

Leach Batch: 41479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3608-1	BH01	Soluble	Solid	DI Leach	
890-3608-2	BH01	Soluble	Solid	DI Leach	
MB 880-41479/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41479/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41479/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3606-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3606-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 41945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3608-1	BH01	Soluble	Solid	300.0	41479
890-3608-2	BH01	Soluble	Solid	300.0	41479
MB 880-41479/1-A	Method Blank	Soluble	Solid	300.0	41479
LCS 880-41479/2-A	Lab Control Sample	Soluble	Solid	300.0	41479
LCSD 880-41479/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41479
890-3606-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	41479
890-3606-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41479

8

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Client: Ensolum

Job ID: 890-3608-1 Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Client Sample ID: BH01 Lab Sample ID: 890-3608-1

Date Collected: 12/05/22 09:40 **Matrix: Solid** Date Received: 12/08/22 11:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	41899	12/15/22 10:18	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/16/22 12:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42042	12/16/22 14:05	SM	EET MID
Total/NA	Analysis	8015 NM		1			41808	12/14/22 12:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	41625	12/12/22 11:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41693	12/13/22 15:00	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	41479	12/09/22 13:24	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	41945	12/16/22 03:12	CH	EET MID

Lab Sample ID: 890-3608-2 **Client Sample ID: BH01**

Date Collected: 12/05/22 09:55 **Matrix: Solid** Date Received: 12/08/22 11:20

Dil Initial Final Batch Batch Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab 5035 41899 Total/NA Prep 5.03 g 5 mL 12/15/22 10:18 EL EET MID 8021B Total/NA 5 mL 12/16/22 12:58 **EET MID** Analysis 1 5 mL 41993 MNR Total/NA Total BTEX 42042 12/16/22 14:05 SM Analysis 1 **EET MID** Total/NA Analysis 8015 NM 41808 12/14/22 12:15 SM **EET MID** 10 mL 41625 12/12/22 11:00 Total/NA Prep 8015NM Prep 10.04 g DM **EET MID** Total/NA Analysis 8015B NM 1 uL 1 uL 41693 12/13/22 15:44 SM **EET MID** Soluble 41479 12/09/22 13:24 Leach DI Leach 5.04 g 50 mL KS **EET MID**

50 mL

50 mL

41945

12/16/22 03:34

СН

EET MID

Laboratory References:

Analysis

Soluble

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

300.0

Accreditation/Certification Summary

Client: Ensolum Job ID: 890-3608-1 Project/Site: JAMES A WATERFLOOD SDG: Lea County NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority Texas		ogram	Identification Number	Expiration Date
		ELAP	T104704400-22-24	06-30-23
The following analytes	are included in this report, bu	it the laboratory is not certific	ed by the governing authority. This list ma	av include analytes for
the agency does not of	fer certification.	•	, , ,	.,
the agency does not of Analysis Method	fer certification . Prep Method	Matrix	Analyte	-,
0 ,		Matrix Solid	Analyte Total TPH	

Method Summary

Client: Ensolum

Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1

SDG: Lea County NM

		,	
1 -1	4		
Labora	tory		
FET MI	D		

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Carlsbad

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Sample Summary

Client: Ensolum

Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1

SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3608-1	BH01	Solid	12/05/22 09:40	12/08/22 11:20	1
890-3608-2	BH01	Solid	12/05/22 09:55	12/08/22 11:20	4

Chain of Custody TX (281) 240-4200, Dallas, TX (214) 90

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300 Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334 EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Kalei Jennings

Bill to: (if different)

Kalei Jennings

Xenco

Environment Testing

Work Order No:
No:
1

www.xenco.com

9

Work Order Comments

Date/Time Relinquished by: (Signature) つきる 2 112 0
of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco, A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated. Received by: (Signature)
Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245. Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions
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890-3000 Chair of 0
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_
ANALYSIS REQUEST
Deliverables: EDD
Reporting: Level III Level III L PST/UST L TRRP L
State of Project:
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-3608-1 SDG Number: Lea County NM

Login Number: 3608 List Number: 1 Creator: Clifton, Cloe List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3608-1

SDG Number: Lea County NM

Login Number: 3608
List Source: Eurofins Midland
List Number: 2
List Creation: 12/09/22 11:39 AM

Creator: Rodriguez, Leticia

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	N/A	

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<6mm (1/4").

Page 275 of 276 Incident ID NMAP1829546514 District RP 2RP-5017 Facility ID Application ID

Remediation Plan

Remediation Plan Checklist: Each of the following items must be	included in the plan.
 ✓ Detailed description of proposed remediation technique ✓ Scaled sitemap with GPS coordinates showing delineation points ✓ Estimated volume of material to be remediated ✓ Closure criteria is to Table 1 specifications subject to 19.15.29.12 ✓ Proposed schedule for remediation (note if remediation plan time 	
<u>Deferral Requests Only</u> : Each of the following items must be conf	irmed as part of any request for deferral of remediation.
Contamination must be in areas immediately under or around prodeconstruction.	duction equipment where remediation could cause a major facility
Extents of contamination must be fully delineated.	
Contamination does not cause an imminent risk to human health,	the environment, or groundwater.
I hereby certify that the information given above is true and complete rules and regulations all operators are required to report and/or file ce which may endanger public health or the environment. The acceptan liability should their operations have failed to adequately investigate surface water, human health or the environment. In addition, OCD acresponsibility for compliance with any other federal, state, or local large.	rtain release notifications and perform corrective actions for releases ce of a C-141 report by the OCD does not relieve the operator of and remediate contamination that pose a threat to groundwater, eceptance of a C-141 report does not relieve the operator of
Printed Name: Sam Widmer Populational by:	Title:Principal Program Manager
Signature: Sem Widner	Date: May-03-2023
email:5454CA5BAD33498 Sam.Widmer@conocophillips.com	Telephone:281-206-5298
OCD Only	
Received by:	Date:05/03/2023
☐ Approved	pproval Denied Deferral Approved
Signature: Robert Hamlet	Date: 9/20/2023

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

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

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

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

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

CONDITIONS

Action 213252

CONDITIONS

Operator:	OGRID:
CONOCOPHILLIPS COMPANY	217817
600 W. Illinois Avenue	Action Number:
Midland, TX 79701	213252
	Action Type:
	[C-141] Release Corrective Action (C-141)

CONDITIONS

С	reated By	Condition	Condition Date
1	rhamlet	The Remediation Plan is Conditionally Approved. This release is in a high karst area and will need to be remediated to the strictest closure criteria from Table 1 of the OCD Spill Rule. The variance to install a liner at 4 feet below ground surface is only approved under the circumstance that as much contaminated soil is safely removed as possible. The excavations should be backfilled to 4 feet below surface with clean material, liner installed, and then backfilled to surface with clean material. A deferral may be granted so long as the contamination is fully delineated and does not cause an imminent risk to human health, the environment, or ground water. As much contaminated soil as possible should be removed safely with alternative methods (shovel, hydrovac, etc.). Only sample points that could cause a major facility deconstruction will be deferred. Due to the sensitive nature of the site, the variance for 400 ft2 confirmation samples is denied.	9/20/2023