

May 3, 2023

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

Re: Release Characterization and Remediation Work Plan ConocoPhillips James A Waterflood Facility Release Unit Letter P, Section 2, Township 22 South, Range 30 East Eddy County, New Mexico Incident ID NAB1912758567 2RP-5398

Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips to assess a release that occurred as the result of a leak at the injection pump. 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°, -103.847207°, 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 March 25, 2019. Failed 3/8-inch stainless tubing attached to the injection pump at the James A Waterflood Facility (facility ID fMAP1829545945) resulted in the release of approximately 32 barrels (bbls) or produced water, of which 23 bbls were recovered. The NMOCD received the initial C-141 on May 7, 2019, and subsequently assigned the release the Remediation Permit (RP) number 2RP-5398 and the Incident ID NAB1912758567. The initial C-141 form is included in Appendix A.

According to a Corrective Action Plan (CAP) submitted to the NMOCD in 2019, there were three additional releases at the Site on August 24, 2018, August 30, 2018, 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 for the August 30, 2018 release was included in the CAP, there is no associated remediation permit number or incident ID.

Separate Release Characterization and Remediation Work Plans will be submitted for the August 24, 2018 (Incident ID NMAP1829546514/2RP-5017) and April 4, 2019 (Incident ID NAB1912759510/2RP-5399) releases. However, all four incidents will be addressed in this report 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 ½ 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 ½ 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 asway 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, initial response actions taken following the August 24 and August 30, 2018 releases included excavating the release extent to approximately 2 feet bgs. Also 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. Rationale for 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 SM4500CI-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 SM4500CI-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

cc: Mr. Sam Widmer, RMR – ConocoPhillips Ms. Shelly Tucker, BLM

Christian M, Llull, P.G. Program Manager

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Release Characterization and Remediation Work Plan May 3, 2023

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

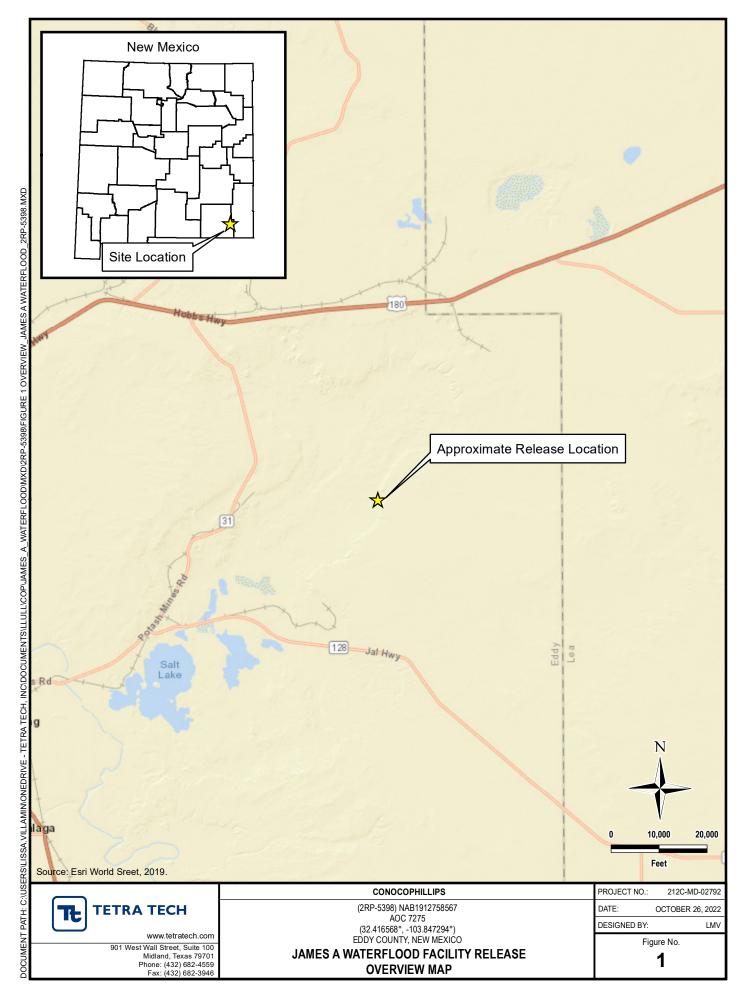
Appendix D – Photographic Documentation

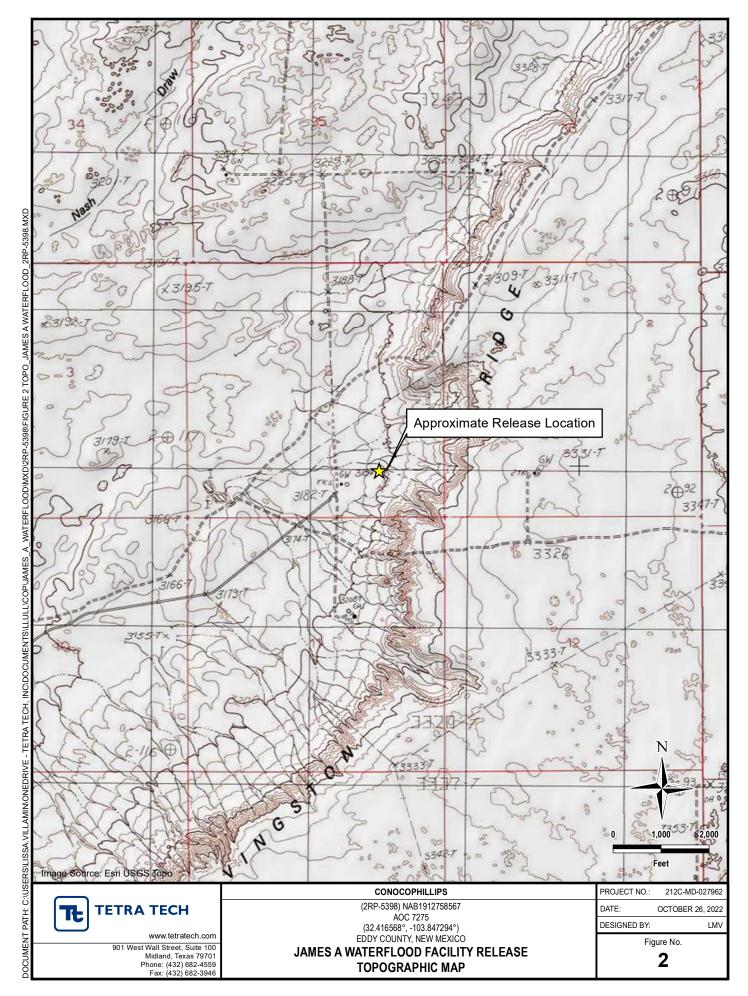
Appendix E - Laboratory Analytical Data

ConocoPhillips

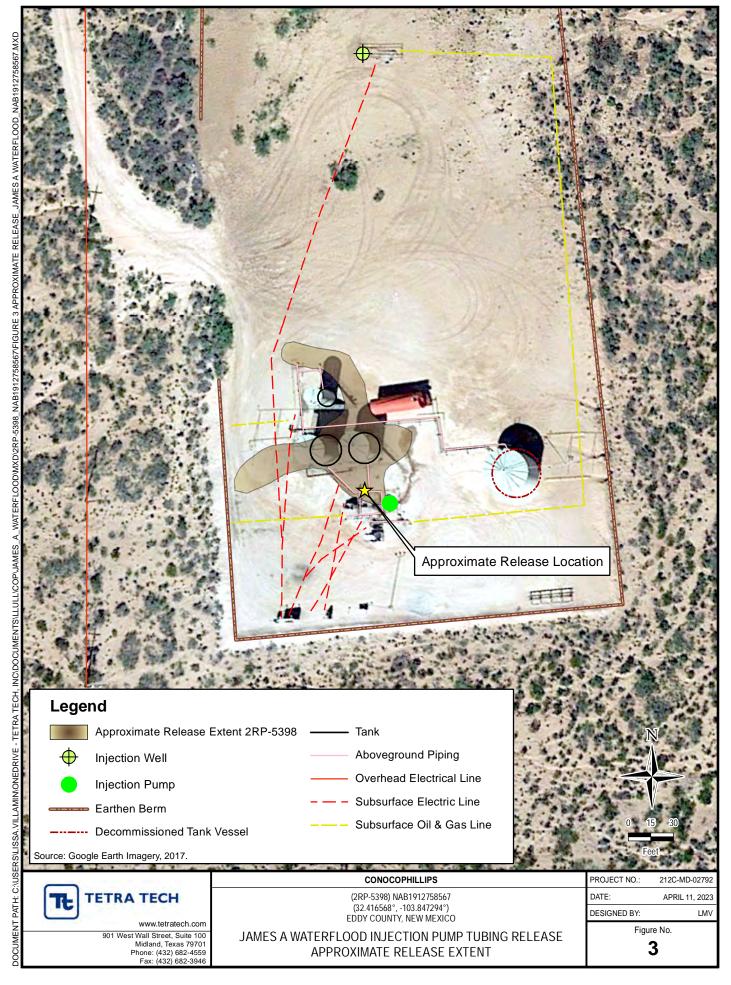
FIGURES

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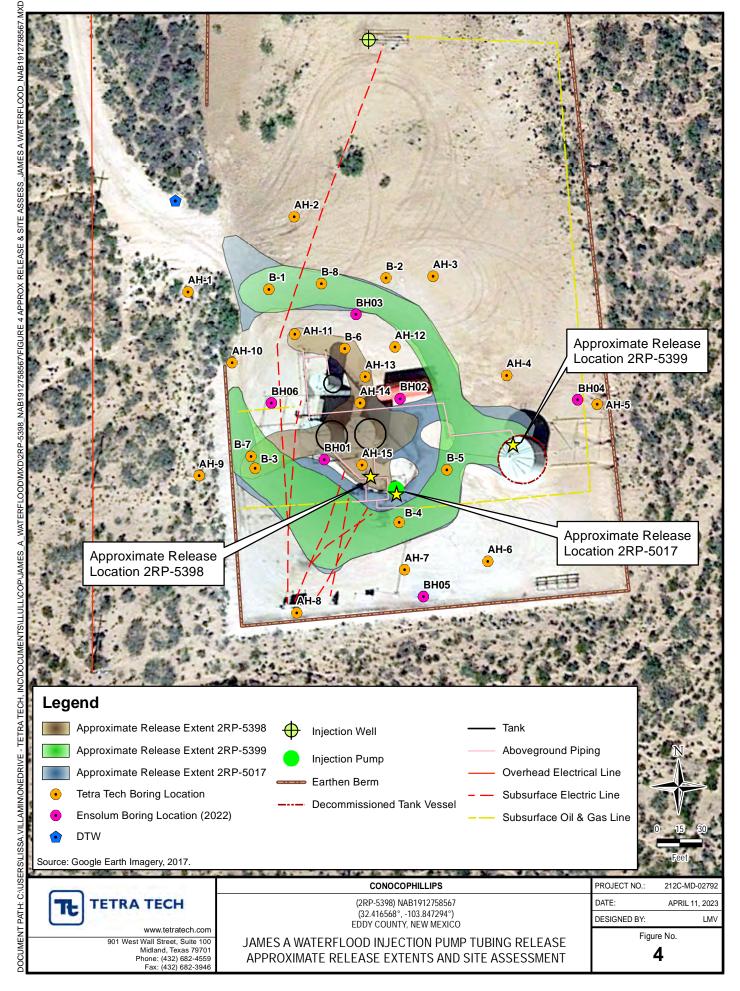


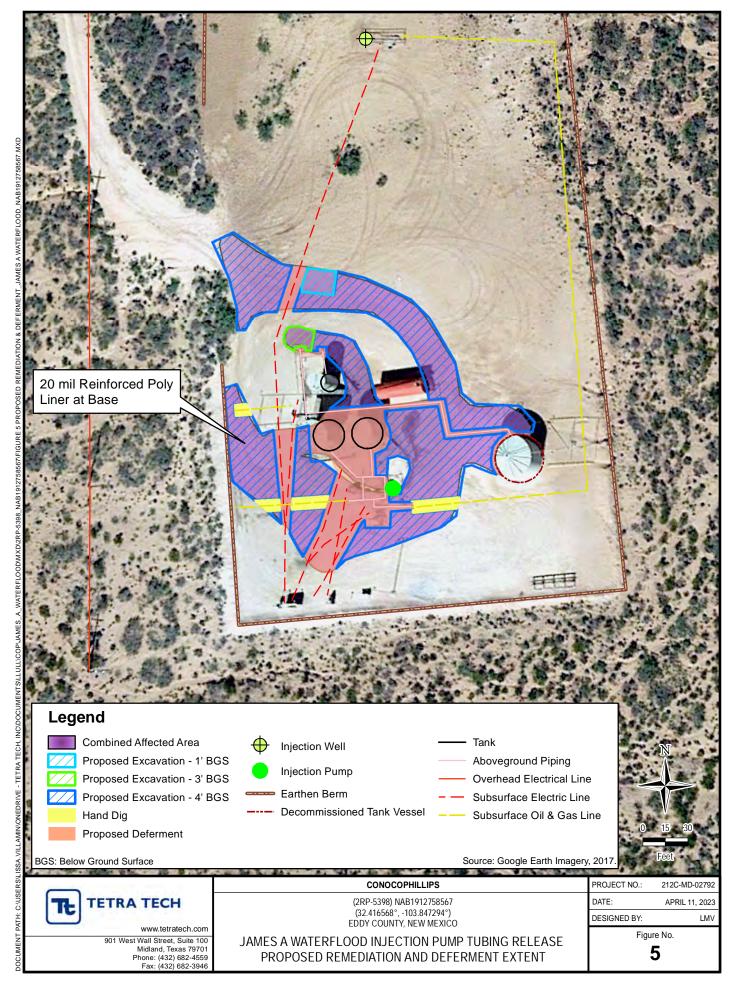


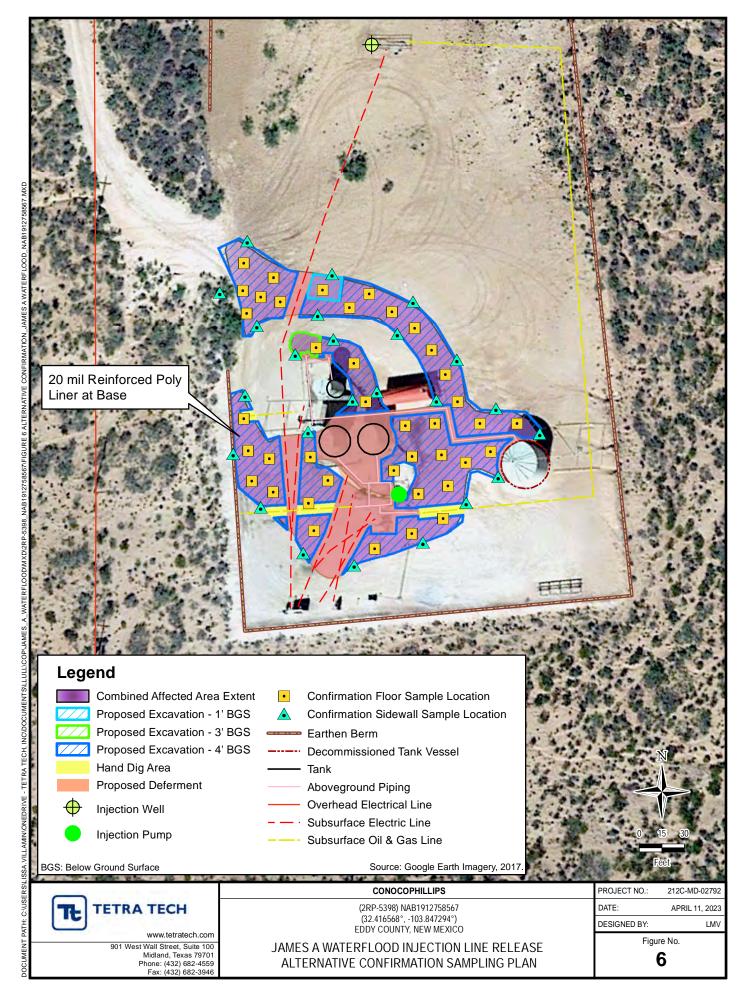
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TABLES

TABLE 1 SUMMARY OF ANALYTICAL RESULTS SOIL ASSESSMENT- 2RP-5398 / nAB1912758567 CONOCOPHILLIPS JAMES A WATERFLOOD (MULTIPLE RELEASES) EDDY COUNTY, NM

										BTEX ²					TPH	1	
		Sample Depth	Field S	Screening Results	Chlorid	e ¹	_						GRO	DRO	EXT DRO		Total TPH
Committe ID	Converte Doto		Chloride	PID			Benzene		Toluene	Ethylbenzene	Total Xylenes	Total BTEX	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 n	mg/kg Q	mg/kg Q	mg/kg Q	mg/kg Q	mg/kg Q	mg/kg Q	mg/kg C) mg/kg	mg/kg
		Closure Criteria for Pasture / Off-Pad Soils 0-4' bgs:		<u>600 mg/</u>	<u>′kg</u>	<u>< 10 mg/kg</u>	<u>!</u>				<u>< 50 mg/kg</u>					<u>100 mg/kg</u>	
		Closure Criteria f	for Soils >4' b	ogs (GW 50-100 ft):	<u>10,000 m</u>	<u>q/kq</u>	<u>< 10 mg/kg</u>					<u>< 50 mg/kg</u>				<u>1000 mg/kg</u>	<u>2500 mg/kg</u>
		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		-	
	0, _0, _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	-	-	288		< 0.050	<	0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
		19-20	-	-	800		< 0.050	<	: 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
	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 9/26/20	9/26/2022	4-5	-	-	176		< 0.050	<	0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
D-2	9/20/2022	6-7	-	-	272		< 0.050	<	0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
		8-9	-	-	288		< 0.050	<	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
		14-15	-	-	864		< 0.050	<	< 0.050	< 0.050	< 0.150	< 0.300	< 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		-
	0/26/2022	4-5	-	-	1,360		< 0.050	<	: 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
B-3	9/26/2022	6-7	-	-	1,780		< 0.050	<	: 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
		8-9	-	-	1,340		< 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		-
		0-1	-	-	9,730		< 0.050	<	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 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	< 10.0	< 10.0		-
		8-9	-	-	2,800		< 0.050	<	0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 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	< 10.0	< 10.0		-
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TABLE 1 SUMMARY OF ANALYTICAL RESULTS SOIL ASSESSMENT- 2RP-5398 / nAB1912758567 CONOCOPHILLIPS JAMES A WATERFLOOD (MULTIPLE RELEASES) EDDY COUNTY, NM

								BTEX ²					TPH ³		
		Sample Depth	Field S	creening Results	Chloride ¹	Democratic	Taluana	Extra lla sus sus s	Tatal Valence		GRO	DRO	EXT DRO		Total TPH
Comula ID	Comula Data		Chloride	PID		Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	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 C) 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 for	r Pasture / Of	ff-Pad Soils 0-4' bgs:	<u>600 mg/kg</u>	<u>< 10 mg/kg</u>				<u>< 50 mg/kg</u>					<u>100 mg/kg</u>
		Closure Criteria f	or Soils >4' b	gs (GW 50-100 ft):	<u>10,000 mg/kg</u>	<u>< 10 mg/kg</u>				<u>< 50 mg/kg</u>				<u>1000 mg/kg</u>	<u>2500 mg/kg</u>
		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		-
		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		-
		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	< 10.0	< 10.0		-
		14-15	-	-	1,380	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 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	< 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 6-7	-	-	336 272	< 0.050 < 0.050	< 0.050	< 0.050 < 0.050	< 0.150 < 0.150	< 0.300 < 0.300	< 10.0 < 10.0	< 10.0 < 10.0	< 10.0 < 10.0		-
B-7	12/12/2022	8-9	_		272	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
		14-15	-	_	336	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		
		19-20	-	-	176	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
		24-25	-	-	128	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
		29-30	-	-	128	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
		0-1	-	-	752	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	45.2	< 10.0	45.2	45.2
		2-3	-	-	240	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
		3-4	-	-	368	< 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	< 10.0	< 10.0		-
		6-7	-	-	320	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
B-8	12/12/2022	8-9	-	-	256	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
		14-15	-	-	320	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
		19-20	-	-	176	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
		24-25	-	-	672	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-
		29-30	-	-	624	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	< 10.0	< 10.0	< 10.0		-

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TABLE 1 SUMMARY OF ANALYTICAL RESULTS SOIL ASSESSMENT- 2RP-5398 / nAB1912758567 CONOCOPHILLIPS JAMES A WATERFLOOD (MULTIPLE RELEASES) EDDY COUNTY, NM

			Field C	ana an ina Daawka					BTEX ²						TPH ³		
		Sample Depth	Field S	creening Results	Chlorid	le ¹	Benzene	Toluene	Ethylbenzene	Total Xylenes		Total BTEX	GRO	DRO	EXT DRO	(GRO+DRO)	Total TPH
Sample ID	Sample Date		Chloride	PID			Delizene	Toldelle	Ethylbenzene		5		C ₆ - C ₁₀	> C ₁₀ - C ₂₈	> C ₂₈ - C ₃₆	(GRO+DRO)	(GRO+DRO+EXT DRO)
Sumple ib	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 Q	mg/kg Q	mg/kg Q	mg/kg	mg/kg
				ff-Pad Soils 0-4' bgs:	<u>600 mg</u> ,	/k <u>g</u>	<u>< 10 mg/kg</u>					<u>< 50 mg/kg</u>					<u>100 mg/kg</u>
				gs (GW 50-100 ft):	<u>10,000 m</u>	<u>g/kg</u>	<u>< 10 mg/kg</u>					<u>< 50 mg/kg</u>				<u>1000 mg/kg</u>	<u>2500 mg/kg</u>
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		-
	40/5/2022	0-1	81.2	-	16.0		<0.050	<0.050	<0.050	<0.150		<0.300	<10.0	<10.0	<10.0		-
AH-13	10/5/2022	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		-
AU (* 14	10/ 5/ 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		-
		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

Method SM4500Cl-B 1

Method 8021B 2

3 Method 8015M

Bold and italicized values indicate exceedance of proposed Remediation RRALs and Reclamation Requirements. Shaded rows indicate intervals proposed for excavation.

QUALIFIERS:

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TABLE 2 SUMMARY OF ADDITIONAL ANALYTICAL RESULTS SOIL ASSESSMENT - NMAP1829546514 (2RP-5398) CONOCOPHILLIPS JAMES A WATERFLOOD FACILITY EDDY COUNTY, NM

			Field Screening Pocults				BTEX ²					TPH ³		
		Sample Depth	Field Screening Results	Chloride ¹	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	(GRO+DRO)	Total TPH
Commis ID	Comple Date		Chloride PID		Denzene	Tordene				C ₆ - C ₁₀	> C ₁₀ - C ₂₈	> C ₂₈ - C ₃₆	(GRO (BRO)	(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 for Pasture	e / Off-Pad Soils 0-4' bgs:	<u>600 mg/kg</u>	<u>< 10 mg/kg</u>				<u>< 50 mg/kg</u>					<u>100 mg/kg</u>
		Closure Criteria for Soils	>4' bgs (GW 50-100 ft):	<u>10,000 mg/kg</u>	<u>< 10 mg/kg</u>				<u>< 50 mg/kg</u>				<u>1000 mg/kg</u>	2500 mg/kg
BH01	12/6/2022	1'		16.8	<0.00202	<0.00202	<0.00202	<0.00404	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9
51101	12,0,2022	4'		54.4	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8
BH02	12/6/2022	1'		5.94	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0
51102	12/0/2022	4'		35.4	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0
BH03	12/6/2022	1'		506	<0.00198	<0.00198	<0.00198	<0.00396	<0.00396	<49.9	56.9	<49.9	56.9	56.9
	12/0/2022	4'		542	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	<49.9	65.5	<49.9	65.5	65.5
BH04	12/6/2022	1'		578	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0
	12/0/2022	4'		87.5	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9
BH05	12/6/2022	1'		23.5	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<49.9	<49.9 *1	<49.9	<49.9	<49.9
	12/0/2022	4'		93.9	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	<50.0	<50.0 *1	<50.0	<50.0	<50.0
BH06	12/6/2022	1'		146	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<50.0	<50.0 *1	<50.0	<50.0	<50.0
Britto	12/0/2022	4'		171	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	<50.0	<50.0 *1	<50.0	<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:

*1

LCS/LCSD RPD exceeds control limits.

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APPENDIX A C-141 Forms

Received by OCD: 5/3/2023 1:10:37 PM District 1 1625 N. French Dr., Hobbs, NM 88240

1625 N. French Dr., Hobbs, NM 88240District II811 S. First St., Artesia, NM 88210District III1000 Rio Brazos Road, Aztec, NM 87410District IV1220 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	NAB1912758567
District RP	2RP-5398
Facility ID	
Application ID	pAB1912757337

Release Notification

Responsible Party

Responsible Party ConocoPhillips	OGRID 217817
Contact Name Justin Wright	Contact Telephone +1-575-631-9092
Contact email Justin.Wright@conocophillips.com	Incident # (assigned by OCD) NAB1912758567
Contact mailing address 29 Vacuum Complex Lane, Loving	gton

Location of Release Source

Latitude	32.41692			Longitude
			(NAD 83 in de	decimal degrees to 5 decimal places)
Site Name:	James A Wat	erfld		Site Type: Water flood
Date Release	Discovered:	03/25/2019		API# (if applicable) 3001526761 ** Facility
				AB
Unit Letter	Section	Township	Range	County
Р	2	22S	30E	Eddy
Surface Owne	r: 🛛 State [🗌 Federal 🔲 Tri	bal 🔝 Private (.	(Name:)

Nature and Volume of Release

	rial(s) Released (Select all that apply and attach calculations or specifi	
Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
Produced Water	Volume Released (bbls) 32	Volume Recovered (bbls) 23
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	Yes No
Condensate	Volume Released (bbls)	Volume Recovered (bbls)
Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release		
Failed 3/8" Stainless tu	bing attached to the injection pump	

Page 20 of 276

Was this a major release as defined by	If YES, for what reason(s) does the responsible party consider this a major release?
19.15.29.7(A) NMAC?	An authorized release of a volume, excluding gas, in excess of 25 bbls.
🛛 Yes 🗌 No	
IFVER was immediate a	ation airren to the OCD2 Drumbarry To mhan 2 Without and humber and a second (share a mail at)2
II TES, was infinediate no	otice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Immediate notification wa	as given by Christopher Ebey (COP HSE) to Jim Griswald via telephone (505.476.3465) on 3/25/19 @ 14:41

Initial Response

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

- \boxtimes The source of the release has been stopped.
- The impacted area has been secured to protect human health and the environment.
- Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name:Christopher Ebey	Title:
Signature:	Date: $\frac{4/24/19}{575.391.3165}$
OCD Only Received by:	Date:5/7/2019

District RP2RP-5398Facility IDApplication ID

Incident 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?	<u>>55 ft</u> (ft bgs)
Did this release impact groundwater or surface water?	🗌 Yes 🗹 No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	🗌 Yes 🖌 No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	🗌 Yes 🖌 No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	🗌 Yes 🖌 No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	🗌 Yes 🖌 No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	🗌 Yes 🖌 No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	🗌 Yes 🖌 No
Are the lateral extents of the release within 300 feet of a wetland?	🗌 Yes 🖌 No
Are the lateral extents of the release overlying a subsurface mine?	🗌 Yes 🖌 No
Are the lateral extents of the release overlying an unstable area such as karst geology?	🖌 Yes 🗌 No
Are the lateral extents of the release within a 100-year floodplain?	🗌 Yes 🖌 No
Did the release impact areas not on an exploration, development, production, or storage site?	🗌 Yes 🖌 No

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

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

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within ¹/₂-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

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

Page 3

Received by OCD:	5/3/2023 1:10:37 PM State of New Mexico			Page 23 of 276
F01111 C-141			Incident ID	NAB1912758567
Page 4	Oil Conservation Division	Oil Conservation Division		2RP-5398
			Facility ID	
			Application ID	
regulations all oper public health or the failed to adequately addition, OCD acco and/or regulations. Printed Name:	t the information given above is true and complete to the rators are required to report and/or file certain release not e environment. The acceptance of a C-141 report by the v investigate and remediate contamination that pose a thr eptance of a C-141 report does not relieve the operator of Sam Widmer signed by: m Widmer CA5BAD33498 Sam.Widmer@conocophillips.com	tifications and perform co OCD does not relieve the eat to groundwater, surfa f responsibility for compl	rrective actions for rele operator of liability sh ce water, human health iance with any other fe al Program Manag	eases which may endanger ould their operations have or the environment. In deral, state, or local laws
OCD Only Received by:	Jocelyn Harimon	Date:0	5/03/2023	

Received by OCD: 5/3/2023 1:10:37 PM Form C-141 State of New Mexico

Inciden	t ID	NAB1912758567
District	RP	2RP-5398
Facility	' ID	
Applica	ation ID	

Remediation Plan

Remediation Plan Checklist: Each of the following items must be included in the plan.

V	D	etai	le	d	description	of p	roposed	rem

nediation technique Scaled sitemap with GPS coordinates showing delineation points

Estimated volume of material to be remediated

Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC

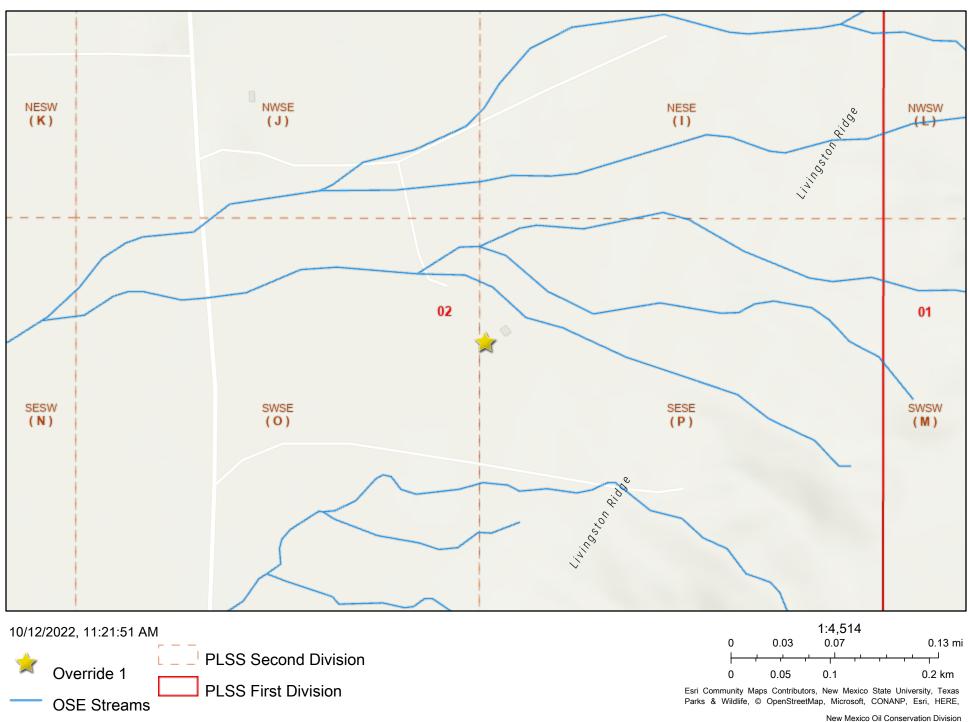
Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: Each of the following items must be con	firmed as part of any request for deferral of remediation.
Contamination must be in areas immediately under or around prodeconstruction.	oduction 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 complet rules and regulations all operators are required to report and/or file c 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 a responsibility for compliance with any other federal, state, or local la	ertain release notifications and perform corrective actions for releases nee of a C-141 report by the OCD does not relieve the operator of and remediate contamination that pose a threat to groundwater, neceptance of a C-141 report does not relieve the operator of
Sam Widmer Printed Name:	Title: Principal Program Manager
Signature:	Date:May-01-2023
email:5454CA5BAD33498 Sam.Widmer@conocophillips.com	Telephone: 281-206-5298
OCD Only	
Received by: Jocelyn Harimon	Date:05/03/2023
Approved Approved with Attached Conditions of A	Approval Denied Deferral Approved
Signature:	Date:

Page 5

APPENDIX B Site Characterization Data

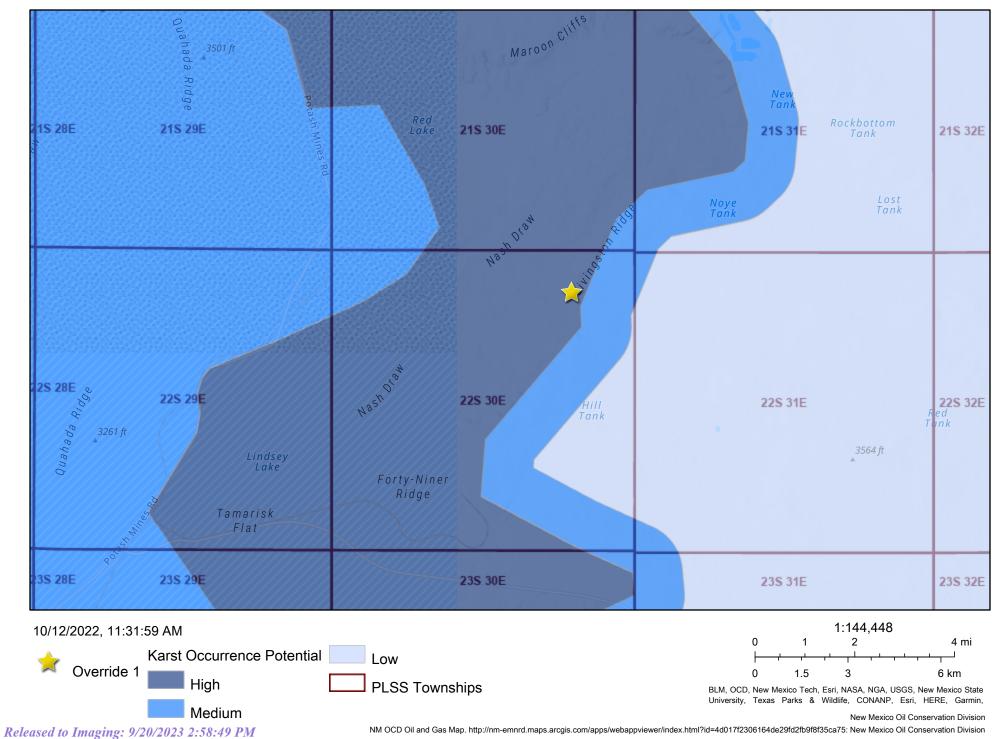
James A Waterflood - Water Bodies



Released to Imaging: 9/20/2023 2:58:49 PM

NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75: New Mexico Oil Conservation Division

James A Waterflood - Karst



NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75: New Mexico Oil Conservation Division



(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)			2=NE 3=SW 4 st to largest)	l=SE) (NAD83 UTM in m	neters)	(In feet)
POD Number	POD Sub- Code basin Cou	Q Q C nty 64 16 4	-	Rng	X Y	D Distance	Pepth Depth Water Well Water Column
C 04528 POD1	CUB E	D 133	3 12 22S	30E 608	886 3585625 🌍	1626	
C 03234 EXPLORE	CUB E	D 123	35 21S	30E 607	695 3589207* 🌍	2148	410
					Aver	age Depth to V	Vater:
						Minimum D	Depth:
						Maximum D	epth:
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.

Received by OCD: 5/3/2023 1:10:37 PM

Excus 100 Li Fill Li Fill SP- SILTY SAND: Light brown to brown, loose, dry, fine grained, with trace caliche nodules, no stating impact or odor 3 5	212C-MD-02792	TETRA 1	ECH		LOG OF BORING DTW Page 1 of 1
orchole Number/DTW Borefolder (m), 8 Date Started: 9/26/2022 Date Finished: 9/26/2022 Date Finished: 9/26/2022 understand grig of	roject Name: Jame	es A Waterflood I	Release		
United Humor 2 HV Damater (h,) 0 Damater (h,) 0 Damater (h, 0) Da	orehole LocationGPS	: 32.416966°, -103.847	724°		
understand understand <th>Borehole Number:DTV</th> <th>V</th> <th></th> <th>Boreh Diame</th> <th>nole 8 Date Started: 9/26/2022 Date Finished: 9/26/2022</th>	Borehole Number:DTV	V		Boreh Diame	nole 8 Date Started: 9/26/2022 Date Finished: 9/26/2022
Image: Section of both lines in the standard	YPE FIELD G (ppm)	G (ppm) DVERY (%) DNTENT (%)	(pcf) IT Y INDEX		WATER LEVEL OBSERVATIONS While Drilling <u>V DRY</u> ft Upon Completion of Drilling <u>V DRY</u> ft Remarks:
5 Image: Set in the set of the		UNC FIELD SCREENIN SAMPLE RECONN MOISTURE CC			
Sampler Types: Split Spoon Image: Acetate Liner Spoon Operation Types: Image: Hand Auger Mud Rotary Notes: Shelby Image: Vane Shear Image: Mud Rotary Image: Mud Rotary Image: Mud Rotary Notes: Bulk Smaple Image: Sample Image: Continuous Smaple Image: Continuous Smaple <td></td> <td></td> <td></td> <td></td> <td>dry, fine grained, with trace caliche nodules, no staining impact or odor -SM- SAND: Brown, weakly cemented, dry, very fine grained, with trace caliche </td>					dry, fine grained, with trace caliche nodules, no staining impact or odor -SM- SAND: Brown, weakly cemented, dry, very fine grained, with trace caliche
	Shelby Bulk Sample	Vane Shear	Mud Rotar	nuous t Auger	Hand Auger Notes: Air Rotary Surface elevation is based on Google Earth data.

APPENDIX C Regulatory Correspondence

Bratcher, Mike, EMNRD

From:	Bratcher, Mike, EMNRD
Sent:	Tuesday, May 7, 2019 3:50 PM
То:	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: <u>robert.hamlet@state.nm.us</u> Victoria Venegas: <u>victoria.venegas@state.nm.us</u>

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

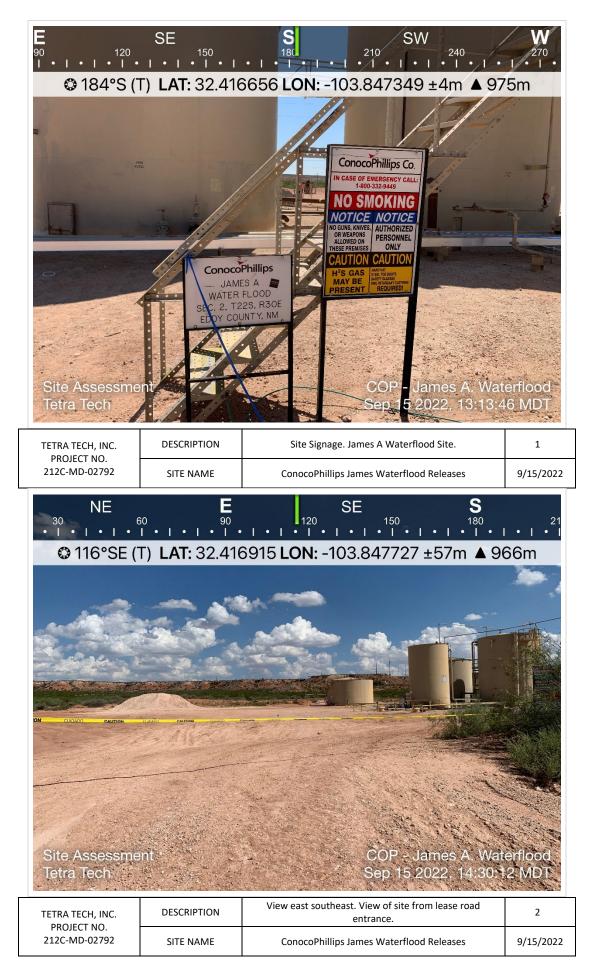
OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility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

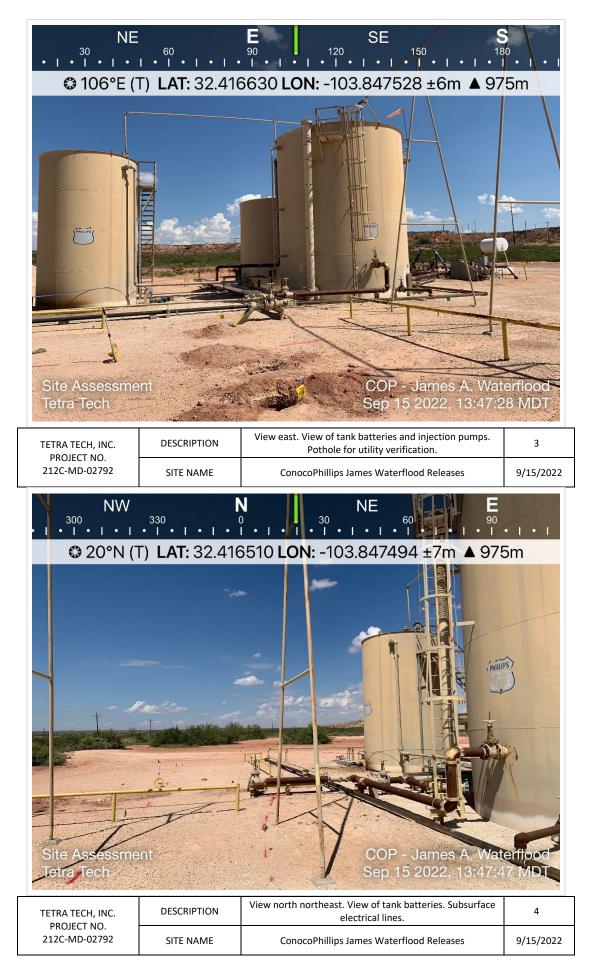
From: Wright, Justin K <Justin.Wright@conocophillips.com>
Sent: Friday, May 3, 2019 2:08 PM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>

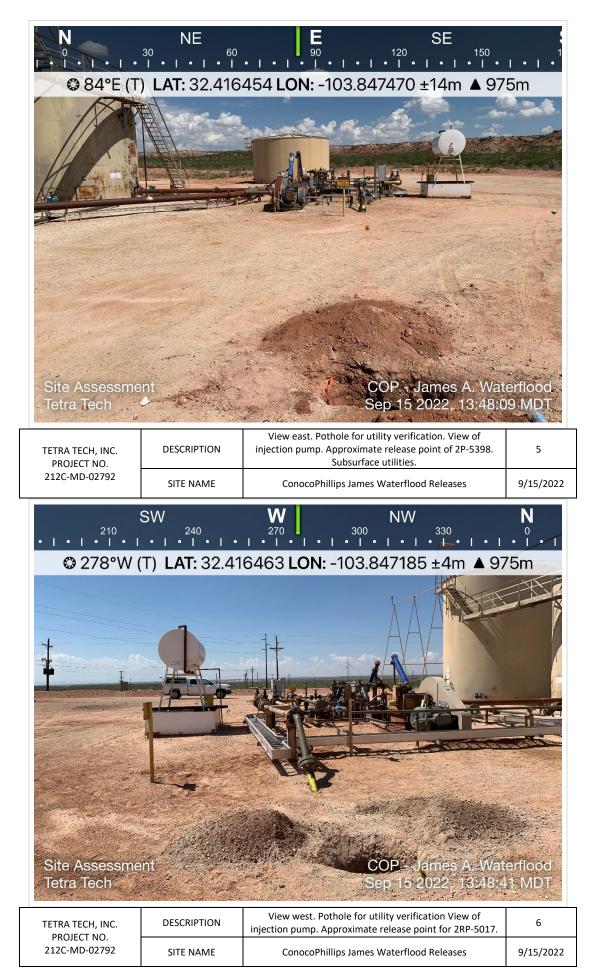
Cc: Fejervary Morena, Gustavo A <G.Fejervary@conocophillips.com> **Subject:** [EXT] FW: CAP for James A Waterflood 2RP-5017

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:

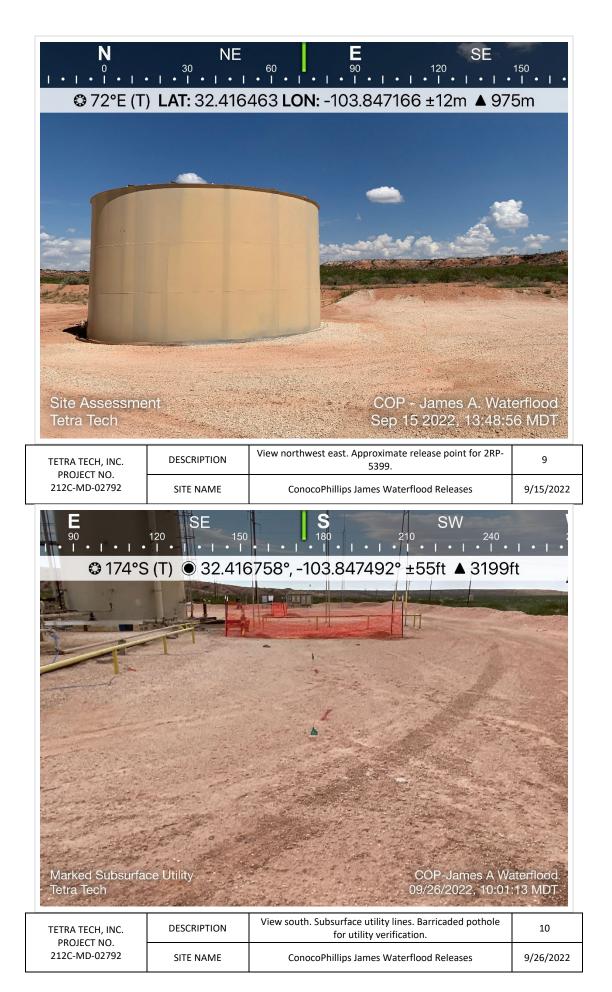
APPENDIX D Photographic Documentation





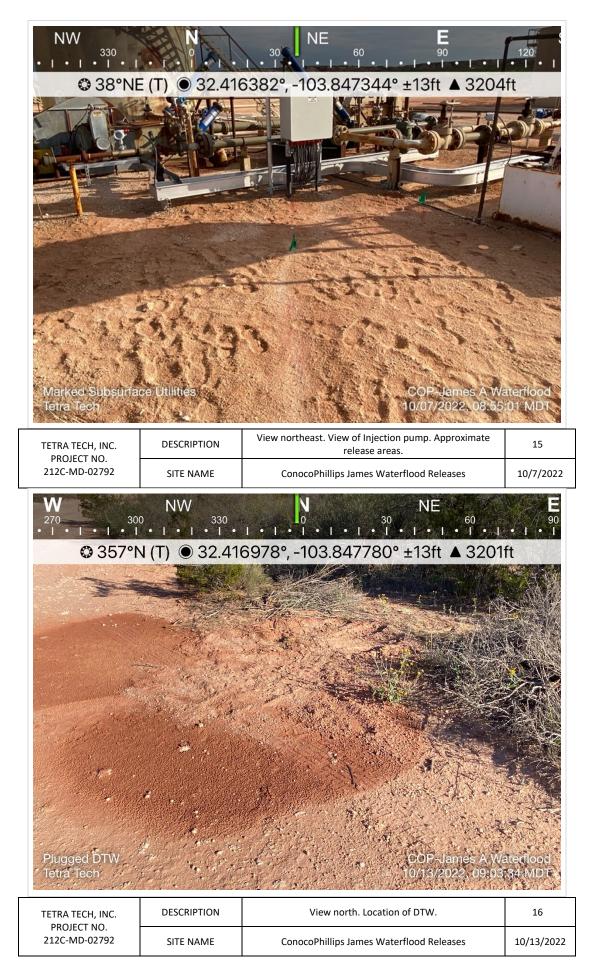












APPENDIX E Laboratory Analytical Data



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.

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. Keine

Celey D. Keene Lab Director/Quality Manager



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	Qualifie
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, SM4500Cl-B	mg/	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Chloride	192	16.0	09/27/2022	ND	416	104	400	3.77	
TPH 8015M	mg/	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
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							

Cardinal Laboratories

*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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 (2'-3') (H224460-02)

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	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	d 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: 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						

Cardinal Laboratories

*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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	Analyze	d 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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	108	% 46.3-17	8						

Cardinal Laboratories

*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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	Analyze	d 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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	112	% 46.3-17	8						

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*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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 (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	Analyze	d 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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	128	% 46.3-17	8						

Cardinal Laboratories

*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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 (8'-9') (H224460-06)

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	93.3	% 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	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	114	% 45.3-16	51						
Surrogate: 1-Chlorooctadecane	136	% 46.3-17	'8						

Cardinal Laboratories

*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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	Analyze	d 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	% 46.3-17	8						

Cardinal Laboratories

*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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	% 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	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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	122	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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 (0-1') (H224460-09)

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	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	d 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	94.7	% 45.3-16	51						
Surrogate: 1-Chlorooctadecane	111 9	% 46.3-17	'8						

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Celey D. Keene, Lab Director/Quality Manager



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 (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	% 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	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	46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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	% 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	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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	120	% 46.3-17	8						

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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, SM4500Cl-B	mg,	′kg	Analyze	d 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	45.3-16	1						
Surrogate: 1-Chlorooctadecane	127	46.3-17	8						

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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 (6'-7') (H224460-13)

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, SM4500Cl-B	mg/	'kg	Analyze	d 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	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	105 9	45.3-16	1						
Surrogate: 1-Chlorooctadecane	124 9	46.3-17	8						

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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 (8'-9') (H224460-14)

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	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, SM4500Cl-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	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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	117	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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 (14'-15') (H224460-15)

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	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, SM4500Cl-B	mg/	′kg	Analyze	d 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	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	98.3	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	115 9	46.3-17	8						

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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 (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	% 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	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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	127	% 46.3-17	8						

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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	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	91.9	% 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	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	% 46.3-17	8						

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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 (2'-3') (H224460-18)

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	92.9	% 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	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 9	% 46.3-17	8						

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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	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	% 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	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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	119	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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	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	% 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	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	% 45.3-16	51						
Surrogate: 1-Chlorooctadecane	117 9	% 46.3-17	'8						

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Celey D. Keene, Lab Director/Quality Manager



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 (8'-9') (H224460-21)

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	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	d 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	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	93.1	% 45.3-16	51						
Surrogate: 1-Chlorooctadecane	109	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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 (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	Analyze	d 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	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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	Analyze	d 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	46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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 (0-1') (H224460-24)

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	94.8	% 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	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 9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	136	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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, SM4500Cl-B	mg,	/kg	Analyze	d 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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Celey D. Keene, Lab Director/Quality Manager



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 (4'-5') (H224460-26)

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	93.7	% 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	3000	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	92.4	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	105	% 46.3-17	0						

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Celey D. Keene, Lab Director/Quality Manager



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 (6'-7') (H224460-27)

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	94.1	% 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	3080	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	94.5	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	105	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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 (8'-9') (H224460-28)

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	93.7	% 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	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	100	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	115	% 46.3-17							

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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 (14'-15') (H224460-29)

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	92.3	% 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	800	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	97.6	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	110 9	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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 (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	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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 (0-1') (H224460-31)

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	94.1	% 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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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, SM4500Cl-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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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 (3'-4') (H224460-33)

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	94.5	% 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	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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Celey D. Keene, Lab Director/Quality Manager



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 (4'-5') (H224460-34)

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	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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Celey D. Keene, Lab Director/Quality Manager



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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	% 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	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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Celey D. Keene, Lab Director/Quality Manager



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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	93.3	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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 (14'-15') (H224460-37)

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	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	944	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	93.5	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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	% 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	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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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 (0-1') (H224460-39)

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	101	% 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	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	79.9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	89.8	% 46.3-17	8						

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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	51						
Surrogate: 1-Chlorooctadecane	103	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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)

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	688	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	91.7	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	105	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	96.8	% 46.3-17	8						

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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	85.6	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	99.0	% 46.3-17	8						

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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 (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	% 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	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	% 46.3-17	8						

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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	% 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	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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	162	% 46.3-17	8						

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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 (19'-20') (H224460-46)

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	1390	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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	119 9	% 46.3-17	8						

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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 (3'-4') (H224460-47)

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	1790	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	103	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	122	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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	% 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	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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	119 9	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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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Celey D. Keene, Lab Director/Quality Manager

Received by	OCD: 5/3/202	3 1:10:37 P	PM

d by OCD: 5/3/2023 1:10:3								122	Page 93 o
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ut of or related to the performance out of one) Cle One) Ut - Other: Cc	$ \begin{array}{c} \mathcal{B} - I (\mathcal{A}^{l} - \mathcal{A}^{l}) \\ \mathcal{B} - I (\mathcal{H}^{l} - \mathcal{L}^{l}) \\ \mathcal{B} - I (\mathcal{H}^{l} - \mathcal{L}^{l}) \\ \mathcal{B} - I (\mathcal{L}^{l} - \mathcal{L}^{l}) \\ \mathcal{B} - I$	Sample I.D. Suf (0-1') S-1 Brt (2:-3') B-1 B-1 (2:-3') B-1 B-1 (2:-5') B-1 (6'-7')	Eddy Count	Tames A Woter	7. 00		Conece Thrups	(575) 393-	aborato
nsequental damages, including without limitation, busine nce of services hereunder by Cardinal, regardless of with Date: Date: Date: Time: Time: Received By: Corrected Temp. °C 0 A Coo Corrected Temp. °C 1 A Coo	ant's exclusive remedy for any claim arising whether based in contract or to cause whatsoever shall be deemed waived unless made in writing and rect	GRAB OR (C)OMP # CONTAINERS GROUNDWATER	17 AMM	Project Owner:	State: Zip: Fax #:		M	(575) 393-2476	ories
A, business interruptions, loss of use, ses of whether such claim is based up d By: d By: Sample Condition Cool Intact Al Yes	g whether based in contract or tort, shall be duriness made in writing and received by	SINCOMOVATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE:	Phone #: MATRIX PRESI	City: State:	Attn: C	Company:	P.O. #:		
CHECKED BY: (Initials)			one #: (#: PRESERV. SAMPLING	Zip:	SS: by email	Terre +		RILL TO	CH
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nly) S t								S REQUEST	
ample Condition Observed Temp. °C									REQUEST

oratories J

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 52 of 55

Sample Condition CHECKED BY: Cool Intact Pres Yes No No No No No No Changes. Please email c	All Pay: By: By: By: By: By: By: By: B	nether based in contract or tort, shall be limited to the amount paid by the client for the	WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :	MATRIX PRESERV.
Sample Condition CHECKED BY: Turnaround Time: Standard Bacteria (only) Sample Condition Cool Intact (Initials) Inemometer ID #113 Cool Intact Observed Temp. °C No No No Sectorial contraction Correction Factor #95°C No No No Corrected Temp. °C ept verbal changes. Please email changes to celey.keene@cardinallabsnm.com No Corrected Temp. °C No No No Corrected Temp. °C	rad by clark, its subdisidies. Tabled reasons or otherwise Tabled results are emailed. Please provide Email address: All Results are emailed. Please provide Email address: Chatter of the theory of theory of the theory of theory of the theory of the theory of the theory of the t		DATE TIME TPH X TPH X BTEX Chlore Chlore I I I I I I I I I I I I I I I I I I I	SAMPLING

Received by OCD: 5/3/2023 1:10:37 PM

Sampler - UPS - Bus - Other: Delivered By: (Circle One)

Corrected Temp. °C Observed Temp. °

'g'e 300 2

† Cardinal cannot accept verbal 0

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Company Name:		BILL TO	ANALYSIS REQUEST
Project Manager: Charles 1 hand	hall	P.O. #:	
Address:		Company: Tetra tel	
City:	State: Zip:	Attn: Chriftien 214	
Phone #:	Fax #:	Address: by empty	
2121-10-62792	Project Owner:	City:	
e: James A ho	flood	State: Zip:	
dr 1	Alm	Phone #:	
Sampler Name: alta Rek	24 Lee	Fax #:	
Sallipier Mailler (PHUS () PAU	L	PRESERV	
FOR LAB USE ONLY	P. MATRIX	PRESERV. SAMPLING	
Lab I.D. Sample I.D.	CONTAINERS ROUNDWATER VASTEWATER OIL LUDGE		TPH BTER Chlore
11 8-2(3:4)	X	X	
R R-2(4-5')	1		
15 Q-2-6-74			
14 15-262-92			
5 3-2(14-15)			
17 8-3 10-11)			
18 12-3 (2-3)			
19 17-3 (4-5)			
30 2-3/6-71	(6-7) WW V V V	artor shall be limited to the amount naid by the	client for the
analyses. All claims including those for negligence and any order caus service. In no event shall Cardinal be liable for incidental or consequer artifiates or successors arising out of or related to the performance of s IReginary in the term of t	e wriatsoe ntal damag ervices he Date:	loss of use, or loss of profits incurred by client, its based upon any of the above stated reasons o	v client, tis subsidiaries, reasons or otherwise Verbal Result: Yes A No Add'I Phone #:
Cotta P	Time 5/1 Shod Rio	AILA A	All Results are emailed. Please provide Email address: Charlen, Charle Forther tech, Carry
Relinquished By:	Date: Received By:		
	Time:		

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City: Phone #:

Released to Imaging: 9/20/2023 2:58:49 PM

Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Released to	o Imaging:	9/20/2023	2:58:49 PM	

(575		TO ANALYSIS	M
Company Name: Canple Phillips	P.O. #:	L TO ANALYSIS REQUEST	
	Company: T	Ofra tech	
City: State:	Zip: Attn: Art	Jeton 2-lenta	
Phone #: Fax #:	Address:	by enert	
Project #: 212-MD-02792 Project Owner:	ner: City:		
James A Water	State:	Zip:	
Project Location: Badly (sense) MI	Phone #:		_
Sampler Name: 18than RITKepte	PP 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 OTHER :	DATE TIME TPH BTEX Chlordole	
2) B-3 (19-20') 23 B-3 (19-19') 23 B-3 (19-9')			
24 B-4 (2-31) 20 B-4 (2-31) 20 B-4 (2-31) 20 B-4 (2-31)			
PLASE NOTE: Liability and Damages. Cardina's liability and client's exclusive remedy for any dam arising whether based in contract or tort, shall be imited to the amount paid by the client for the PLASE NOTE: Liability and Damages. Cardina's liability and client's exclusive remedy for any dam arising whether based in contract or tort, shall be imited to the amount paid by the client for the applicable of the state of the antipate of the applicable of the applicable of the state of the applicable of the applicab	This exclusive remedy for any claim arising whether based in contract or fort, shall be limited to the save whatsower shall be deemone waived unless made in writing and received by Cardinal within	the amount paid by the client for the her applicable hin 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 affiniates or successors arising out of or related to the performance of services hareunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Reclinquished By: Date::::::::::::::::::::::::::::::::::::	rages, including without limitation, business interruptions, loss of use, or loss of prof hereunder by Cardinal, regardless of whether such claim is based upon any of the PM/9/1/1 Received BV:	Ins incurred by client, its subsidiaries, above stated reasons or otherwise. All Results are emailed Please provide Email address:	
Relinquished By: Date:	Received By:	REMARKS: PRESS, LINK Otetre techican	
	OI- Olition	Turnaround Time: Standard	
Delivered By: (Circle One) Observed Temp. °C Sampler - UPS - Bus - Other: Corrected Temp. °C	°C 0,7 ° Sample Condition CHECKED BY: Cool Intact Ves Yes (Injitials) No No No Structure (Injitials)	ED BY: Turmaround Time: Standard M Bacteria (only) Sample Condition als) Themometer ID #113 Cool Intact Observed Temp. °C Correction Factor *5:5* 0 // P No Corrected Temp. °C	
TORM-006 R 3.2 10/07/21 † Cardin	al cannot accept verbal changes. Please e	Cardinal cannot accept verbal changes. Please email changes to celey keene@cardinallabsnm.com	

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6	MUN 4	Aren Pland	Fax #:	State:	×	LIM	105	101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476	atories
,				Zip:				1240 1476	N
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Fax #:	Phone #	State:	Address	Attn:	Compar	P.O. #:			
		Zip:	64	5	W: Tetra		BILL TO		
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	0	Phone #:		Address: 6 City: State: Phone #: Fax #:	Zip: Attn: Chrl?Hban (Address: by crnw) er: City: State: Zip: Phone #: Fax #:	Zip: Zip: Attn: Address: by City: City: State: Phone #: Fax #:	P.O. #: Company: Tetre T Zip: Attn: Chrl/Hen 1 Address: by crue er: City: Phone #: Fax #:	BILL TO P.O. #: Company: Telfar T Zip: Attn: (AH)Aba, 1 Address: by enal er: City: State: Zip: Fax #:	BILL TO ANALYSIS P.O. #: Company: Tetra Tech Company: Tetra Tech Attn: Chritten Ifull Address: by criefl Address: by criefl State: Zip: Phone #: Fax #:

CARDINAL	Λ Γ	CHAIN-OF-CUSTODY AND ANALYSIS REQUEST	,
101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476	240 476		2
Company Name: Carpoo Phillips	P.O.#	TO ANALYSIS REQUEST	
Address:	Company: Tedra	to Tech	
City: State:	Zip: Attn: LANAMen	-	
Phone #: Fax #:	Address: by	enell	
Project #: WWMD+ 02792 Project Owner:	City:		
Project Name: Jernes A Wederflood	State: Zip:		
5 County,	Phone #:		
Sampler Name: Atton Kickenster	Fax #:		_
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Lab I.D. Sample I.D.	CONTAI COUNDA ASTEW/ DIL UDGE THER : CID/BAS E / COO THER :	TP+ 1371	
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48 B-4 (3(4))	WW W 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 writing and social by Coordinal within	amount paid by the client for the applicable	
final be liable for incidental or conse out of or related to the performance	quental damages, including without limitation, business interruptions, loss or use, or loss or promis including vitris subsualives or of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.	stated reasons or otherwise. • stated reasons or otherwise. • Verhal Result: Ves V No Add'I Phone #:	
	-	email	
Relinquished By: Date:	Received By:	REMARKS:	
Time:			
Delivered By: (Circle One) Observed Temp. $^{\circ}C_{0}$, \mathcal{P}_{2} Sampler - UPS - Bus - Other: Corrected Temp. $^{\circ}C_{0}$, \mathcal{P}_{2}	0.9 Sample Condition CHECKED BY: Cool Intact (Initials)	Turnaround Time: Standard M Bacteria (only) S Themometer ID #113 Cool Intact	
FORM-000 R 3.2 10/07/21 + Cardinal	C, C I No I No Please ema	cardinallabsnm.cc	l
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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.

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. Keine

Celey D. Keene Lab Director/Quality Manager



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
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	Qualifie
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, 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	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						

Cardinal Laboratories

*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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
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, SM4500Cl-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	51						
Surrogate: 1-Chlorooctadecane	78.5	% 46.3-17	· 8						

Cardinal Laboratories

*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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
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						

Cardinal Laboratories

*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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
Project Location:	COP - EDDY CO, NM		

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

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	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, 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	76.8	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	89.9	% 46.3-17	8						

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*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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
Project Location:	COP - EDDY CO, NM		

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

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	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						

Cardinal Laboratories

*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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
Project Location:	COP - EDDY CO, NM		

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

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	2.29	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, SM4500Cl-B	mg	/kg	Analyzed 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						

Cardinal Laboratories

*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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
Project Location:	COP - EDDY CO, NM		

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

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	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, SM4500Cl-B	mg/	/kg	Analyzed 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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Celey D. Keene, Lab Director/Quality Manager



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
Project Location:	COP - EDDY CO, NM		

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

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	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, SM4500Cl-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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Celey D. Keene, Lab Director/Quality Manager



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
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	% 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	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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	111 9	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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
Project Location:	COP - EDDY CO, NM		

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

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	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	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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Celey D. Keene, Lab Director/Quality Manager



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
Project Location:	COP - EDDY CO, NM		

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

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	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	Analyze	d 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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Celey D. Keene, Lab Director/Quality Manager



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
Project Location:	COP - EDDY CO, NM		

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

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	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	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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
Project Location:	COP - EDDY CO, NM		

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

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	92.2	% 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	400	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	97.0	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	102	% 46.3-17	8						

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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
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, 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*	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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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
Project Location:	COP - EDDY CO, NM		

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

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	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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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
Project Location:	COP - EDDY CO, NM		

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

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	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, 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	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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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
Project Location:	COP - EDDY CO, NM		

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

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	91.9	% 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	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 9	46.3-17	8						

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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
Project Location:	COP - EDDY CO, NM		

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

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	93.5	% 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	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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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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
Project Location:	COP - EDDY CO, NM		

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

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	92.0	% 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	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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	113 9	% 46.3-17	8						

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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
Project Location:	COP - EDDY CO, NM		

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

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	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	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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Celey D. Keene, Lab Director/Quality Manager



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
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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	106	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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
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	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	110 9	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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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Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Received by OCD: 5/3/2023 1:10:37 PM

Delivered By: (Circle One) Observed Temp. °C Sampler - UPS - Bus - Other: Corrected Temp. °C FORM-006 R 5.2 10/07/21 † Cardinal (Time:	Rélinduished By: Date:	2	affinities or successors arising out of or related to the performance of services here Relinnuished By: Date:,	analyses. All claims including those for negligence and any other cause whatsoeve	10 $AH - Ih (h-1^{1})$ PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive rel	(1-1) b-HA L	(1-0) 8-HH 8	2 AM-7 (0-1)	6 AH-6 (0-1)	S A4-5 (0-1')	4 AH-4 (0-1)	3 A4-3 (0-1)	2 AH-2 (0+1)	MOATELI AN-1 (D-1)	itan/1/92	3	I sh I D Sample D	FOR LAB USE ONLY	Sampler Name: (of the BICK when	Project Location: Eddy Compy,	A Woher-	Project #: 212C-MD-02792 Project Owner:	Phone #: Fax #:	City: State:		Project Manager: Nicholas Prole	Company Name: A pro Philups	101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476	Laboratories	CARDINA
A.D. Sample Condition Critic/CD B1. Cool/ Intack (Initials) Ves Yes Yes A.D. Intack (Initials) No No N		Received By:	Multin Weller Colling	Inder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or proteinser.	analyses. All claims including those for negligence and any other cause whatsoever shall be deemed walved unless made in writing and received by carunal winin accurge and composition of the subsidiaries, and the subsidiaries including without limitation, business interruptions, loss of use, or loss of profils incurred by client, its subsidiaries, subsidiaries, the converted of the subsidiaries including without limitation, business interruptions, loss of use, or loss of profils incurred by client, its subsidiaries, subsidiaries, subsidiaries including without limitation, business interruptions, loss of use, or loss of profils incurred by client, its subsidiaries, subsidiaries interruptions and the subsidiaries including without limitation, business interruptions, loss of use, or loss of profils incurred by client, its subsidiaries, subsidiaries interruptions and the subsidiaries including without limitation, business interruptions, loss of use, or loss of profils incurred by client, its subsidiaries, subsidiaries including without limitation, business interruptions, loss of use, or loss of profils incurred by client, its subsidiaries, subsidiaries including without limitation, business interruptions, loss of use, or loss of profils incurred by client, its subsidiaries, subsidiaries including without limitation, business interruptions, loss of use, or loss of profils incurred by client, its subsidiaries, subsidiaries including without limitation and the subsidiaring without limitation and the subsidiaries including withou	we remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the										¥ CC GRC WAS SOIL OIL SLU OTH ACII		SE:		Fax #:		Plund State: Zip:	wner: City:	Address: 64 cmail	Zip: Attn: Christian Link	Company: Tetra Teeh	P.O. #:	BILL TO			
#113 r -0,%°C →0, /0 //2 /2 keene@cardinallabsnm.cc	Standard IV Bacteria (only) S			set: □ Yes II No Add'I Phone #: Sult: □ Yes II No Add'I Phone #:	iles,	the re-anolizable												H EX Iorte										ANALYSIS REQUEST		14	CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 26 of 27

Received by OCD: 5/3/2023 1:10:37 PM

Sampler - UPS - Bus - Other: FORM-006 R 5.2 10/07/21	Delivered By: (Circle One)	Relinquished By:	analyses. All claims including luces or insuggence and ways service. In no event shall Cardinal be liable for incidental or consess affiliates or successors arising out of or related to the performance Definition of the bod But	PLEASE NOTE: Liability and Damages. Cardinal's liability and Damages. Cardinal's liability and the second s	MM-14	17 MI-13 (2-3)	16 AH-13 (0-1)	2-10/ CI-HA H	15 AM-11 CH-5	12 AH-11 (0-1')	C69heeH	Lab I.D. Samp		Sampler Name: Coltras	Formed A	Project #: 212-140-02792	Phone #:	City:		Project Manager: ///とんれら	Company Name:	101 East Marlan	CARD
Corrected Temp. °C /. 7	Dbserved Temp. °C 23 Sample Condition	040	e of services he	ent's exclusive cause whatso							# C		IP. MATRIX	SIZKATAPP	hokerPlovel	Projec	Fax #:	State: Zip:	x	porte	7 FAX (313) 333-2710		NINAL
verbal changes. Please email chang	CHECKED BY: (Initials)	ulldabye	of profits incurred by cli of the above stated rea	remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the ever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the appl	*							JDGE HER : ID/BASE: E / COOL HER :	A PRESERV. SAMPLING		State: 21p: Phone #:		Address: by and	Attn: Christian Li	Company: Tetra Tech	P.O. #:	BILL TO		R
d Temp. °C /, 7 ☐ Yes ☐ Yes 7	Standard Rush	All Results are emailed. Flease provide communications AVICLANES, Poole Otetta Fechillary REMARKS:	ons or otherwise. Verbail Result: □ Yes ♥ No Add'I Phone #:	unt paid by the client for the applicable as a first completion of the applicable as a								TPH BTER Chlori						den/1			ANALYSIS REQUEST		CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 123 of 276

Received by OCD: 5/3/2023 1:10:37 PM

ley.keene@cardinallabsnm.com	nges. Please email changes to ce	the second decomposition of the second decomposition	
d Time: Standard E Bacteria (onity) Sample Contents Rush Cool Intact Observed Temp. °C er ID #113 Factor 0.5°C TC /0/4/22 Nc No Corrected Temp. °C	on CHECKED BY: Turnaround Time: (Initials) Thermometer ID #1 Correction Factor	Observe her: Correcte	Delivered By: (Circle One) Sampler - UPS - Bus - Oti
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out to the	REMARKS:	Date: Received By:	Relinquished By:
All results are entance. I have prove attention of the second of the sec	HN WHAT WHAT	016/22	41.4
sult: Yes No Add'I Phone #:	based upon any or the above stated result:	lated to the performance of services hereunder by Cardinal, regardless of whether such claim is basic Date: Received By:	affiliates or successors arising out of or related to the per Relinquished By:
e applicable es,	ng wnetter based in contract or out, or and or more a state of the a ed unless made in writing and received by Cardinal within 30 days after completion of the a ation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, attraction of the state of	PLEASE NOTE: Liability and Damages. Cardina's liability and client's exclusive remedy for any summary and unusers or any summary or any summary and the second by Cardy summary and the second and within 30 days after completion of the applicable analyses. An one second by Cardy summary and the second and t	PLEASE NOTE: Liability and Damages. C: analyses. All claims including those for neg service. In no event shall Cardinal be liable
	and shall be Emiled to the amount noid by the client for		
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	ŧ	1000	Project Name: Jayne
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	Mudicas. Dig Clupt	Fax #:	
	A MARINA	: Zip:	City:
	Dany: 10Ha		Address:
	+	cholog Feole	Project Manager: WTZ
	BILL IU		Company Name:
ANALYSIS REDUEST		575) 393-2326 FAX (575) 393-2476	(575) 3
2/2		101 East Marland, Hobbs, NM 88240	101 East
		oratories	Lab
CHAIN-OF-CUSTODY AND ANALYSIS REQUEST	CHAIN-	RUINAL	CAT

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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)

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. Keine

Celey D. Keene Lab Director/Quality Manager



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 (0-1') (H225848-01)

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	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, SM4500Cl-B	mg,	/kg	Analyze	d 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	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	66.6	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	71.7	% 46.3-17	8						

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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 (2'-3') (H225848-02)

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	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, SM4500Cl-B	mg	/kg	Analyze	d 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	8						

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Celey D. Keene, Lab Director/Quality Manager



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 (3'-4') (H225848-03)

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	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, SM4500Cl-B	mg,	/kg	Analyze	d 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	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	80.3	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	86.4	% 46.3-17	8						

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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 (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	Qualifie
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	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	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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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 (6'-7') (H225848-05)

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	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	109	% 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	272	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	65.4	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	69.6	% 46.3-17	8						

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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 (8'-9') (H225848-06)

BTEX 8021B	mg/	/kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
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	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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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 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	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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Celey D. Keene, Lab Director/Quality Manager



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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 (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	Qualifie
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	Qualifie
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	Qualifie
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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Celey D. Keene, Lab Director/Quality Manager



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	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, 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	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	69.2	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	72.3	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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 (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, 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	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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Celey D. Keene, Lab Director/Quality Manager



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 - 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, SM4500Cl-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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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 - 8 (2'-3') (H225848-12)

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	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	d 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	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	71.7	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	76.7	% 46.3-17	0						

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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 - 8 (3'-4') (H225848-13)

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	% 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	368	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	76.7	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	81.3	% 46.3-17	8						

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Celey D. Keene, Lab Director/Quality Manager



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 - 8 (4'-5') (H225848-14)

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	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, SM4500Cl-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, Lab Director/Quality Manager



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 - 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, SM4500Cl-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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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 - 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	Analyzed 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	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	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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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 - 8 (14'-15') (H225848-17)

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	111 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	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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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 - 8 (19'-20') (H225848-18)

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	111 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	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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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 - 8 (24'-25') (H225848-19)

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	111 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	672	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	99.6	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	102	% 46.3-17	8						

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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
Project Location:	COP - EDDY CO, NM		

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

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		Analyzed 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	Chlorooctane 91.9 % 45.3-1		1						
Surrogate: 1-Chlorooctadecane	94.2	% 46.3-17	8						

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Celez D. Keine

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. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Received by OCD: 5/3/2023 1:10:37 PM

+		Time: 519	analyses. All claims including those for negligence and any other cause wratescever shall be deemed waived unless made in writing and recovery or claiman writin occurs or units service. In no event shall Cradinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by claims, affiliates or 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. IRE/INCULS: Net By: Date:	OTE: Liability	-7 (19-	5 B-7(8-7) 6 B-7(8-7)	4 B-7 (3:4) 4 B-7 (4-5)	B-7 (0-1) B-7 (21-31)	(G)RAB OR (C)OF # CONTAINERS GROUNDWATER	MP.	alter Bickerst	Project Location: Dada Country, MM	Project #: HW-MD-02012 Floren onion		City: State: Zip:	Address:	Project Manager:	Company Name:	101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476	Laboratories	CARDINAL
I changes. Please email changes to celey.keene@cardinallabsnm.com	Intac On	BY: REMARKS: ALLAN CHAPTER LON	.	ther based in contract or tort, shall be limited to the amount paid by the client for the						MATRIX PRESERV. SAMPLING	1	9#:	State: Zip:	City City City	HOU'S	1	P.O. #:	BILL TO ANALYSIS REQUEST			CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Received by OCD: 5/3/2023 1:10:37 PM

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	affiliates or successors arising out of or related to Relinquished By: Relinquished By: Relinquished By:	13 5-2 5-2 14 5-2 6-2 15 5-2 6-2 10 5-2 6-2 11 5-2 6-2 12 5-2 6-2 13 5-2 6-2 14 5-2 6-2 15 5-2 6-2 16 5-2 6-2 17 5-2 6-2 18 5-2 6-2 19 <t< th=""><th>200</th><th>Sampler Name:</th><th>R S S</th><th>City: Phone #:</th><th>5</th><th>Company Name: Conoco Ph Project Manager: ANAL</th><th>101 East Ma (575) 393-</th><th>Labo</th></t<>	200	Sampler Name:	R S S	City: Phone #:	5	Company Name: Conoco Ph Project Manager: ANAL	101 East Ma (575) 393-	Labo
Observe Correcte	Time:	L-S-1) L-	G (G)RAB OR (C)OMP	n Bizkedall	02792 Project Owner:	State: Zip: Fax #:		nece Phillips	101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476	DINAL
id Temp. °C C Sample Condition CHECKED BY: Turnaround Time: Standard Ba ad Temp. °C Cool Intact (Initials) Themometer ID #113 Coorrection Factor -0.6°C Image: Construction of the sector -0.6°C Image: Consector -0.6°C Image: Consector -0.6°C <td>Received By:</td> <td>IS S-R IS-R IA S-R IA-S IA S-R IA</td> <td># CONTAINERS GROUNDWATER WASTEWATER OIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :</td> <td>MATRIX PRESERV.</td> <td>City: State: Zip: Phone #:</td> <td></td> <td>Company:</td> <td>P.O. #</td> <td></td> <td></td>	Received By:	IS S-R IS-R IA S-R IA-S IA S-R IA	# CONTAINERS GROUNDWATER WASTEWATER OIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :	MATRIX PRESERV.	City: State: Zip: Phone #:		Company:	P.O. #		
BY: Turnaround Time: Standard) Thermometer ID #113 Correction Factor -0.6°C		amount paid by the client for the opticable curred by client, its subsidiaries,	DATE TIME TPH X BTEX X Chlorides	SAMPLING		enet 1	2 Tech	10		CHAIN-OF-CUSTOD
cteria (only) S ol Intact Yes ☐ Yes Nc ☐ No	: □ Yes ♥ No Add'I Phone #: 9 emailed. Please provide Email address: 1 Ann i L Jun J. @Hedrica Heeks (Jach							ANALTSIS REQUEST		CHAIN-OF-CUSTODY AND ANALYSIS REQUEST
ample Condition Observed Temp. °C Corrected Temp. °C								6	2/2	EQUEST

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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

See page two for job notes and contact information



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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

RAMER

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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

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

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2

DL

DLC

EDL

LOD

LOQ

MCL

MDA

MDC

MDL

ML MPN

MQL

NC

ND

NEG

POS

PQL PRES

QC

RL

RER

RPD

TEF TEQ

TNTC

DL, RA, RE, IN

Detection Limit (DoD/DOE)

Estimated Detection Limit (Dioxin)

Limit of Detection (DoD/DOE)

Method Detection Limit Minimum Level (Dioxin)

Most Probable Number

Not Calculated

Presumptive

Quality Control

Negative / Absent Positive / Present

Method Quantitation Limit

Practical Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

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

Limit of Quantitation (DoD/DOE)

Decision Level Concentration (Radiochemistry)

EPA recommended "Maximum Contaminant Level"

Minimum Detectable Concentration (Radiochemistry)

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

Minimum Detectable Activity (Radiochemistry)

3

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	Definitions/Glossary		
Client: Ensolu	JM	Job ID: 890-3603-1	
Project/Site:	James A Waterflood	SDG: Lea County NM	
Qualifiers			
GC VOA			1
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 VO	Α		
Qualifier	Qualifier Description		
*1	LCS/LCSD RPD exceeds control limits.		
S1+	Surrogate recovery exceeds control limits, high biased.		2
U	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		
CNF	Contains No Free Liquid		
DER	Duplicate Error Ratio (normalized absolute difference)		
Dil Fac	Dilution Factor		

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

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

Job ID: 890-3603-1

Client: Ensolum

Laboratory: Eurofins Carlsbad

Project/Site: James A Waterflood

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.

RL

0.00199

0.00199

0.00199

0.00398

0.00199

0.00398

Limits

70 - 130

70 - 130

Unit

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

D

Prepared

12/15/22 15:22

12/15/22 15:22

12/15/22 15:22

12/15/22 15:22

12/15/22 15:22

12/15/22 15:22

Prepared

12/15/22 15:22

12/15/22 15:22

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

Client Sample ID: BH06

Method: SW846 8021B - Volatile Organic Compounds (GC)

Result Qualifier

<0.00199 U

<0.00199 U

<0.00199 U

<0.00398 U

<0.00199 U

<0.00398 U

%Recovery Qualifier

116

100

Project/Site: James A Waterflood

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

Sample Depth: 1

Analyte

Benzene

Toluene

o-Xylene

Surrogate

Ethylbenzene

Xylenes, Total

m-Xylene & p-Xylene

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

Client: Ensolum

Lab Sample ID: 890-3603-1 Matrix: Solid

Analyzed

12/17/22 10:11

12/17/22 10:11

12/17/22 10:11

12/17/22 10:11

12/17/22 10:11

12/17/22 10:11

Analyzed

Lab Sample ID: 890-3603-2

Matrix: Solid

5

Dil Fac

1

1

1

1

Dil Fac

•		
12/17/22 10:11	1	
12/17/22 10:11	1	
Analyzed	Dil Fac	
12/19/22 16:21	1	
Analyzed	Dil Fac	13
12/14/22 12:15	1	

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 - Diesel	Range Organ	ics (DRO) (GC)					
Analyte	Result	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	N Rango Orga							
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		12/12/22 11:00	12/13/22 16:06	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U *1	50.0	mg/Kg		12/12/22 11:00	12/13/22 16:06	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/12/22 11:00	12/13/22 16:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130			12/12/22 11:00	12/13/22 16:06	1
o-Terphenyl	99		70 - 130			12/12/22 11:00	12/13/22 16:06	1
Method: MCAWW 300.0 - Anions,		graphy - So Qualifier	RL	11-14		Dronorod	Analyzad	Dil Fac
Analyte		Quaimer		Unit	D	Prepared	Analyzed	
Chloride	146		5.01	mg/Kg			12/14/22 10:03	1

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

Date Received: 12/08/22 11:20

Sample Depth: 4

Method: SW846 8021B - Volat	ile Organic Comp	ounds (GC))					
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

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Matrix: Solid

Client Sample Results

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

Lab Sample ID: 890-3603-2

Client Sample ID: BH06

Project/Site: James A Waterflood

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

Sample Depth: 4

Client: Ensolum

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	94		70 - 130			12/15/22 15:22	12/17/22 13:40	1
Method: TAL SOP Total BTEX - T	otal BTEX Calo	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			12/19/22 16:21	1
Method: SW846 8015 NM - Diese	I Range Organ	ics (DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/14/22 12:15	1
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/12/22 11:00	12/13/22 16:28	1
Method: SW846 8015B NM - Dies Analyte		nics (DRO) Qualifier	(GC) RL	Unit	D	Prepared		Dil Fac
Diesel Range Organics (Over	<50.0	U *1	50.0	mg/Kg		12/12/22 11:00	12/13/22 16:28	1
C10-C28)		0	00.0	ingity		12/12/22 11:00	12/10/22 10:20	
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/12/22 11:00	12/13/22 16:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130			12/12/22 11:00	12/13/22 16:28	1
o-Terphenyl	103		70 - 130			12/12/22 11:00	12/13/22 16:28	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	ography - So	oluble					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	171		4.99	mg/Kg			12/14/22 10:23	

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6 7 8 Project/Site: James A Waterflood

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

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Client: Ensolum

_				Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1		Î
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		2
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		
Surrogate Legend					

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

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
890-3603-1	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

Prep Type: Total/NA

12/19/2022

Project/Site: James A Waterflood

Client: Ensolum

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

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-4193										mple ID: Metho	
Matrix: Solid										Prep Type:	
Analysis Batch: 41993										Prep Batc	h: 4193
A		B MB			11		_	Dura		A	D!! E-
Analyte	Resu				<u>Unit</u>		D		bared	Analyzed	Dil Fa
Benzene	<0.0020		0.00200		mg/K	-			2 14:55	12/16/22 22:04	
Toluene	<0.0020		0.00200		mg/K	-			2 14:55	12/16/22 22:04	
Ethylbenzene	<0.0020		0.00200		mg/K				2 14:55	12/16/22 22:04	
m-Xylene & p-Xylene	<0.0040		0.00400		mg/K	-			22 14:55	12/16/22 22:04	
o-Xylene	<0.0020		0.00200		mg/K	-			22 14:55	12/16/22 22:04	
Xylenes, Total	<0.0040	0 U	0.00400)	mg/K	g		12/15/2	22 14:55	12/16/22 22:04	
	М	B MB									
Surrogate	%Recover	y Qualifier	Limits					Prep	pared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	9	2	70 _ 130	-			-	12/15/2	22 14:55	12/16/22 22:04	
1,4-Difluorobenzene (Surr)	9	3	70 - 130					12/15/2	22 14:55	12/16/22 22:04	
								_			
Lab Sample ID: MB 880-4194	3/5-A							C	lient Sa	mple ID: Metho	
Matrix: Solid										Prep Type:	
Analysis Batch: 41993										Prep Batc	h: 4194
Angluta	M		ы		11		_	Dueu	d	Analyzed	
Analyte	Resu <0.0020		RL 0.00200		Unit	~	D		Dared	Analyzed 12/17/22 08:47	Dil Fa
Benzene					mg/K	-			22 15:22		
Toluene	<0.0020		0.00200		mg/K	-			22 15:22	12/17/22 08:47	
Ethylbenzene	<0.0020		0.00200		mg/K				22 15:22	12/17/22 08:47	
m-Xylene & p-Xylene	<0.0040		0.00400		mg/K				22 15:22	12/17/22 08:47	
o-Xylene	<0.0020		0.00200		mg/K	-			22 15:22	12/17/22 08:47	
Xylenes, Total	<0.0040	0 U	0.00400)	mg/K	g		12/15/2	22 15:22	12/17/22 08:47	
	М	B MB									
Surrogate	%Recover	y Qualifier	Limits					Prep	pared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	9	7	70 _ 130	-			-	12/15/2	22 15:22	12/17/22 08:47	
1,4-Difluorobenzene (Surr)	9	0	70 - 130					12/15/2	22 15:22	12/17/22 08:47	
							~				
Lab Sample ID: LCS 880-419	43/1-A						CI	lient S	ample I	D: Lab Control	
Matrix: Solid										Prep Type:	
Analysis Batch: 41993			.							Prep Batc	n: 4194
			Spike		LCS					%Rec	
Analyte			Added		Qualifier	Unit		<u>D</u> _	%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 LC	s									
Surrogate	%Recovery Qu	alifier	Limits								
4-Bromofluorobenzene (Surr)	97		70 - 130								
1,4-Difluorobenzene (Surr)	95		70 - 130								
Lab Sample ID: LCSD 880-41	943/2-A					Cli	ent	Sampl	e ID: La	ab Control San	
Matrix: Solid										Prep Type:	
										Prep Batc	n: 4194
Analysis Batch: 41993			• "								
Analysis Batch: 41993			Spike Added		LCSD Qualifier	Unit		D %	%Rec	· %Rec Limits RP	RPI D Limi

Client: Ensolum Project/Site: James A Waterflood

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

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

Lab Sample ID: LCSD 880-4 Matrix: Solid	1943/2-A					Clie	nt Sam	ple ID: I	Lab Contro Prep T	l Sampl ype: To	
Analysis Batch: 41993										Batch:	
			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 T	ype: To	tal/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

1,4-Difluorobenzene (Surr)

Analysis Batch: 41993									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	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	86		70 - 130								

70 - 130

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

89

Lab Sample ID: MB 880-41625/1-A Matrix: Solid Analysis Batch: 41693						Client Sa	mple ID: Metho Prep Type: ⁻ Prep Batcl	Total/NA
	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		12/12/22 11:00	12/13/22 08:06	1
(GRO)-C6-C10								

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Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

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

Lab Sample ID: MB 880-41625	/ 1-A									Client Sa	ample ID: Me	thod	Blank
Matrix: Solid											Prep Typ		
Analysis Batch: 41693											Prep Ba		
,		мв	MB										
Analyte	R		Qualifier	RL		Unit		D	Р	repared	Analyzed		Dil Fac
Diesel Range Organics (Over		<50.0				<u></u>	a			2/22 11:00	12/13/22 08:0		1
C10-C28)		00.0	0	00.0			9		, .	2/22 11:00	12/10/22 00:		•
Oll Range Organics (Over C28-C36)	<	<50.0	U	50.0		mg/K	g		12/1	2/22 11:00	12/13/22 08:0	06	1
-		MB											
Surrogate	%Reco	-		Limits				_		repared	Analyzed		Dil Fac
1-Chlorooctane		148		70 - 130						2/22 11:00	12/13/22 08:		1
o-Terphenyl		209	S1+	70 - 130					12/1	2/22 11:00	12/13/22 08:	06	1
l ab Sampla ID: I CS 890 4462								CI		Comple			mala
Lab Sample ID: LCS 880-4162	5/2-A							CI	ent	Sample	ID: Lab Cont		
Matrix: Solid											Prep Typ		
Analysis Batch: 41693				Spike	1.00	LCS					Prep Ba	alCU:	+1025
Analysis				Spike			l læ!4		~	0/ D	%Rec		
Analyte				Added		Qualifier	Unit		<u>D</u>	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10				1000	949.4		mg/Kg			95	70 - 130		
Diesel Range Organics (Over				1000	1175		mg/Kg			118	70 - 130		
C10-C28)				1000	1170		ing/itg			110	10-100		
,													
		LCS											
Surrogate	%Recovery		lifier	Limits									
1-Chlorooctane		S1+		70 - 130									
o-Terphenyl	162	S1+		70 - 130									
	05/0						0.1						
Lab Sample ID: LCSD 880-416	25/3-A						CII	enta	sam	ipie ID: L	ab Control S		
Matrix: Solid											Prep Typ		
Analysis Batch: 41693											Prep Ba	atch:	
				Spike		LCSD					%Rec		RPD
Analyte				Added		Qualifier				0/ D			Limit
Gasoline Range Organics						Quanner	Unit		<u>D</u>	%Rec	Limits	RPD	
(GRO)-C6-C10				1000	922.3		mg/Kg		<u>D</u>		Limits	RPD 3	20
				1000	922.3		mg/Kg		D 	92	70 - 130	3	20
Diesel Range Organics (Over									<u>D</u>				
				1000	922.3		mg/Kg		D	92	70 - 130	3	20
Diesel Range Organics (Over	LCSD	LCS	D	1000	922.3		mg/Kg		<u>D</u>	92	70 - 130	3	20
Diesel Range Organics (Over	LCSD %Recovery			1000	922.3		mg/Kg		<u>D</u>	92	70 - 130	3	20
Diesel Range Organics (Over C10-C28)				1000	922.3		mg/Kg		<u>D</u>	92	70 - 130	3	20
Diesel Range Organics (Over C10-C28) Surrogate	%Recovery			1000 1000 <i>Limits</i>	922.3		mg/Kg		D	92	70 - 130	3	20
Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl	%Recovery 127 128			1000 1000 <i>Limits</i> 70 - 130	922.3		mg/Kg			92 93	70 - 130 70 - 130	3	20
Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1	%Recovery 127 128			1000 1000 <i>Limits</i> 70 - 130	922.3		mg/Kg		<u>D</u>	92 93	70 - 130 70 - 130 Sample ID: M	3 24 Iatrix	20 20 Spike
Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1 Matrix: Solid	%Recovery 127 128			1000 1000 <i>Limits</i> 70 - 130	922.3		mg/Kg			92 93	70 - 130 70 - 130 Sample ID: M Prep Typ	3 24 latrix be: To	20 20 Spike tal/NA
Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1	%Recovery 127 128 -E MS	Qua	lifier	1000 1000 <u>Limits</u> 70 - 130 70 - 130	922.3 925.4	*1	mg/Kg		<u>D</u>	92 93	70 - 130 70 - 130 Sample ID: M Prep Typ Prep Ba	3 24 latrix be: To	20 20 Spike tal/NA
Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1 Matrix: Solid Analysis Batch: 41693	%Recovery 127 128 -E MS Sample	<u>Qua</u> Sam	lifier	1000 1000 <i>Limits</i> 70 - 130 70 - 130 Spike	922.3 925.4 MS	*1 MS	mg/Kg mg/Kg		_	92 93 Client \$	70 - 130 70 - 130 Sample ID: M Prep Typ Prep Ba %Rec	3 24 latrix be: To	20 20 Spike tal/NA
Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1 Matrix: Solid Analysis Batch: 41693 Analyte	%Recovery 127 128 -E MS Sample Result	Qua Sam Qua	lifier	1000 1000 <i>Limits</i> 70 - 130 70 - 130 Spike Added	922.3 925.4 MS Result	*1	mg/Kg mg/Kg		<u>D</u>	92 93 Client S	70 - 130 70 - 130 Sample ID: M Prep Typ Prep Ba %Rec Limits	3 24 latrix be: To	20 20 Spike tal/NA
Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1 Matrix: Solid Analysis Batch: 41693	%Recovery 127 128 -E MS Sample	Qua Sam Qua	lifier	1000 1000 <i>Limits</i> 70 - 130 70 - 130 Spike	922.3 925.4 MS	*1 MS	mg/Kg mg/Kg		_	92 93 Client \$	70 - 130 70 - 130 Sample ID: M Prep Typ Prep Ba %Rec	3 24 latrix be: To	20 20 Spike tal/NA
Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1 Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	%Recovery 127 128 -E MS Sample Result	Qua Sam Qua	lifier	1000 1000 <i>Limits</i> 70 - 130 70 - 130 Spike Added	922.3 925.4 MS Result	*1 MS	mg/Kg mg/Kg		_	92 93 Client S	70 - 130 70 - 130 Sample ID: M Prep Typ Prep Ba %Rec Limits	3 24 latrix be: To	20 20 Spike tal/NA
Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1 Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	%Recovery 127 128 -E MS Sample Result <50.0	Qua Sam Qua U U *1	lifier	1000 1000 <i>Limits</i> 70 - 130 70 - 130 70 - 130 Spike Added 999	922.3 925.4 MS Result 1156	*1 MS	mg/Kg mg/Kg <u>Unit</u> mg/Kg		_	92 93 Client S <u>%Rec</u> 113	70 - 130 70 - 130 Sample ID: M Prep Typ Prep Ba %Rec Limits 70 - 130	3 24 latrix be: To	20 20 Spike tal/NA
Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1 Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	%Recovery 127 128 -E MS Sample Result	Qua Sam Qua U *1 MS	lifier	1000 1000 <i>Limits</i> 70 - 130 70 - 130 70 - 130 999 999	922.3 925.4 MS Result 1156	*1 MS	mg/Kg mg/Kg <u>Unit</u> mg/Kg		_	92 93 Client S <u>%Rec</u> 113	70 - 130 70 - 130 Sample ID: M Prep Typ Prep Ba %Rec Limits 70 - 130	3 24 latrix be: To	20 20 Spike tal/NA
Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1 Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10	%Recovery 127 128 -E MS Sample Result <50.0	Qua Sam Qua U *1 MS	lifier	1000 1000 <i>Limits</i> 70 - 130 70 - 130 70 - 130 Spike Added 999	922.3 925.4 MS Result 1156	*1 MS	mg/Kg mg/Kg <u>Unit</u> mg/Kg		_	92 93 Client S <u>%Rec</u> 113	70 - 130 70 - 130 Sample ID: M Prep Typ Prep Ba %Rec Limits 70 - 130	3 24 latrix be: To	20 20 Spike tal/NA

104

o-Terphenyl

70 - 130

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

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

Matrix: Solid										D: Matrix S Prep 1	Гуре: То	
Analysis Batch: 41693											Batch:	
Analysis Daten. 41035	Sample	Sample	Spike	MSD	MSD					%Rec	Daten.	RPI
Analyte		Qualifier	Added		Qualifier	Unit		D	%Rec	Limits	RPD	Limi
Gasoline Range Organics	< Kesult		997	1120	Quaimer	mg/Kg		<u> </u>	109	70 - 130	3	2
(GRO)-C6-C10	<50.0	0	551	1120		mg/rtg			109	70 - 150	5	2
Diesel Range Organics (Over	<50.0	U *1	997	1190		mg/Kg			117	70 - 130	4	2
C10-C28)						0 0						
	MSD	MSD										
Surrogata	%Recovery	Qualifier	Limits									
Surrogate 1-Chlorooctane			70 - 130									
o-Terphenyl	106		70 - 130 70 - 130									
	100		70 - 750									
ethod: 300.0 - Anions, l	on Chromat	ography										
Lab Sample ID: MB 880-4147	′1/1-A							(Client	Sample ID:	Method	Blan
Matrix: Solid											Type: So	
Analysis Batch: 41738											1	
		MB MB										
Analyte	R	esult Qualifier		RL	Unit		D	Pr	epared	Analyz	zed	Dil Fa
Chloride		5.00 U		5.00	mg/K	1				12/14/22		
Lab Sample ID: LCS 880-414	71/2-A						Cli	ent	Sampl	e ID: Lab C	ontrol Sa	ampl
	71/2-A						Cli	ent	Sampl		ontrol Sa Type: So	
Matrix: Solid	71/2-A						Cli	ent	Sampl			
Matrix: Solid	71/2-A		Spike	LCS	LCS		Cli	ent	Sampl			
Matrix: Solid Analysis Batch: 41738	71/2-A		Spike Added		LCS Qualifier	Unit	Cli	ent D	Sampl %Rec	Prep		
Matrix: Solid Analysis Batch: 41738 ^{Analyte}	71/2-A					Unit mg/Kg	Cli		-	Prep %Rec		
Matrix: Solid Analysis Batch: 41738 ^{Analyte}	71/2-A		Added	Result			Cli		%Rec	Prep %Rec Limits		
Matrix: Solid Analysis Batch: 41738 Analyte Chloride			Added	Result		mg/Kg		<u>D</u>	%Rec 102	Prep %Rec Limits	Type: So	olubl
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41			Added	Result		mg/Kg		<u>D</u>	%Rec 102	Prep %Rec Limits 90 - 110	Type: So	olubl
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid			Added	Result		mg/Kg		<u>D</u>	%Rec 102	Prep %Rec Limits 90 - 110	Type: So	olubl
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid			Added	Result 254.3		mg/Kg		<u>D</u>	%Rec 102	Prep %Rec Limits 90 - 110	Type: So	e Du olubi
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41738			Added 250	Result 254.3 LCSD	Qualifier	mg/Kg		<u>D</u>	%Rec 102	Prep %Rec Limits 90 - 110 Lab Contro Prep	Type: So	e Du olubl olubl RP
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41738 Analyte			Added 250 Spike	Result 254.3 LCSD	Qualifier	mg/Kg Cli		<u>D</u> aml	%Rec 102 ple ID:	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec	Type: So ol Sampl Type: So	e Du olubi olubi RP Lim
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41738 Analyte Chloride	471/3-A		Added 250 Spike Added	Result 254.3 LCSD Result	Qualifier	mg/Kg Cli Unit		<u>D</u> aml	%Rec 102 ple ID: %Rec	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110	Type: So ol Sampl Type: So <u>RPD</u> 5	e Du olubi RP Lim 2
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-1 N	471/3-A		Added 250 Spike Added	Result 254.3 LCSD Result	Qualifier	mg/Kg Cli Unit		<u>D</u> aml	%Rec 102 ple ID: %Rec	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sau	Type: So ol Sampl Type: So <u>5</u> mple ID:	e Du olubi RP Lim 2 BH0
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-1 M Matrix: Solid	471/3-A		Added 250 Spike Added	Result 254.3 LCSD Result	Qualifier	mg/Kg Cli Unit		<u>D</u> aml	%Rec 102 ple ID: %Rec	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sau	Type: So ol Sampl Type: So <u>RPD</u> 5	e Du olubi RP Lim 2 BH0
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-1 M Matrix: Solid	471/3-A		Added 250 Spike Added 250	Result 254.3 LCSD Result 268.2	Qualifier LCSD Qualifier	mg/Kg Cli Unit		<u>D</u> aml	%Rec 102 ple ID: %Rec	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sau Prep	Type: So ol Sampl Type: So <u>5</u> mple ID:	e Du olubi RP Lim 2 BH0
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-1 M Matrix: Solid Analysis Batch: 41738	471/3-A IS Sample	Sample	Added 250 Spike Added 250 Spike	Result 254.3 LCSD Result 268.2 MS	Qualifier LCSD Qualifier MS	mg/Kg Cli Unit mg/Kg		D amı	%Rec 102 ple ID: %Rec 107	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sau Prep %Rec	Type: So ol Sampl Type: So <u>5</u> mple ID:	e Du olubi olubi RP Lim 2 BH0
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-1 M Matrix: Solid Analysis Batch: 41738 Analyte	471/3-A IS Sample Result	Sample Qualifier	Added 250 Spike Added 250 Spike Added	Result 254.3 LCSD Result 268.2 MS Result	Qualifier LCSD Qualifier	mg/Kg Cli Unit mg/Kg Unit		<u>D</u> aml	%Rec 102 ple ID: %Rec 107	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sau Prep %Rec Limits	Type: So ol Sampl Type: So <u>5</u> mple ID:	e Du olubi RP Lim 2 BH0
Matrix: Solid Analysis Batch: 41738 Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41738 Chloride Lab Sample ID: 890-3603-1 M Matrix: Solid Analysis Batch: 41738 Analyte	471/3-A IS Sample	-	Added 250 Spike Added 250 Spike	Result 254.3 LCSD Result 268.2 MS	Qualifier LCSD Qualifier MS	mg/Kg Cli Unit mg/Kg		D amı	%Rec 102 ple ID: %Rec 107	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sau Prep %Rec	Type: So ol Sampl Type: So <u>5</u> mple ID:	e Du olubl RP Lim 2 BH0
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-1 M Matrix: Solid Analysis Batch: 41738 Analyte Chloride	471/3-A IS Sample Result 146	-	Added 250 Spike Added 250 Spike Added	Result 254.3 LCSD Result 268.2 MS Result	Qualifier LCSD Qualifier MS	mg/Kg Cli Unit mg/Kg Unit		D amı	%Rec 102 ple ID: %Rec 107	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sau Prep %Rec Limits 90 - 110	Type: So DI Sampl Type: So <u>RPD</u> 5 mple ID: Type: So	e Du olubi RP Lim 2 BH0 olubi
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-1 N Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-1 N	471/3-A IS Sample Result 146	-	Added 250 Spike Added 250 Spike Added	Result 254.3 LCSD Result 268.2 MS Result	Qualifier LCSD Qualifier MS	mg/Kg Cli Unit mg/Kg Unit		D amı	%Rec 102 ple ID: %Rec 107	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sau Prep %Rec Limits 90 - 110 Client Sau	Type: So ol Sampl Type: So <u>RPD</u> 5 mple ID: Type: So 	e Du olubi RP Lim 2 BH0 olubi
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-1 N Matrix: Solid Analyte Chloride Lab Sample ID: 890-3603-1 N Matrix: Solid	471/3-A IS Sample Result 146	-	Added 250 Spike Added 250 Spike Added	Result 254.3 LCSD Result 268.2 MS Result	Qualifier LCSD Qualifier MS	mg/Kg Cli Unit mg/Kg Unit		D amı	%Rec 102 ple ID: %Rec 107	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sau Prep %Rec Limits 90 - 110 Client Sau	Type: So DI Sampl Type: So <u>RPD</u> 5 mple ID: Type: So	e Du olubi RP Lim 2 BH0 olubi
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-1 N Matrix: Solid Analyte Chloride Lab Sample ID: 890-3603-1 N Matrix: Solid	471/3-A IS <u>Sample</u> <u>Result</u> 146	Qualifier	Added 250 Spike Added 250 Spike Added 251	Result 254.3 LCSD Result 268.2 MS Result 401.1	Qualifier LCSD Qualifier MS Qualifier	mg/Kg Cli Unit mg/Kg Unit		D amı	%Rec 102 ple ID: %Rec 107	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sau Prep %Rec Limits 90 - 110 Client Sau Prep	Type: So ol Sampl Type: So <u>RPD</u> 5 mple ID: Type: So 	e Du olubl RP Lim 2 BH0 olubl BH0 olubl
Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-1 M Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-1 M Matrix: Solid Analysis Batch: 41738 Analyte	471/3-A IS Sample Result 146 ISD Sample	-	Added 250 Spike Added 250 Spike Added	Result 254.3 LCSD Result 268.2 MS Result 401.1	Qualifier LCSD Qualifier MS	mg/Kg Cli Unit mg/Kg Unit		D amı	%Rec 102 ple ID: %Rec 107	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sau Prep %Rec Limits 90 - 110 Client Sau	Type: So ol Sampl Type: So <u>RPD</u> 5 mple ID: Type: So 	e Duj olubi RPI Lim 2 BH0 olubi

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QC Association Summary

Client: Ensolum Project/Site: James A Waterflood Page 161 of 276

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

GC VOA

Prep Batch: 41938

ab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-41938/5-A	Method Blank	Total/NA	Solid	5035	
ep Batch: 41943					
.ab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
390-3603-1	BH06	Total/NA	Solid	5035	
390-3603-2	BH06	Total/NA	Solid	5035	
//B 880-41943/5-A	Method Blank	Total/NA	Solid	5035	
CS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	5035	
CSD 880-41943/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3601-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
390-3601-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 41993

MB 880-41943/5-A	Method Blank	Total/NA	Solid	5035		
LCS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	5035		8
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		9
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	10
LCS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	8021B	41943	13
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	Ргер Туре	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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5

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

GC Semi VOA

Analysis Batch: 41809

Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
BH06	Total/NA	Solid	8015 NM	
BH06	Total/NA	Solid	8015 NM	
	BH06	BH06 Total/NA	BH06 Total/NA Solid	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	
nalysis Batch: 41738					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
390-3603-1	BH06	Soluble	Solid	300.0	41471
390-3603-2	BH06	Soluble	Solid	300.0	41471
MB 880-41471/1-A	Method Blank	Soluble	Solid	300.0	41471

Analysis Batch: 41738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	
		Гіер Туре	INIAU IX	Wethou		
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	

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

Lab Sample ID: 890-3603-1 Matrix: Solid

Lab Sample ID: 890-3603-2

Matrix: Solid

Client Sample ID: BH06 Date Collected: 12/06/22 15:00 Date Received: 12/08/22 11:20

Project/Site: James A Waterflood

Client: Ensolum

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	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

Client Sample ID: BH06

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 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 13:40	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 16:28	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	41471	12/09/22 13:16	KS	EET MID
Soluble	Analysis	300.0		1			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

		Accreditation/C	ertification Summary		
Client: Ensolum Project/Site: James A W	Vaterflood			Job ID: 890-3603-1 SDG: Lea County NM	2
Laboratory: Eurofi Unless otherwise noted, all an		vere covered under each acc	reditation/certification below.		
Authority	I	Program	Identification Number	Expiration Date	
Texas	1	NELAP	T104704400-22-24	06-30-23	E
		out the laboratory is not certif	ied by the governing authority. This list ma	ay include analytes for which	5
the agency does not off		Martin	A 1 4-		
Analysis Method 8015 NM	Prep Method	Matrix Solid	Analyte Total TPH		
Total BTEX		Solid	Total BTEX		
_					8
					9
					10
					13

Eurofins Carlsbad

.

Method Summary

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

Nethod	Method Description	Protocol	Laboratory
3021B	Volatile Organic Compounds (GC)	SW846	EET MID
lotal BTEX	Total BTEX Calculation	TAL SOP	EET MID
3015 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
3015NM Prep	Microextraction	SW846	EET MID
OI 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: 890-3603-1 SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth	
390-3603-1	BH06	Solid	12/06/22 15:00	12/08/22 11:20	1	4
390-3603-2	BH06	Solid	12/06/22 15:30	12/08/22 11:20	4	
						5
						8
						9
						10
						12
						13

.

Project Manager: K	Kalei Jennings	Bill to: (if different)	it) Kalei Jennings	Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199 fferent) Kalei Jennings
	Ensolum, LLC	Company Name		
	601 N Marienfeld St Suite 400			Id St Suite
e ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701	701
	817.683.2503	Email: kjennings@en	Email: kjennings@ensolum.com; jadams@ensolum.com	Densol
Project Name:	James A Waterflood	Turn Around		
Project Number:	03D2024119 & 03D2024120	20 🛛 Routine 🗌 Rush	Code	-
Project Location:	Lea County, NM	Due Date:		
Sampler's Name:	Conner Shore	he day		
PO #:		the lab, if received by 4:30pm	15	
SAMPLE RECEIPT	T Temp Blank: (Yes	No Wet Ice: Yes No	.0)	
Samples Received Intact:	(Yes No	Thermometer ID: Thermony		
Cooler Custody Seals:	Yes NO (N)A			
Sample Custody Seals:	Yes NO NIA	ding:	_	
Total Containers:		Corrected Temperature:	D15)	0021
Sample Identification	Matrix	Date Time Depth Grab/ Sampled Sampled Comp Comp	CHLOF TPH (8) BTEX (0157 (
BH06	S 12.6.22	22 1500 1' G	1 X X X	×
BH06	S	1530 4	1 x x x	×
		20		
		1.1		+
				1
<pre> </pre>				
Total 200.7 / 6010	10 200.8 / 6020:	8RCRA 13PPM Texas 11	Sb As Ba Be I	- м.
Circle Method(s) and	Circle Method(s) and Metal(s) to be analyzed	TCLP / SPLP 6010: 8RCRA	Sb As Ba Be	σ
Votice: Signature of this do of service. Eurofins Xenco of Eurofins Xenco. A minin	ocument and relinquishment of sam o will be liable only for the cost of sa mum charge of \$85.00 will be applied	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 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.	n client company to Eurofins Xe lity for any losses or expenses i 1 sample submitted to Eurofins)	e Cd (
Relinguished by: (Signature)				B Cd Ca Cr Co C e Cd Cr Co Cu Pb s Xenco, its affiliates and su s sea incurred by the client f fins Xenco, but not analyzed
)	Received by: (Signature)	Date/Time	e Cd Cr Co Cu Pt s Xenco, its affiliates and s ses incurred by the client if fins Xenco, but not analyze Relinguished

Received by OCD: 5/3/2023 1:10:37 PM

12/19/2022

Chain of Custody

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Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3603 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	

Job Number: 890-3603-1

SDG Number: Lea County NM

List Source: Eurofins Carlsbad

Eurofins Carlsbad Released to Imaging: 9/20/2023 2:58:49 PM

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

List Source: Eurofins Midland

List Creation: 12/09/22 11:39 AM

Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3603 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	

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

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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 4:40:40 PM

JOB DESCRIPTION

James A Waterflood SDG NUMBER Lea County NM

JOB NUMBER

890-3604-1

RT FOR hings olum Id St. e 400 9701

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notes and contact information

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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

RAMER

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

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

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

Laboratory Job ID: 890-3604-1 SDG: Lea County NM

Table of Contents

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DL

DLC

EDL

LOD

LOQ

MCL

MDA

MDC

MDL

ML MPN

MQL

NC

ND

NEG

POS

PQL PRES

QC

RL

RER

RPD

TEF TEQ

TNTC

DL, RA, RE, IN

Detection Limit (DoD/DOE)

Estimated Detection Limit (Dioxin)

Limit of Detection (DoD/DOE)

Method Detection Limit Minimum Level (Dioxin)

Most Probable Number

Not Calculated

Presumptive

Quality Control

Negative / Absent Positive / Present

Method Quantitation Limit

Practical Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

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

Limit of Quantitation (DoD/DOE)

Decision Level Concentration (Radiochemistry)

EPA recommended "Maximum Contaminant Level"

Minimum Detectable Concentration (Radiochemistry)

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

Minimum Detectable Activity (Radiochemistry)

3

5

ceived by OC	CD: 5/3/2023 1:10:37 PM	Page 173 of 2	70
	Definitions/Glossary		
Client: Ensol	um	Job ID: 890-3604-1	
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 VO	Α		
Qualifier	Qualifier Description		
*1	LCS/LCSD RPD exceeds control limits.		
S1+	Surrogate recovery exceeds control limits, high biased.		_
U	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		
CNF	Contains No Free Liquid		
DER	Duplicate Error Ratio (normalized absolute difference)		
Dil Fac	Dilution Factor		

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

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Job ID: 890-3604-1 SDG: Lea County NM

Job ID: 890-3604-1

Client: Ensolum

Laboratory: Eurofins Carlsbad

Project/Site: James A Waterflood

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.

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Job ID: 890-3604-1 SDG: Lea County NM

Client Sample ID: BH05

Project/Site: James A Waterflood

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

Sample Depth: 1

Client: Ensolum

Lab Sample ID: 890-3604-1

Matrix: Solid

Analyte	Organic Comp Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199		0.00199	mg/Kg		12/15/22 15:22	12/17/22 14:01	1
Toluene	<0.00199		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)			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 - T	otal BTEX Calo	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	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			· · ·					
Analyte		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	<49.9	U *1	49.9	mg/Kg		12/12/22 11:00	12/13/22 16:51	1
C10-C28)								
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	1
o-Terphenyl	119		70 - 130			12/12/22 11:00	12/13/22 16:51	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	ography - So	oluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23.5		4.95	mg/Kg			12/14/22 10:29	1
lient Sample ID: BH05						Lab Sar	nple ID: 890-	3604-2
ate Collected: 12/06/22 14:10							Matri	x: Solid
ate Received: 12/08/22 11:20								
ample Depth: 4								
Method: SW846 8021B - Volatile	Organic Comp	ounds (GC))					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

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

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Matrix: Solid

Client Sample Results

Job ID: 890-3604-1 SDG: Lea County NM

Lab Sample ID: 890-3604-2

Client Sample ID: BH05

Project/Site: James A Waterflood

Date Collected: 12/06/22 14:10 Date Received: 12/08/22 11:20

Sample Depth: 4

Client: Ensolum

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)	

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 - T	otal BTEX Calo	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	I 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)	(60)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		12/12/22 11:00	12/13/22 17:13	1
(GRO)-C6-C10								
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
o-Terphenyl	105		70 - 130			12/12/22 11:00	12/13/22 17:13	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	ography - So	oluble					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	93.9		4.98	mg/Kg			12/14/22 10:49	1

12/19/2022

Project/Site: James A Waterflood

Job ID: 890-3604-1 SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Client: Ensolum

				Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		5
890-3601-A-1-C MS	Matrix Spike	85	92		
890-3601-A-1-D MSD	Matrix Spike Duplicate	86	89		6
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		8
MB 880-41938/5-A	Method Blank	92	93		
MB 880-41943/5-A	Method Blank	97	90		0
					9
Surrogate Legend					

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

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
890-3604-1	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

Prep Type: Total/NA

Client: Ensolum

Job ID: 890-3604-1 SDG: Lea County NM

Project/Site: James A Waterflood Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-419	30/3-A								Cheffit Sa	mple ID: Meth	
Matrix: Solid										Prep Type:	
Analysis Batch: 41993										Prep Bate	:n: 4193
Analyte	Resu	3 MB	RL		Unit		D	в,	repared	Analyzed	Dil Fa
Benzene	<0.0020		0.00200		0m/k	<u>′a</u>	_		5/22 14:55	12/16/22 22:04	
Toluene	<0.0020		0.00200		mg/k	-			5/22 14:55	12/16/22 22:04	
Ethylbenzene	<0.0020		0.00200		mg/k	-			5/22 14:55	12/16/22 22:04	
m-Xylene & p-Xylene	<0.0020		0.00200		mg/k				5/22 14:55	12/16/22 22:04	
o-Xylene	<0.0040		0.00400		mg/k	-			5/22 14:55	12/16/22 22:04	
-	<0.0020		0.00200		-	-			5/22 14:55	12/16/22 22:04	
Xylenes, Total	<0.0040	5 0	0.00400)	mg/k	.g		12/15	5/22 14.55	12/10/22 22.04	
	M	B MB									
Surrogate	%Recover	y Qualifier	Limits					Pi	repared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	9	2	70 - 130	-				12/1	5/22 14:55	12/16/22 22:04	
1,4-Difluorobenzene (Surr)	9	3	70 - 130					12/1	5/22 14:55	12/16/22 22:04	
Lab Sample ID: MB 880-419	43/5-A								Client Sa	mple ID: Meth	
Matrix: Solid										Prep Type:	
Analysis Batch: 41993										Prep Bate	:h: 4194
	М										
Analyte	Resu		RL		Unit		D		repared	Analyzed	Dil Fa
Benzene	<0.0020		0.00200		mg/k	-			5/22 15:22	12/17/22 08:47	
Toluene	<0.0020		0.00200		mg/k				5/22 15:22	12/17/22 08:47	
Ethylbenzene	<0.0020	D U	0.00200)	mg/k	ζg		12/1	5/22 15:22	12/17/22 08:47	
m-Xylene & p-Xylene	<0.0040		0.00400)	mg/k	ζg		12/1	5/22 15:22	12/17/22 08:47	
o-Xylene	<0.0020		0.00200		mg/k	-			5/22 15:22	12/17/22 08:47	
Xylenes, Total	<0.0040	0 U	0.00400)	mg/k	(g		12/1	5/22 15:22	12/17/22 08:47	
	М	B MB									
Surrogate	%Recover	y Qualifier	Limits					Pi	repared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	9	7	70 - 130	-				12/1	5/22 15:22	12/17/22 08:47	
1,4-Difluorobenzene (Surr)	9	0	70 - 130					12/1	5/22 15:22	12/17/22 08:47	
Lab Sample ID: LCS 880-419	943/1-A						С	lient	Sample I	D: Lab Contro	
Matrix: Solid										Prep Type:	
Analysis Batch: 41993										Prep Bate	:h: 4194
			Spike	LCS	LCS					%Rec	
Analyte			Added		Qualifier	Unit		<u>D</u>	%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 LC	s									
Surrogate		alifier	Limits								
4-Bromofluorobenzene (Surr)	97		70 - 130								
1,4-Difluorobenzene (Surr)	95		70 - 130								
Lab Sample ID: LCSD 880-4	1943/2-A					Cli	ent	Sam	ple ID: La	ab Control Sar	nple Du
Matrix: Solid										Prep Type:	Total/N
Analysis Batch: 41993										Prep Bate	:h: 4194
			Spike	LCSD	LCSD					%Rec	RP
Analyte			Added	Result	Qualifier	Unit		D	%Rec	Limits RI	PD Lim
Benzene			0.100	0.09270		mg/Kg			93	70 - 130	3 3

Client: Ensolum Project/Site: James A Waterflood

Job ID: 890-3604-1 SDG: Lea County NM

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

Lab Sample ID: LCSD 880-4 Matrix: Solid	1943/2-A					Clie	nt Sam	ple ID: I	l Sampl ype: To		
Analysis Batch: 41993										Batch:	
			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 T	ype: To	tal/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

Analysis Batch: 41993									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	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	86		70 - 130								

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

Lab Sample ID: MB 880-41625/1-A Matrix: Solid Analysis Batch: 41693				Client Sa	Client Sample ID: Method Blan Prep Type: Total/N Prep Batch: 4162			
Analyte		MB 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

5

6 7

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Prep Type: Total/NA

Client Sample ID: Matrix Spike Duplicate 70 - 130 86 89 70 - 130 1,4-Difluorobenzene (Surr)

SDG: Lea County NM

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Lab Sample ID: MB 880-41625/1	- A									Client S	ample ID: N	/lethod	Blank
Matrix: Solid											Prep T	ype: To	otal/NA
Analysis Batch: 41693											Prep	Batch:	41625
		ΜВ	МВ										
Analyte	Re	sult	Qualifier	RL		Uni	t	D	Р	repared	Analyze	ed	Dil Fac
Diesel Range Organics (Over	<	50.0	U	50.0		mg/	Kg	_	12/1	2/22 11:00	12/13/22 0	8:06	1
C10-C28)													
Oll Range Organics (Over C28-C36)	<	50.0	U	50.0		mg/	Kg		12/1	2/22 11:00	12/13/22 0	8:06	1
		ΜВ	МВ										
Surrogate	%Reco		Qualifier	Limits					Р	Prepared	Analyze	ed	Dil Fac
1-Chlorooctane			S1+	70 - 130						12/22 11:00			
o-Terphenyl		209	S1+	70 - 130					12/1	12/22 11:00	12/13/22 0	8:06	1
Lab Sample ID: LCS 880-41625/2	2-A							C	lient	t Sample	ID: Lab Co	ntrol S	ample
Matrix: Solid											Prep T	ype: To	otal/NA
Analysis Batch: 41693											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				1000	4470					440	70 (00		
Diesel Range Organics (Over C10-C28)				1000	1175		mg/Kg			118	70 - 130		
	LCS	LCS											
Surrogate	%Recovery	Qual	ifier	Limits									
1-Chlorooctane	165	S1+		70 - 130									
o-Terphenyl	162	S1+		70 - 130									
Lab Sample ID: CSD 880_41628								_	_			_	
Lab Sample ID: LCSD 880-4162	5/3-A						CI	ient	Sam	nple ID: L	ab Control		
Matrix: Solid	5/3-A						CI	ient	Sam	nple ID: L	Prep T	ype: To	otal/NA
	5/3-A						CI	ient	Sam	nple ID: L	Prep Ty Prep		otal/NA 41625
Matrix: Solid Analysis Batch: 41693	5/3-A			Spike		LCSD		ient		-	Prep Ty Prep %Rec	ype: To Batch:	otal/NA 41625 RPD
Matrix: Solid Analysis Batch: 41693 Analyte	5/3-A			Added	Result	LCSD Qualifier	Unit	ient	Sam D	%Rec	Prep Ty Prep %Rec Limits	pe: To Batch: RPD	41625 RPD Limit
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics	5/3-A			-				ient		-	Prep Ty Prep %Rec	ype: To Batch:	otal/NA 41625 RPC Limi
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10	5/3-A			Added 1000	Result 922.3	Qualifier	<mark>Unit</mark> mg/Kg	ient			Prep Ty Prep %Rec Limits 70 - 130	ype: To Batch: RPD 3	41625 RPD Limit
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics	5/3-A			Added	Result	Qualifier	Unit	ient		%Rec	Prep Ty Prep %Rec Limits	pe: To Batch: RPD	41625 RPD Limit
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over				Added 1000	Result 922.3	Qualifier	<mark>Unit</mark> mg/Kg	ient			Prep Ty Prep %Rec Limits 70 - 130	ype: To Batch: RPD 3	41625 RPD Limit
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	LCSD			Added 1000 1000	Result 922.3	Qualifier	<mark>Unit</mark> mg/Kg	ient			Prep Ty Prep %Rec Limits 70 - 130	ype: To Batch: RPD 3	41625 RPD Limit
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate	LCSD %Recovery			Added 1000 1000 <i>Limits</i>	Result 922.3	Qualifier	<mark>Unit</mark> mg/Kg	ient			Prep Ty Prep %Rec Limits 70 - 130	ype: To Batch: RPD 3	41625 RPD Limit
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane	LCSD %Recovery 127			Added 1000 1000 <i>Limits</i> 70 - 130	Result 922.3	Qualifier	<mark>Unit</mark> mg/Kg	ient			Prep Ty Prep %Rec Limits 70 - 130	ype: To Batch: RPD 3	41625 RPD Limit
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate	LCSD %Recovery			Added 1000 1000 <i>Limits</i>	Result 922.3	Qualifier	<mark>Unit</mark> mg/Kg	ient			Prep Ty Prep %Rec Limits 70 - 130	ype: To Batch: RPD 3	41625 RPD Limit
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl	LCSD %Recovery 127 128			Added 1000 1000 <i>Limits</i> 70 - 130	Result 922.3	Qualifier	<mark>Unit</mark> mg/Kg	ient		%Rec 92 93	Prep Ty Prep %Rec Limits 70 - 130 70 - 130	ype: To Batch: RPD 3 24	A1625 RPC Limit 20
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane	LCSD %Recovery 127 128			Added 1000 1000 <i>Limits</i> 70 - 130	Result 922.3	Qualifier	<mark>Unit</mark> mg/Kg	ient		%Rec 92 93	Prep Ty %Rec Limits 70 - 130 70 - 130 Sample ID:	ype: To Batch: RPD 3 24 Matrix	41625 RPC Limit 20 20
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1-E Matrix: Solid	LCSD %Recovery 127 128			Added 1000 1000 <i>Limits</i> 70 - 130	Result 922.3	Qualifier	<mark>Unit</mark> mg/Kg	ient		%Rec 92 93	Prep Ty %Rec Limits 70 - 130 70 - 130 70 - 130 Sample ID: Prep Ty	ype: To Batch: RPD 3 24 Matrix ype: To	Alfore Alfore Limit 20 20 Spike otal/NA
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1-E	LCSD %Recovery 127 128 MS	Qual	ifier	Added 1000 1000 <u>Limits</u> 70 - 130 70 - 130	Result 922.3 925.4	Qualifier	<mark>Unit</mark> mg/Kg	ient		%Rec 92 93	Prep Ty %Rec Limits 70 - 130 70 - 130 70 - 130 Sample ID: Prep Ty	ype: To Batch: RPD 3 24 Matrix	Alfore Alfore Limit 20 20 Spike otal/NA
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1-E Matrix: Solid	LCSD %Recovery 127 128	<u>Qual</u>	ifier	Added 1000 1000 <i>Limits</i> 70 - 130	Result 922.3 925.4 MS	Qualifier *1	<mark>Unit</mark> mg/Kg	ient		%Rec 92 93	Prep Ty Prep %Rec Limits 70 - 130 70 - 130 70 - 130 Sample ID: Prep Ty Prep	ype: To Batch: RPD 3 24 Matrix ype: To	Alfore Alfore Limit 20 20 Spike otal/NA
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1-E Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics	LCSD %Recovery 127 128 MS Sample	Qual Sam Qual	ifier	Added 1000 1000 <i>Limits</i> 70 - 130 70 - 130 Spike	Result 922.3 925.4 MS	Qualifier *1	<mark>Unit</mark> mg/Kg mg/Kg	ient	<u>D</u>	%Rec 92 93	Prep Ty Prep %Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130 8 Sample ID: Prep Ty Prep %Rec	ype: To Batch: RPD 3 24 Matrix ype: To	Alfore Alfore Limi 20 20 20 20 20 20 20
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1-E Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	LCSD %Recovery 127 128 MS Sample Result	Qual Sam Qual U	ifier	Added 1000 1000 <i>Limits</i> 70 - 130 70 - 130 70 - 130	Result 922.3 925.4 MS Result	Qualifier *1	Unit	ient	<u>D</u>	%Rec 92 93 Client 3 %Rec	Prep Ty Prep %Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130 8 8 8 9 9 9 9 8 8 9 7 9 7 9 9 8 8 9 7 9 7	ype: To Batch: RPD 3 24 Matrix ype: To	Atal/NA 41625 RPC Limi 20 20 20 20 20
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1-E Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10	LCSD %Recovery 127 128 MS Sample Result <50.0 <50.0	Quai	ifier	Added 1000 1000 <i>Limits</i> 70 - 130 70 - 130 70 - 130 999	Result 922.3 925.4 MS Result 1156	Qualifier *1	Unit mg/Kg mg/Kg	ient	<u>D</u>	%Rec 92 93 Client %Rec 113	Prep Ty %Rec Limits 70 - 130 70 - 130 70 - 130 Sample ID: Prep Ty %Rec Limits 70 - 130	ype: To Batch: RPD 3 24 Matrix ype: To	Alfore Alfore Limit 20 20 Spike otal/NA
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1-E Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	LCSD %Recovery 127 128 MS Sample Result <50.0 <50.0 MS	Qual Sam Qual U *1 MS	ifier	Added 1000	Result 922.3 925.4 MS Result 1156	Qualifier *1	Unit mg/Kg mg/Kg	ient	<u>D</u>	%Rec 92 93 Client %Rec 113	Prep Ty %Rec Limits 70 - 130 70 - 130 70 - 130 Sample ID: Prep Ty %Rec Limits 70 - 130	ype: To Batch: RPD 3 24 Matrix ype: To	Alfore Alfore Limit 20 20 Spike otal/NA
Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-22478-A-1-E Matrix: Solid Analysis Batch: 41693 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	LCSD %Recovery 127 128 MS Sample Result <50.0 <50.0	Qual Sam Qual U *1 MS	ifier	Added 1000 1000 <i>Limits</i> 70 - 130 70 - 130 70 - 130 999	Result 922.3 925.4 MS Result 1156	Qualifier *1	Unit mg/Kg mg/Kg	ient	<u>D</u>	%Rec 92 93 Client %Rec 113	Prep Ty %Rec Limits 70 - 130 70 - 130 70 - 130 Sample ID: Prep Ty %Rec Limits 70 - 130	ype: To Batch: RPD 3 24 Matrix ype: To	Alfore Alfore Limit 20 20 Spike otal/NA

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o-Terphenyl

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70 - 130

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

	FMSD								D: Matrix S	Type: To	
Matrix: Solid											
Analysis Batch: 41693	Comula	Comula	Calles	MOD	MSD					Batch:	
Awahata	-	Sample	Spike			11	-	0/ D	%Rec		RPI
Analyte		Qualifier	Added		Qualifier	Unit	[Limits	RPD	Lim
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1120		mg/Kg		109	70 - 130	3	2
Diesel Range Organics (Over	<50.0	U *1	997	1190		mg/Kg		117	70 - 130	4	2
C10-C28)	00.0	•							10 - 100	•	-
,											
	MSD										
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	127		70 - 130								
o-Terphenyl	106		70 - 130								
lethod: 300.0 - Anions, Ion	Chromat	ography									
	onionat	ography									
Lab Sample ID: MB 880-41471/1	I-A							Client	Sample ID:	Method	Blan
Matrix: Solid										Type: So	
Analysis Batch: 41738										1	
		МВ МВ									
Analyte	R	esult Qualifier		RL	Unit		D	Prepared	Analyz	zed	Dil Fa
Chloride	<	<5.00 U		5.00	mg/K	g			12/14/22		
						•					
Lab Sample ID: LCS 880-41471/	2-A						Clie	nt Sampl	e ID: Lab C	ontrol Sa	ampl
Matrix: Solid									Prep	Type: So	olub
Analysis Batch: 41738											
-			Spike	LCS	LCS				%Rec		
Analyte			Added	Result	Qualifier	Unit	0	%Rec	Limits		
Chloride			250	254.3		mg/Kg		102	90 - 110		
	1/3-A					Cli	ent Sa	mple ID:	Lab Contro	ol Sampl	
Lab Sample ID: LCSD 880-4147											e Du
								- C		Type: So	
Matrix: Solid								1			
Matrix: Solid			Spike	LCSD	LCSD						olub
Matrix: Solid Analysis Batch: 41738			Spike Added		LCSD Qualifier	Unit	C	-	Prep		olubl RP
Matrix: Solid Analysis Batch: 41738 ^{Analyte}			-		Qualifier	- Unit mg/Kg		-	Prep %Rec	Type: So	olubl RP Lim
Matrix: Solid Analysis Batch: 41738 Analyte Chloride			Added	Result	Qualifier) %Rec	Prep %Rec Limits	Type: So	olubi RP Lim
Matrix: Solid Analysis Batch: 41738 Analyte Chloride			Added	Result	Qualifier			0 % Rec 107	Prep %Rec Limits	Type: So RPD 5	olubi RP Lim
Lab Sample ID: LCSD 880-4147 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-B Matrix: Solid			Added	Result	Qualifier			0 % Rec 107	Prep %Rec Limits 90 - 110 t Sample ID	Type: So RPD 5	olubi RP Lim 2 Spik
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-B Matrix: Solid			Added	Result	Qualifier			0 % Rec 107	Prep %Rec Limits 90 - 110 t Sample ID	RPD 5 0: Matrix	olubl RP Lim 2 Spik
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-B	MS	Sample	Added	Result 268.2	Qualifier			0 % Rec 107	Prep %Rec Limits 90 - 110 t Sample ID	RPD 5 0: Matrix	olubl RP Lim 2 Spik
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-B Matrix: Solid Analysis Batch: 41738	MS Sample	Sample Qualifier	Added 250	Result 268.2 MS	Qualifier			0 <u>%Rec</u> 107 Clien	Prep %Rec Limits 90 - 110 t Sample ID Prep	RPD 5 0: Matrix	olubl RP Lim 2 Spik
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-B Matrix: Solid Analysis Batch: 41738 Analyte	MS Sample	-	Added 250 Spike	Result 268.2 MS	Qualifier	mg/Kg	<u> </u>	0 <u>%Rec</u> 107 Clien	Prep %Rec Limits 90 - 110 t Sample ID Prep %Rec	RPD 5 0: Matrix	olubl RP Lim 2 Spik
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-B Matrix: Solid Analysis Batch: 41738 Analyte Chloride	MS Sample Result 146	-	Added 250 Spike Added	Result 268.2 MS Result	Qualifier	mg/Kg	[%Rec 107 Clien %Rec 102 	Prep %Rec Limits 90 - 110 t Sample ID Prep %Rec Limits 90 - 110	RPD 5 2: Matrix Type: So	olubi RP Lim 2 Spik olubi
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-B Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-C	MS Sample Result 146	-	Added 250 Spike Added	Result 268.2 MS Result	Qualifier	mg/Kg	[%Rec 107 Clien %Rec 102 	Prep %Rec Limits 90 - 110 t Sample ID Prep %Rec Limits	RPD 5 2: Matrix Type: So	olubi RP Lim 2 Spik olubi
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-B Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-C	MS Sample Result 146	-	Added 250 Spike Added	Result 268.2 MS Result	Qualifier	mg/Kg	[%Rec 107 Clien %Rec 102 	Prep %Rec Limits 90 - 110 t Sample ID Prep %Rec Limits 90 - 110 D: Matrix S	RPD 5 2: Matrix Type: So	olub RP Lim 2 Spik olub
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-B Matrix: Solid Analysis Batch: 41738 Analyte	MS Sample Result 146	-	Added 250 Spike Added	Result 268.2 MS Result	Qualifier	mg/Kg	[%Rec 107 Clien %Rec 102 	Prep %Rec Limits 90 - 110 t Sample ID Prep %Rec Limits 90 - 110 D: Matrix S	RPD 5 2: Matrix Type: So pike Dup	olub RP Lim 2 Spik olub
Matrix: Solid Analysis Batch: 41738 Chloride Lab Sample ID: 890-3603-A-1-B Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-C Matrix: Solid	MS Sample Result 146 MSD	-	Added 250 Spike Added	Result 268.2 MS Result 401.1	Qualifier	mg/Kg	[%Rec 107 Clien %Rec 102 	Prep %Rec Limits 90 - 110 t Sample ID Prep %Rec Limits 90 - 110 D: Matrix S	RPD 5 2: Matrix Type: So pike Dup	olubi RP Lim 2 Spik olubi
Matrix: Solid Analysis Batch: 41738 Chloride Lab Sample ID: 890-3603-A-1-B Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-C Matrix: Solid	MS Sample Result 146 MSD Sample	Qualifier	Added 250 Spike Added 251	Result 268.2 MS Result 401.1	Qualifier MS Qualifier	mg/Kg	[%Rec 107 Clien %Rec 102 Sample II 	Prep %Rec Limits 90 - 110 t Sample ID Prep %Rec Limits 90 - 110 D: Matrix Sp Prep	RPD 5 2: Matrix Type: So pike Dup	olubl RP Lim 2 Spik olubl

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QC Association Summary

Client: Ensolum Project/Site: James A Waterflood Page 182 of 276

Job ID: 890-3604-1 SDG: Lea County NM

GC VOA

Prep Batch: 41938

ab Sample ID.	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
/IB 880-41938/5-A	Method Blank	Total/NA	Solid	5035	
ep Batch: 41943					
ab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
90-3604-1	BH05	Total/NA	Solid	5035	
90-3604-2	BH05	Total/NA	Solid	5035	
/IB 880-41943/5-A	Method Blank	Total/NA	Solid	5035	
.CS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	5035	
.CSD 880-41943/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
90-3601-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
90-3601-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 41993

MB 880-41943/5-A	Method Blank	Iotal/NA	Solid	5035		
LCS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	5035		8
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		9
890-3601-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035		
Analysis Batch: 41993						
Lab Sample ID	Client Sample ID	Ргер Туре	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	10
LCS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	8021B	41943	13
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	Ргер Туре	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	Ргер Туре	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

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Job ID: 890-3604-1 SDG: Lea County NM

GC Semi VOA

Analysis Batch: 41810

Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
BH05	Total/NA	Solid	8015 NM	
BH05	Total/NA	Solid	8015 NM	
	BH05	BH05 Total/NA	BH05 Total/NA Solid	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	
nalysis 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

Analysis Batch: 41738

Lab Sample ID	Client Sample ID	Ргер Туре	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	

Job ID: 890-3604-1 SDG: Lea County NM

Lab Sample ID: 890-3604-1 Matrix: Solid

Lab Sample ID: 890-3604-2

Matrix: Solid

Client Sample ID: BH05 Date Collected: 12/06/22 14:00 Date Received: 12/08/22 11:20

Project/Site: James A Waterflood

Client: Ensolum

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	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	СН	EET MID

Client Sample ID: BH05

Date Collected: 12/06/22 14:10 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 14:43	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			10.03 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 17:13	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	41471	12/09/22 13:16	KS	EET MID
Soluble	Analysis	300.0		1			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

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	A	ccreditation/C	ertification Summary		
Client: Ensolum Project/Site: James A Waterfl	lood			Job ID: 890-3604-1 SDG: Lea County NM	2
Laboratory: Eurofins M					
Unless otherwise noted, all analytes	for this laboratory we	re covered under each acc	reditation/certification below.		
Authority	Pro	ogram	Identification Number	Expiration Date	
Texas	Texas NELAP		T104704400-22-24	06-30-23	E
The following analytes are incl	uded in this report, bu	t the laboratory is not certif	ied by the governing authority. This list ma	ay include analytes for which	5
the agency does not offer certi					
	Prep Method	Matrix	Analyte		
8015 NM Total BTEX		Solid Solid	Total TPH Total BTEX		
_					
					8
					9
					40
					10
					13

Eurofins Carlsbad

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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
3021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
3015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
3015B 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
3015NM Prep	Microextraction	SW846	EET MID
OI 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

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Sample Summary

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

.ab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth	
390-3604-1	BH05	Solid	12/06/22 14:00	12/08/22 11:20	1	4
390-3604-2	BH05	Solid	12/06/22 14:10	12/08/22 11:20	4	
						5
						8
						9
						10
						12
						13

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		Environment Testing Xenco	sting	Hou Midlan EL P.	ston, TX d, TX (43 aso, TX ((281) 24C 32) 704-54 915) 585-	140, San Anto 3443, Lubbo	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	Work Order No:	der No:
				Hobt	os, NM (5	575) 392-7	'550, Carlsba	Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199	www.xenco.com	nco.com Page of
Project Manager:	Kalei Jennings			Bill to: (if different)		Kalei Jennings	mings		Work	òn
	Ensolum, LLC			Company Name:		Ensolum, LLC	, LLC		Program: UST/PST DPRP	PRP Brownfields RRC Superfund
	601 N Marienfeld St Suite 400	Suite 400		Address:		601 N M	601 N Marienfeld St Suite 400	Suite 400	State of Project:	
e ZIP:	Midland, TX 79701			City, State ZIP:		Midland,	Midland, TX 79701		Reporting: Level II Level II	Reporting: Level II CLevel III PST/UST TRRP L Level IV
	817.683.2503		Email:	Email: kjennings@ensolum.com; jadams@ensolum.com	nsolum.	com; jau	dams@ens	olum.com	Deliverables: EDD	ADaPT D Other:
Project Name:	James A Waterflood	lerflood	Turn	Turn Around				ANALYSIS REQUEST	UEST	Preservative Codes
Project Number:	03D2024119 & 03D2024120	3D2024120	Routine	Rush	Pres. Code					None: NO DI Water: H ₂ O
Project Location:	Lea County, NM	, NM	Due Date:							01
Sampler's Name:	Conner Shore	nore	TAT starts the	TAT starts the day received by						
PO#			the lab, if rece	lived by 4:30pm	ers					H ₂ SU ₄ : H ₂ NaCH: Na
SAMPLE RECEIPT	T Temp Blank:	Jes No	Wet Ice:	Yes No	nete).0)				H ₃ PO ₄ : HP
Samples Received Intact:	act: (Yes No	Thermometer ID:	r ID:	FORM	ara	: 300				Nahout Nabio
Cooler Custody Seals:	Yes No	A Correction Factor:	actor:	6,0,0	P	EPA				Za Anatata NaOLi Za
Sample Custody Seals: Total Containers:	S. TES NO VIA	Corrected Temperature:	emperature:	je-io		-		890-3604 Chain	A Chain of Custody	NaOH+Ascorbic Acid: SAPC
Sample Identification	ification Matrix		Time Sampled	Depth Grab/ Comp	# of	CHLOR	TPH (80 BTEX (8			Sample Comments
BH05	S	12.6.22		1 G		×	-			
BH05	0.	12.6.22	1410	4 G	-	×	×			Incident Number
		6.2.	\$							
0	Ó					+				
Total 200.7 / 6010 200.8 / 6020: Circle Method(s) and Metal(s) to be analyzed	10 200.8 / 6020: d Metal(s) to be ana		8RCRA 13PPM	PM Texas 11 PLP 6010: 8R(1 AI S	Sb As E Sb As	Ba Be B (s Ba Be Co	JRA 13PPM Texas 11 AISBAS BABEBCdCaCrCoCuFePbMgMnMoNi TCLP/SPLP6010: 8RCRASbAsBaBeCdCrCoCuPbMnMoNiSeAgTIU	K Se A	√g SiO ₂ Na Sr TI Sn U V Zn Hg: 1631/245.1/7470 /7471
Notice: Signature of this d of service. Eurofins Xenco of Eurofins Xenco. A mini	ocument and relinquishm) will be liable only for the num charge of \$85.00 will	ent of samples con cost of samples ar be applied to each	stitutes a valid puid shall not assuiproject and a ch	urchase order froi me any responsib large of \$5 for eac	n client c ility for ar h sample	ompany to ny losses c submitted	Eurofins Xen r expenses in to Eurofins X	o, its affillates and subcontractors. .urred by the client if such losses a nco, but not analyzed. These terms	Notce: 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 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.	ditions control regotiated.
Relinquished by: (Signature)	(Signature)	Receive	Received by: (Signature)	ure)		Date/Time	me	Relinquished by: (Signature)	ure) Received by: (Signature)	(Signature) Date/Time
Ń		MM 1	Y		12-	1-5-22	2112022			

Received by OCD: 5/3/2023 1:10:37 PM

12/19/2022

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Job Number: 890-3604-1 SDG Number: Lea County NM

List Source: Eurofins Carlsbad

Login Sample Receipt Checklist

Client: Ensolum

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	

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Job Number: 890-3604-1 SDG Number: Lea County NM

List Source: Eurofins Midland

List Creation: 12/09/22 11:39 AM

Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3604 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	

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

Received by OCD: 5/3/2023 1:10:37 PM



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

See page two for job notes and contact information

Received by OCD: 5/3/2023 1:10:37 PM

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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

RAMER

Generated 12/19/2022 4:41:15 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

Laboratory Job ID: 890-3605-1 SDG: Lea County NM

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QC Sample Results	9
QC Association Summary	13
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Certification Summary	16
Method Summary	17
Sample Summary	18
Chain of Custody	19
Receipt Checklists	20

Qualifier Description

Indicates the analyte was analyzed for but not detected.

	Definitions/Glossary		
Client: Enso Project/Site:	lum JAMES A WATERFLOOD	Job ID: 890-3605-1 SDG: Lea County NM	2
,			
Qualifiers			3
GC VOA			
Qualifier	Qualifier Description		
F1	MS and/or MSD recovery exceeds control limits.		_
F2	MS/MSD RPD exceeds control limits		5
U	Indicates the analyte was analyzed for but not detected.		
GC Semi VO	A		
Qualifier	Qualifier Description		
S1+	Surrogate recovery exceeds control limits, high biased.		
U	Indicates the analyte was analyzed for but not detected.		

HPLC/IC Qualifier

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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	4
%R	Percent Recovery	
CFL	Contains Free Liquid	
CFU	Colony Forming Unit	
CNF	Contains No Free Liquid	
DER	Duplicate Error Ratio (normalized absolute difference)	1
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)	
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	
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	

Job ID: 890-3605-1 SDG: Lea County NM

Job ID: 890-3605-1

Client: Ensolum

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.

Job ID: 890-3605-1 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

Client: Ensolum

Lab Sample ID: 890-3605-1

Analyzed

Matrix: Solid

Dil Fac

5

					_		· · · · · · · · · · · · · · · · · · ·	
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 - T	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
Method: SW846 8015 NM - Diese	I 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	sel Range Orga	nics (DRO)) (GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 20:58	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 20:58	1
C10-C28) Oll Range Organics (Over C28-C36)	<50.0		50.0	ma/Ka		12/12/22 11:03	12/13/22 20:58	1
On Nariye Organics (Over 620-636)	~50.0	0	50.0	mg/Kg		12/12/22 11:03	12/13/22 20.30	I
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	138	S1+	70 - 130			12/12/22 11:03	12/13/22 20:58	1
o-Terphenyl	139	S1+	70 - 130			12/12/22 11:03	12/13/22 20:58	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	ography - S	oluble					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	578		5.04	mg/Kg			12/14/22 10:56	1
lient Sample ID: BH04						Lab Sar	nple ID: 890-	3605-2
ate Collected: 12/06/22 13:30 ate Received: 12/08/22 11:20								x: Solid
ample Depth: 4								
Method: SW846 8021B - Volatile	Organic Comp	ounds (GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201		0.00201	ma/Ka		12/15/22 15:22	12/17/22 15:25	1

Unit

D

Prepared

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)	121		70 - 130			12/15/22 15:22	12/17/22 15:25	1

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Method: SW846 8021B - Volatile Organic Compounds (GC) Result Qualifier RL

Method: SW846

Analyte	Result	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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 20:58	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 20:58	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 20:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	138	S1+	70 - 130			12/12/22 11:03	12/13/22 20:58	1
o-Terphenyl	139	S1+	70 - 130			12/12/22 11:03	12/13/22 20:58	1

Method: MCAWW 300.0 - Anions, I	on Chromato	graphy - Sol	uble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	578		5.04	mg/Kg			12/14/22 10:56	1

Client Sample Date Collected: 1 Date Received: 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 15:25	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)	121		70 - 130			12/15/22 15:22	12/17/22 15:25	1

Released to Imaging: 9/20/2023 2:58:49 PM

Client Sample Results

Job ID: 890-3605-1 SDG: Lea County NM

Client Sample ID: BH04

Date Collected: 12/06/22 13:30 Date Received: 12/08/22 11:20

Sample Depth: 4

Client: Ensolum

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

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 - T	otal BTEX Calo	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	
Method: SW846 8015 NM - Diese	I Range Organ	ics (DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	<49.9	U	49.9	mg/Kg			12/14/22 12:15	
Analyte	Result	Qualifier		Unit	<u>D</u>	Prepared	Analyzed	Dil Fa
Method: SW846 8015B NM - Dies	el 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	
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/12/22 11:03	12/13/22 22:04	
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/12/22 11:03	12/13/22 22:04	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane			70 - 130			12/12/22 11:03	12/13/22 22:04	
o-Terphenyl	112		70 - 130			12/12/22 11:03	12/13/22 22:04	
Method: MCAWW 300.0 - Anions	, Ion Chromato	ography - So	pluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	87.5		5.02	mg/Kg			12/14/22 11:02	·

Lab Sample ID: 890-3605-2 Matrix: Solid

5

Client: Ensolum

Job ID: 890-3605-1 SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC) Matrix: Solid

				Percent Surrogate Recovery (Acceptance Limits)	
		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		

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

-			
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3605-1	BH04	138 S1+	139 S1+
890-3605-1 MS	BH04	104	91
890-3605-1 MSD	BH04	94	93
890-3605-2	BH04	110	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

Prep Type: Total/NA

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41938/5-A									Client Sa	mple ID: Meth	od Blank
Matrix: Solid										Prep Type:	Total/NA
Analysis Batch: 41993										Prep Bate	h: 41938
	N	в мв									
Analyte	Resu	It Qualifier	RL		Unit		D	P	repared	Analyzed	Dil Fac
Benzene	<0.0020	0 U	0.00200		mg/k	ξg		12/1	5/22 14:55	12/16/22 22:04	1
Toluene	< 0.0020	0 U	0.00200		mg/k	Κg		12/1	5/22 14:55	12/16/22 22:04	1
Ethylbenzene	< 0.0020	0 U	0.00200		mg/k	ζg		12/1	5/22 14:55	12/16/22 22:04	1
m-Xylene & p-Xylene	<0.0040	0 U	0.00400		mg/k	ζg		12/1	5/22 14:55	12/16/22 22:04	1
o-Xylene	<0.0020	0 U	0.00200		mg/k	κg		12/1	5/22 14:55	12/16/22 22:04	1
Xylenes, Total	<0.0040	0 U	0.00400		mg/k	ξg		12/1	5/22 14:55	12/16/22 22:04	1
	N	B MB									
Surrogate	%Recove	ry Qualifier	Limits					Р	repared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	-	92	70 - 130						5/22 14:55	12/16/22 22:04	1
1,4-Difluorobenzene (Surr)	9	93	70 - 130					12/1	5/22 14:55	12/16/22 22:04	1
- - 									Client Co	male ID: Meth	ed Dienk
Lab Sample ID: MB 880-41943/5-A Matrix: Solid									Chefit Sa	mple ID: Meth	
										Prep Type:	
Analysis Batch: 41993		B MB								Prep Bate	:n: 41943
Avelate					11		_			A	D!!
Analyte	Resi		RL		Unit	(<u>D</u>		repared	Analyzed	Dil Fac
Benzene	<0.0020		0.00200		mg/k	-			5/22 15:22	12/17/22 08:47	1
Toluene	<0.0020		0.00200		mg/k	-			5/22 15:22	12/17/22 08:47	1
Ethylbenzene	<0.0020		0.00200		mg/k	(g			5/22 15:22	12/17/22 08:47	1
m-Xylene & p-Xylene	<0.0040	0 U	0.00400		mg/k	ξg		12/1	5/22 15:22	12/17/22 08:47	1
o-Xylene	< 0.0020	0 U	0.00200		mg/k	Κg		12/1	5/22 15:22	12/17/22 08:47	1
Xylenes, Total	<0.0040	0 U	0.00400		mg/k	ξg		12/1	5/22 15:22	12/17/22 08:47	1
	N	B MB									
Surrogate	%Recove	ry Qualifier	Limits					Ρ	repared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	:	97	70 - 130					12/1	5/22 15:22	12/17/22 08:47	1
1,4-Difluorobenzene (Surr)	9	90	70 - 130					12/1	5/22 15:22	12/17/22 08:47	1
- Lab Sample ID: LCS 880-41943/1-A							С	lient	Sample	ID: Lab Contro	I Sample
Matrix: Solid										Prep Type:	
Analysis Batch: 41993										Prep Bate	
Analysis Baton: 41000			Spike	LCS	LCS					%Rec	
Analyte			Added		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 L										
		ualifier	Limits								
4-Bromofluorobenzene (Surr)	97		70 - 130								
1,4-Difluorobenzene (Surr)	95		70 - 130								
 Lab Sample ID: LCSD 880-41943/2	- A					CI	ient	Sam	ple ID: L	ab Control Sar	nple Dup
Matrix: Solid									-	Prep Type:	
Analysis Batch: 41993										Prep Bate	
			Spike	LCSD	LCSD					%Rec	RPD
Analyte			Added		Qualifier	Unit		D	%Rec	Limits RF	
			0.100	0.00070						70 120	2 25

5

7 8

Job ID: 890-3605-1 SDG: Lea County NM

70 - 130

93

Benzene

0.09270

mg/Kg

0.100

3

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

Lab Sample ID: LCSD 880-4 Matrix: Solid	1943/2-A					Clie	nt San	ple ID: I	Lab Contro Prep 1	l Sample Type: Tot	
Analysis Batch: 41993										Batch:	
·····,			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 T	ype: To	tal/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

1,4-Difluorobenzene (Surr)

Analysis Batch: 41993									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	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	86		70 - 130								

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

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Lab Sample ID: MB 880-41626/1-A Matrix: Solid Analysis Batch: 41693	МВ	МВ				Client Sa	mple ID: Metho Prep Type: ⁻ Prep Batcl	Total/NA
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 19:51	1
(GRO)-C6-C10								

70 - 130

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Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Job ID: 890-3605-1 SDG: Lea County NM

Lab Sample ID: MB 880-41626/1	-A									Client S	ample ID: Me	thod	Blank
Matrix: Solid											Prep Typ		
Analysis Batch: 41693											Prep B		
		мв	мв										
Analyte	R	esult	Qualifier	F	RL	ı	Unit	D	P	repared	Analyzed		Dil Fac
Diesel Range Organics (Over		<50.0	U	50	.0	r	ng/Kg		12/1	12/22 11:03	12/13/22 19:	51	1
C10-C28)													
Oll Range Organics (Over C28-C36)	<	<50.0	U	50	.0	r	mg/Kg		12/1	12/22 11:03	12/13/22 19:	51	1
		ΜВ	МВ										
Surrogate	%Reco		Qualifier	Limits					F	Prepared	Analyzed		Dil Fac
1-Chlorooctane		152	S1+	70 - 130	_					12/22 11:03		51	1
o-Terphenyl			S1+	70 - 130						12/22 11:03			1
Lab Sample ID: LCS 880-41626/	2-A							C	lien	t Sample	ID: Lab Con	trol S	ample
Matrix: Solid											Prep Typ	e: To	tal/NA
Analysis Batch: 41693											Prep B		
				Spike	LCS	LCS					%Rec		
Analyte				Added	Result	t Qualif	ier Unit		D	%Rec	Limits		
Gasoline Range Organics				1000	811.3	3	mg/K	3		81	70 - 130		
(GRO)-C6-C10													
Diesel Range Organics (Over C10-C28)				1000	825.1		mg/K	9		83	70 - 130		
	LCS	LCS											
Surrogate	%Recovery			Limits									
1-Chlorooctane	102			70 - 130									
o-Terphenyl	116			70 - 130									
-													
Lab Sample ID: LCSD 880-4162	6/3-A						(Client	San	n <mark>ple ID: L</mark>	ab Control S	ampl	e Dup
Matrix: Solid											Prep Typ	e: To	tal/NA
Analysis Batch: 41693											Prep B	atch:	41626
				Spike	LCSD	LCSD					%Rec		RPD
Analyte				Added	Result	t Qualif	ier Unit		D	%Rec	Limits	RPD	Limit
Gasoline Range Organics				1000	928.5	5	mg/K	9		93	70 - 130	13	20
(GRO)-C6-C10				1000	040 5					0.4	70 100	10	00
Diesel Range Organics (Over C10-C28)				1000	910.5)	mg/K	9		91	70 - 130	10	20
010-028)													
	LCSD	LCS	D										
Surrogate	%Recovery	Qua	lifier	Limits									
1-Chlorooctane	114			70 - 130									
o-Terphenyl	127			70 - 130									
Lab Sample ID: 890-3605-1 MS											Client Same		
Matrix: Solid											Client Samp		
Analysis Batch: 41693											Prep Typ Brop B		
Analysis Daten: 41093	Cample	e	nle	Spika	Me	S MS					Prep B	ลเตก:	41020
Analyte	Sample Result		-	Spike Added	MS Result	б MS t Qualif	ier Unit		D	%Rec	%Rec Limits		
Gasoline Range Organics	<50.0			999	939.4		mg/K				70 - 130		
(GRO)-C6-C10	~30.0	0		333	509.4	r	iiig/K	3		32	10 - 130		
Diesel Range Organics (Over	<50.0	U		999	1020)	mg/K	9		102	70 - 130		
C10-C28)							U U						
	MS	мs											
Surrogate	MS %Recovery		lifior	Limits									
Surrogate	/oncecovery	Qud		Z0 120									

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1-Chlorooctane

o-Terphenyl

70 - 130

70 - 130

Job ID: 890-3605-1 SDG: Lea County NM

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

Lab Sample ID: 890-3605-1 MSI	D								Client Sar	nple ID:	BH04
Matrix: Solid									Prep 1	Type: To	tal/N/
Analysis Batch: 41693									Prep	Batch:	4162
	Sample	Sample	Spike	MSD	MSD				%Rec		RP
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Lim
Gasoline Range Organics	<50.0	U	997	910.9		mg/Kg		89	70 - 130	3	2
(GRO)-C6-C10	~50.0		007	1027		m a /V a		104	70 120	0	~
Diesel Range Organics (Over C10-C28)	<50.0	0	997	1037		mg/Kg		104	70 - 130	2	2
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	94		70 - 130								
o-Terphenyl	93		70 - 130								
lethod: 300.0 - Anions, Ior Lab Sample ID: MB 880-41471/ Matrix: Solid		ography						Client S	Sample ID: Prep	Method Type: Se	
Analysis Batch: 41738		MB MB									
Analyte	P	esult Qualifier		RL	Unit		D Pi	repared	Analyz	od	Dil Fa
Chloride		5.00 U		5.00	mg/Kg		<u> </u>	epareu			DIFE
						-					
							011-04	<u> </u>			
	/ 2-A						Client	Sample	D: Lab Co Prep	ontrol Sa Type: So	
Matrix: Solid	/2-A						Client	Sample	Prep		
Matrix: Solid Analysis Batch: 41738	/2-A		Spike		LCS			-	Prep %Rec		
Matrix: Solid Analysis Batch: 41738 ^{Analyte}	/2-A		Added	Result	LCS Qualifier	Unit	<u>D</u>	%Rec	Prep %Rec Limits		
Matrix: Solid Analysis Batch: 41738 ^{Analyte}	/2-A					Unit mg/Kg		-	Prep %Rec		
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-4147			Added	Result		mg/Kg	D	%Rec 102	Prep %Rec Limits 90 - 110	Type: So ol Sampl	olubl
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-4147 Matrix: Solid			Added	Result		mg/Kg	D	%Rec 102	Prep %Rec Limits 90 - 110	Type: So	olubl
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-4147 Matrix: Solid			Added	Result 254.3		mg/Kg	D	%Rec 102	Prep %Rec Limits 90 - 110	Type: So ol Sampl	e Du olubi
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-4147 Matrix: Solid Analysis Batch: 41738 Analyte			Added 250 Spike Added	Result 254.3 LCSD Result	Qualifier	mg/Kg Clie	D	%Rec 102 ple ID: %Rec	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits	Type: So 	e Du olubi olubi RP Lim
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-4147 Matrix: Solid Analysis Batch: 41738 Analyte			Added 250 Spike	Result 254.3 LCSD	Qualifier	mg/Kg Clie	D	%Rec 102 ple ID:	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec	Type: So ol Sampl Type: So	e Du olubi RP Lim
Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-4147 Matrix: Solid Analysis Batch: 41738 Analyte Chloride	'1/3-A		Added 250 Spike Added	Result 254.3 LCSD Result	Qualifier	mg/Kg Clie	D	%Rec 102 ple ID: %Rec 107	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110	Type: So ol Sampl Type: So <u>RPD</u> 5	e Du olubi RP Lim 2
Matrix: Solid Analysis Batch: 41738 Chloride Lab Sample ID: LCSD 880-4147 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-B	'1/3-A		Added 250 Spike Added	Result 254.3 LCSD Result	Qualifier	mg/Kg Clie	D	%Rec 102 ple ID: %Rec 107	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID	Type: So ol Sampl Type: So <u>5</u> : Matrix	e Du olubi RP Lim 2 Spik
Matrix: Solid Analysis Batch: 41738 Chloride Lab Sample ID: LCSD 880-4147 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-B Matrix: Solid	'1/3-A		Added 250 Spike Added	Result 254.3 LCSD Result	Qualifier	mg/Kg Clie	D	%Rec 102 ple ID: %Rec 107	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID	Type: So ol Sampl Type: So <u>RPD</u> 5	e Du olubi RP Lim 2 Spik
Matrix: Solid Analysis Batch: 41738 Chloride Lab Sample ID: LCSD 880-4147 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-B Matrix: Solid	71/3-A 8 MS		Added 250 Spike Added 250	Result 254.3 LCSD Result 268.2	Qualifier LCSD Qualifier	mg/Kg Clie	D	%Rec 102 ple ID: %Rec 107	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep	Type: So ol Sampl Type: So <u>5</u> : Matrix	e Du olubi RP Lim 2 Spik
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Lab Sample ID: LCS 880-41471 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-4147 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-B Matrix: Solid Analysis Batch: 41738 Analyte Chloride	21/3-A B MS Sample Result 146	-	Added 250 Spike Added 250 Spike Added	Result 254.3 LCSD Result 268.2 MS Result	Qualifier LCSD Qualifier MS	Unit Mg/Kg	D	%Rec 102 ple ID: %Rec 107 Client %Rec 102	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110	Type: So Sampl Type: So <u>RPD</u> 5 : Matrix Type: So	e Du olubl RP Lim 2 Spik olubl
Matrix: Solid Analysis Batch: 41738 Chloride Lab Sample ID: LCSD 880-4147 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-B Matrix: Solid Analysis Batch: 41738 Analyte Chloride	21/3-A B MS Sample Result 146	-	Added 250 Spike Added 250 Spike Added	Result 254.3 LCSD Result 268.2 MS Result	Qualifier LCSD Qualifier MS	Unit Mg/Kg	D	%Rec 102 ple ID: %Rec 107 Client %Rec 102	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110	Type: So ol Sampl Type: So <u></u> : Matrix Type: So oike Dup	e Du olubi RP Lim 2 Spik olubi
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Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: LCSD 880-4147 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-E Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-C Matrix: Solid	S MS Sample Result 146	Qualifier	Added 250 Spike Added 250 Spike Added 251	Result 254.3 LCSD Result 268.2 MS Result 401.1	Qualifier LCSD Qualifier MS Qualifier	Unit Mg/Kg	D	%Rec 102 ple ID: %Rec 107 Client %Rec 102	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110 0: Matrix Sp Prep	Type: So ol Sampl Type: So <u></u> : Matrix Type: So oike Dup	e Du olubl RP Lim 2 Spik olubl
Matrix: Solid Analysis Batch: 41738 Chloride Lab Sample ID: LCSD 880-4147 Matrix: Solid Analysis Batch: 41738 Analyte Chloride Lab Sample ID: 890-3603-A-1-B Matrix: Solid Analysis Batch: 41738 Analyte	21/3-A B MS Sample Result 146 Sample	Qualifier	Added 250 Spike Added 250 Spike Added	Result 254.3 LCSD Result 268.2 MS 401.1	Qualifier LCSD Qualifier MS	Unit Mg/Kg	D	%Rec 102 ple ID: %Rec 107 Client %Rec 102	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110	Type: So ol Sampl Type: So <u></u> : Matrix Type: So oike Dup	e Du olubi RPI Lim 2 Spik olubi

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QC Association Summary

Client: Ensolum Project/Site: JAMES A WATERFLOOD Page 203 of 276

Job ID: 890-3605-1 SDG: Lea County NM

GC VOA

Prep Batch: 41938

Method Blank			5035	
	Total/NA	Solid	5035	
Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
BH04	Total/NA	Solid	5035	
BH04	Total/NA	Solid	5035	
Method Blank	Total/NA	Solid	5035	
Lab Control Sample	Total/NA	Solid	5035	
Lab Control Sample Dup	Total/NA	Solid	5035	
Matrix Spike	Total/NA	Solid	5035	
Matrix Spike Duplicate	Total/NA	Solid	5035	
	3H04 3H04 Method Blank Lab Control Sample Lab Control Sample Dup Matrix Spike	3H04 Total/NA 3H04 Total/NA 3H04 Total/NA Method Blank Total/NA Lab Control Sample Total/NA Lab Control Sample Dup Total/NA Matrix Spike Total/NA	BH04 Total/NA Solid BH04 Total/NA Solid BH04 Total/NA Solid Method Blank Total/NA Solid Lab Control Sample Total/NA Solid Lab Control Sample Dup Total/NA Solid Matrix Spike Total/NA Solid	BH04Total/NASolid5035BH04Total/NASolid5035BH04Total/NASolid5035Method BlankTotal/NASolid5035Lab Control SampleTotal/NASolid5035Lab Control Sample DupTotal/NASolid5035Matrix SpikeTotal/NASolid5035

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	Ргер Туре	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

GC Semi VOA

Analysis Batch: 41813

Lab Sample ID	Client Sample ID	Ргер Туре	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	Ргер Туре	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	

Job ID: 890-3605-1 SDG: Lea County NM

Job ID: 890-3605-1 SDG: Lea County NM

Lab Sample ID: 890-3605-2

Matrix: Solid

Client Sample ID: BH04

Date Collected: 12/06/22 13:00 Date Received: 12/08/22 11:20

Client: Ensolum

	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	СН	EET MID

Client Sample ID: BH04

Date Collected: 12/06/22 13:30 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			4.98 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	СН	EET MID

Laboratory References:

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

Eurofins Carlsbad

Lab Sample ID: 890-3605-1 Matrix: Solid

Laboratory: Eurofins Midland

Client: Ensolum

10

Job ID: 890-3605-1 SDG: Lea County NM 3 4 5 6 7 8 9

thority	Pro	gram	Identification Number	Expiration Date
as	NEI	LAP	T104704400-22-24	06-30-23
the agency does not of	er certification.	-	ed by the governing authority. This list ma	ay include analytes fo
• •	•	the laboratory is not certifie Matrix	ed by the governing authority. This list ma Analyte	ay include analytes fo
the agency does not of	er certification.	-		ay include analytes f

Eurofins Carlsbad

Job ID: 890-3605-1 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:

Client: Ensolum

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

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	4
890-3605-2	BH04	Solid	12/06/22 13:30	12/08/22 11:20	4	
						5
						8
						9
						12
						1:
						1

	X	Xenco	Xenco	Ξœ	L Paso, TX (9) lobbs, NM (57)	15) 585-3443, Lu 5) 392-7550, Ca	EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199			Page 1 of 1
	Kalei lenninne			Bill to: (if different)		Kalei Jennings			Work Order Comments	
Company Name: E	Ensolum, LLC			Company Name:		Ensolum, LLC		Program: US	Program: UST/PST 🗌 PRP 🗌 Brownfields 🗌 RRC 🗌	fields 🗌 RRC 🗌 Superfund 🗌
	601 N Marienfeld St Suite 400	eld St Suite 4	100	Address:		601 N Marienfeld St Suite 400	1 St Suite 400	State of Project:	et:	
le ZIP:	Midland, TX 79701	1701		City, State ZIP:		Midland, TX 79701	01	Reporting: Lev	Reporting: Level II Level III PST/UST TRRP	
	817.683.2503		Ē.	Email: kjennings@ensolum.com; jadams@ensolum.com	vensolum.c	om; jadams@	ensolum.com	Deliverables: EDD	EDD ADaPT	Other:
Project Name:	James A	James A Waterflood		Turn Around			ANAL	YSIS REQUEST		Preservative Codes
Project Number:	03D2024119 & 03D2024120	8 03D2024	I Rout	ne 🗌 Rush	Pres. Code					None: NO DI Water: H ₂ O
Project Location:	Lea C	Lea County, NM	Due Date:	ite:					_	⊻
Sampler's Name:	Conn	Conner Shore	TAT sta	he day	by					
PO#			the lab,	the lab, if received by 4:30pm	L					H ₂ SO ₄ : H ₂ NaOH: Na
SAMPLE RECEIPT	T Temp Blank:		(es) No Wet Ice:	2: Yes No	nete	.0)				H ₃ PO ₄ : HP
Samples Received Intact:			Thermometer ID:	TUNGO		300				NaHSO4: NABIS
Cooler Custody Seals:	: Yes No	N	Correction Factor:			PA				$Na_2 S_2 U_3$: $Na S U_3$
Sample Custody Seals:	· ·	MIA	Temperature Reading:	N G		_	890-3605	5 Chain of Custody		Zn Acetate+NaOH: Zn
Total Containers:		Corr	Corrected Temperature:	ire: 2 .(0		015	1		_	NACHTASUUDIC ACIO, OAL C
Sample Identification	ification	Matrix Sar	Date Time Sampled Sampled	Depth	Comp Cont	CHLC TPH (BTEX				Sample Comments
BH04	-	S 12.6.22	1.22 AD		G 1	× × ×				
BH04		S 12.6.22	1.22 1370	4	G 1	× × ×				Incident Number
			2 × 2							
			T. T.		-					
	P									
Y	X									
Total 200.7 / 6010		i020: e analvzed	BRCRA	TCLP/SPLP 6010 8R0	s 11 AI Sb / 8RCRA Sb		vs Ba Be B Cd Ca Cr Co Cu Fe As Ba Be Cd Cr Co Cu Pb Mn N	u Fe Pb Mg Mn Mo Ni Mn Mo Ni Se Ag Ti U	K Se A	vg SiO ₂ Na Sr Ti Sn U V Zn Hg: 1631/245.1/7470/7471
Notice: Signature of this do of service. Eurofins Xenco	10 200.8 / 6020: d Metal(s) to be an	uishment of sam for the cost of sa	nples constitutes a amples and shall no	valid purchase order It assume any respor	from client cor nsibility for any	npany to Eurofins losses or expens		clors. It assigns standa	beontractors. It assigns standard terms and conditions uch losses are due to circumstances beyond the control There some will be performed unless previously negotiated	
or Caroline Action. A little	Total 200.7 / 6010 200.8 / 6020: Circle Method(s) and Metal(s) to be analyzed Notice: Signature of this document and relinquishment of so of service: Eurofins Xenco will be lable only for the cost of of service: Eurofins Xenco will be another the cost of	the second second second		ionature)		Date/Time		_	Received by: (Signature)	e) Date/Time
Relinguished by: (Signature)	Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 AI Sb As Ba Be B Cd Ca Cr Co C Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco. Its affiliates and sul of service. Eurofins Xenco will be lable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if s of Eurofins Xenco. A minimum charge of \$8.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed to each project and a charge of \$5 for each sample submitted to Eurofins Xenco. Relinquished but (Signature) Date/Time Relinquished but (Signature)		Received by: (Signature)	· · · · · · · · · · · · · · · · · · ·	T E	5-27 112	X ₂			

Received by OCD: 5/3/2023 1:10:37 PM

12/19/2022

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Chain of Custody

Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3605 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	

Job Number: 890-3605-1

SDG Number: Lea County NM

List Source: Eurofins Carlsbad

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Eurofins Carlsbad Released to Imaging: 9/20/2023 2:58:49 PM

14

Job Number: 890-3605-1 SDG Number: Lea County NM

List Source: Eurofins Midland

List Creation: 12/09/22 11:39 AM

Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3605 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	

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

Received by OCD: 5/3/2023 1:10:37 PM



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

See page two for job notes and contact information

Received by OCD: 5/3/2023 1:10:37 PM

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

RAMER

Generated 12/19/2022 4:41:43 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

Laboratory Job ID: 890-3606-1 SDG: Lea County NM

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2

3

	Definitions/Glassory	
	Definitions/Glossary	
Client: Ensolu		Job ID: 890-3606-1
Project/Site: J	ames 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 VO	Α	
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		
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	

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)

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)

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

PRES Presumptive QC Quality Control

RER Relative Error Ratio (Radiochemistry)

- Reporting Limit or Requested Limit (Radiochemistry) RL
- 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

Job ID: 890-3606-1 SDG: Lea County NM

Job ID: 890-3606-1

Client: Ensolum

Laboratory: Eurofins Carlsbad

Project/Site: James A Waterflood

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.

6 of 276 1 06-1 NM 2

4

Job ID: 890-3606-1 SDG: Lea County NM

Client Sample ID: BH03

Project/Site: James A Waterflood

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

Sample Depth: 1

Client: Ensolum

Matrix: Solid

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 - T	Total BTEX Cal	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
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	56.9		49.9	mg/Kg			12/14/22 12:15	1
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/12/22 11:03	12/13/22 22:26	1
Diesel Range Organics (Over C10-C28)	56.9		49.9	mg/Kg		12/12/22 11:03	12/13/22 22:26	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/12/22 11:03	12/13/22 22:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane			70 - 130			12/12/22 11:03	12/13/22 22:26	1
o-Terphenyl	118		70 - 130			12/12/22 11:03	12/13/22 22:26	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	ography - So	oluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	506	F1	5.03	mg/Kg	_		12/16/22 02:29	1
lient Sample ID: BH03						Lab San	nple ID: 890-	3606-2
ate Collected: 12/06/22 12:45							Matri	x: Solid
ate Received: 12/08/22 11:20								
ample Depth: 4								
Method: SW846 8021B - Volatile	Organic Comp	ounds (GC))					
Analyte		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		0.00200	mg/Kg		12/15/22 15:22	12/17/22 16:06	1
Ethylbonzono	<0.00200		0.00200	or g malka		12/15/22 15:22	10/17/00 16:06	

4-Bromofluorobenzene (Surr)	110		70 - 130		12/15/22 15:22	12/17/22 16:06	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
Xylenes, Total	<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
m-Xylene & p-Xylene	<0.00401	U	0.00401	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
Toluene	<0.00200	U	0.00200	mg/Kg	12/15/22 15:22	12/17/22 16:06	1
				0 0			

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Matrix: Solid

Client Sample Results

Job ID: 890-3606-1 SDG: Lea County NM

Lab Sample ID: 890-3606-2

Client Sample ID: BH03

Project/Site: James A Waterflood

Date Collected: 12/06/22 12:45 Date Received: 12

Sample Depth: 4

Client: Ensolum

2/08/22 11:20		

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 Calo	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		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	65.5		50.0	mg/Kg			12/14/22 12:15	· · · ·
Analyte	Result	Qualifier		Unit	D	Prepared	Analyzed	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)		Qualifier U	· · · ·	Unit mg/Kg mg/Kg mg/Kg	<u> </u>	Prepared 12/12/22 11:03 12/12/22 11:03 12/12/22 11:03	Analyzed 12/13/22 22:48 12/13/22 22:48 12/13/22 22:48	Dil Fac 1 1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result <50.0 65.5	Qualifier U	RL 50.0	mg/Kg	<u> </u>	12/12/22 11:03 12/12/22 11:03	12/13/22 22:48 12/13/22 22:48	1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) DII Range Organics (Over C28-C36) Surrogate	Result <50.0 65.5 <50.0	Qualifier U	RL 50.0 50.0 50.0	mg/Kg	<u> </u>	12/12/22 11:03 12/12/22 11:03 12/12/22 11:03	12/13/22 22:48 12/13/22 22:48 12/13/22 22:48	1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	Result <50.0 65.5 <50.0 %Recovery	Qualifier U	RL 50.0 50.0 50.0 Limits	mg/Kg	<u>D</u>	12/12/22 11:03 12/12/22 11:03 12/12/22 11:03 12/12/22 11:03 Prepared	12/13/22 22:48 12/13/22 22:48 12/13/22 22:48 12/13/22 22:48 Analyzed	1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane p-Terphenyl	Result <50.0	Qualifier U Qualifier	RL 50.0 50.0 50.0 50.0 50.0 50.0 70.130 70.130	mg/Kg	<u>D</u>	12/12/22 11:03 12/12/22 11:03 12/12/22 11:03 12/12/22 11:03 Prepared 12/12/22 11:03	12/13/22 22:48 12/13/22 22:48 12/13/22 22:48 12/13/22 22:48 <u>Analyzed</u> 12/13/22 22:48	1
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 1-Chlorooctane o-Terphenyl Method: MCAWW 300.0 - Anions Analyte	Result <50.0	Qualifier U Qualifier	RL 50.0 50.0 50.0 50.0 50.0 50.0 70.130 70.130	mg/Kg	<u>D</u>	12/12/22 11:03 12/12/22 11:03 12/12/22 11:03 12/12/22 11:03 Prepared 12/12/22 11:03	12/13/22 22:48 12/13/22 22:48 12/13/22 22:48 12/13/22 22:48 <u>Analyzed</u> 12/13/22 22:48	1

Project/Site: James A Waterflood

Job ID: 890-3606-1 SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Client: Ensolum

_				Percent Surrogate Recovery (Acceptance Limits)	
		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-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

_			
		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

Prep Type: Total/NA

Eurofins Carlsbad

Client: Ensolum

Job ID: 890-3606-1 SDG: Lea County NM

Project/Site: James A Waterflood Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-4193 Matrix: Solid											mple ID: Metho Prep Type:	
Analysis Batch: 41993												
Analysis Batch. 41995		B MB									Prep Batc	11: 41950
Analyte	Res		lifier	RL		Unit		D	Р	repared	Analyzed	Dil Fa
Benzene	<0.002			0.00200		mg/K	a	_		5/22 14:55	12/16/22 22:04	
Toluene	< 0.002			0.00200		mg/K	-			5/22 14:55	12/16/22 22:04	
Ethylbenzene	< 0.002			0.00200		mg/K	-			5/22 14:55	12/16/22 22:04	
m-Xylene & p-Xylene	<0.004			0.00400		mg/K				5/22 14:55	12/16/22 22:04	
o-Xylene	< 0.002			0.00200		mg/K				5/22 14:55	12/16/22 22:04	
Xylenes, Total	< 0.004			0.00400		mg/K	-			5/22 14:55	12/16/22 22:04	
·,····							5		, .			
•		B MB							_			
Surrogate	%Recove		lifier	Limits						repared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)		92		70 - 130						5/22 14:55	12/16/22 22:04	
1,4-Difluorobenzene (Surr)		93		70 - 130					12/1	5/22 14:55	12/16/22 22:04	
Lab Sample ID: MB 880-4194	3/5-A									Client Sa	mple ID: Metho	od Blan
Matrix: Solid											Prep Type:	Total/N/
Analysis Batch: 41993											Prep Batc	
-	Ν	B MB										
Analyte	Res	ılt Qua	lifier	RL		Unit		D	Р	repared	Analyzed	Dil Fa
Benzene	<0.002	00 U		0.00200		mg/K	g	_	12/1	5/22 15:22	12/17/22 08:47	
Toluene	<0.002	0 U		0.00200		mg/K	g		12/1	5/22 15:22	12/17/22 08:47	
Ethylbenzene	<0.002	0 U		0.00200		mg/K	g		12/1	5/22 15:22	12/17/22 08:47	
m-Xylene & p-Xylene	<0.004	0 U		0.00400		mg/K	g		12/1	5/22 15:22	12/17/22 08:47	
o-Xylene	<0.002	0 U		0.00200		mg/K	g		12/1	5/22 15:22	12/17/22 08:47	
Xylenes, Total	<0.004	0 U		0.00400		mg/K	g		12/1	5/22 15:22	12/17/22 08:47	
		вмв										
Surrogate	%Recove		lifier	Limits					P	repared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)		97 Quu	inter							5/22 15:22	12/17/22 08:47	
1,4-Difluorobenzene (Surr)		90		70 - 130						5/22 15:22	12/17/22 08:47	
,,												
Lab Sample ID: LCS 880-419	43/1-A							С	lient	Sample I	D: Lab Control	Sample
Matrix: Solid											Prep Type:	Total/N/
Analysis Batch: 41993											Prep Batc	h: 4194
				Spike	LCS	LCS					%Rec	
Analyte				Added	Result	Qualifier	Unit		D	%Rec	Limits	
Benzene				0.100	0.09030		mg/Kg			90	70 - 130	
Taluana				0.100	0.08409		mg/Kg			84	70 - 130	
Toluene							malka			79	70 - 130	
				0.100	0.07938		mg/Kg					
Ethylbenzene				0.100 0.200	0.07938 0.1705		mg/Kg			85	70 - 130	
Ethylbenzene m-Xylene & p-Xylene											70 ₋ 130 70 - 130	
Ethylbenzene m-Xylene & p-Xylene	100 1	~~		0.200	0.1705		mg/Kg			85		
Ethylbenzene m-Xylene & p-Xylene o-Xylene	LCS L %Recovery G			0.200 0.100	0.1705		mg/Kg			85		
Ethylbenzene m-Xylene & p-Xylene o-Xylene Surrogate	%Recovery	CS ualifier		0.200 0.100 <i>Limits</i>	0.1705		mg/Kg			85		
Ethylbenzene m-Xylene & p-Xylene o-Xylene Surrogate 4-Bromofluorobenzene (Surr)				0.200 0.100	0.1705		mg/Kg			85		
Ethylbenzene m-Xylene & p-Xylene o-Xylene Surrogate 4-Bromofluorobenzene (Surr)	97			0.200 0.100 <i>Limits</i> 70 - 130	0.1705		mg/Kg			85		
Ethylbenzene m-Xylene & p-Xylene o-Xylene Surrogate 4-Bromofluorobenzene (Surr) 1,4-Difluorobenzene (Surr) Lab Sample ID: LCSD 880-41	%Recovery G 97 95			0.200 0.100 <i>Limits</i> 70 - 130	0.1705		mg/Kg mg/Kg	ent	Sam	85 88	70 - 130 ab Control Sam	
Ethylbenzene m-Xylene & p-Xylene o-Xylene Surrogate 4-Bromofluorobenzene (Surr) 1,4-Difluorobenzene (Surr) Lab Sample ID: LCSD 880-41	%Recovery G 97 95			0.200 0.100 <i>Limits</i> 70 - 130	0.1705		mg/Kg mg/Kg	ent	Sam	85 88	70 - 130 ab Control Sam Prep Type:	Total/N/
Ethylbenzene m-Xylene & p-Xylene o-Xylene 4-Bromofluorobenzene (Surr) 1,4-Difluorobenzene (Surr) Lab Sample ID: LCSD 880-41 Matrix: Solid	%Recovery G 97 95			0.200 0.100 <i>Limits</i> 70 - 130	0.1705		mg/Kg mg/Kg	ent	Sam	85 88	70 - 130 ab Control Sam	Total/N/
Toluene Ethylbenzene m-Xylene & p-Xylene o-Xylene <i>Surrogate</i> 4-Bromofluorobenzene (Surr) 1,4-Difluorobenzene (Surr) Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41993	%Recovery G 97 95			0.200 0.100 <i>Limits</i> 70 - 130	0.1705	LCSD	mg/Kg mg/Kg	ent	Sam	85 88	70 - 130 ab Control Sam Prep Type:	Total/N/

Eurofins Carlsbad

Client: Ensolum Project/Site: James A Waterflood Job ID: 890-3606-1 SDG: Lea County NM

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

Lab Sample ID: LCSD 880-4 Matrix: Solid	1943/2-A					Clie	nt Sam	ple ID: I	Lab Contro Prep T	l Sample ype: Tot	
Analysis Batch: 41993										Batch:	
-			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 T	ype: Tot	tal/NA
Analysis Batch: 41993									Prep	Batch: 4	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

1,4-Difluorobenzene (Surr)

Analysis Batch: 41993									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	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	86		70 - 130								

70 - 130

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

89

Lab Sample ID: MB 880-41626/1-A Matrix: Solid Analysis Batch: 41693	МВ	МВ				Client Sa	mple ID: Metho Prep Type: ⁻ Prep Batcl	Total/NA
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 19:51	1
(GRO)-C6-C10								

5

6 7 8

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Project/Site: James A Waterflood

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

Lab Sample ID: MB 880-41626	/1 -A								Client Sa	ample ID: I	Nethod	Blank
Matrix: Solid										Prep T	ype: To	otal/NA
Analysis Batch: 41693										Prep	Batch:	41626
Analyte		B MB	RL		Uni		D	Р	repared	Analyz	ed	Dil Fac
Diesel Range Organics (Over	<50						_		2/22 11:03	12/13/22 1		1
C10-C28)			0010					, .	2,22	, .0,		
Oll Range Organics (Over C28-C36)	<50	.0 U	50.0		mg/	Kg		12/1	2/22 11:03	12/13/22 1	19:51	1
	М	IB MB										
Surrogate	%Recove		Limits					Р	repared	Analyz	ed	Dil Fac
1-Chlorooctane		52 S1+	70 - 130						2/22 11:03	12/13/22		1
o-Terphenyl	20	07 S1+	70 - 130					12/1	2/22 11:03	12/13/22	19:51	1
Lab Sample ID: LCS 880-41620							~	liont	Sampla	ID: Lab Co	ntrol S	ample
Matrix: Solid	0/2-A						Ŭ	nem	Jampie	Prep T		
Analysis Batch: 41693											Batch:	
Analysis Baton. +1030			Spike	LCS	LCS					%Rec	Saton.	-1020
Analyte			Added		Qualifier	Unit		D	%Rec	Limits		
Gasoline Range Organics			1000	811.3		mg/Kg			81	70 - 130		
(GRO)-C6-C10												
Diesel Range Organics (Over C10-C28)			1000	825.1		mg/Kg			83	70 - 130		
	LCS L	cs										
Surrogate	%Recovery Q	ualifier	Limits									
1-Chlorooctane	102		70 - 130									
o-Terphenyl	116		70 - 130									
								•				
Lab Sample ID: LCSD 880-416	26/3-A					CI	ient	Sam	ipie ID: L	ab Contro	-	
Matrix: Solid											ype: To	
Analysis Batch: 41693			Spike		LCSD					%Rec	Batch:	41020 RPD
Analyte			Added		Qualifier	Unit		D	%Rec	Limits	RPD	Limit
Gasoline Range Organics			1000	928.5	Quaimer	mg/Kg			93	70 - 130	13	20
(GRO)-C6-C10			1000	020.0		iiig/itg			50	10-100	10	20
Diesel Range Organics (Over			1000	910.5		mg/Kg			91	70 - 130	10	20
C10-C28)												
	LCSD LO	CSD										
Surrogate	%Recovery Q	ualifier	Limits									
1-Chlorooctane	114		70 - 130									
o-Terphenyl	127		70 - 130									
Lab Sample ID: 890-3605-A-1-0	CMS								Client	Sample ID:	Matrix	Snike
Matrix: Solid											ype: To	
Analysis Batch: 41693											Batch:	
,	Sample Sa	ample	Spike	MS	MS					%Rec		
Analyte	Result Q	-	Added		Qualifier	Unit		D	%Rec	Limits		
Gasoline Range Organics	<50.0 U		999	939.4		mg/Kg			92	70 - 130		
(GRO)-C6-C10												
Diesel Range Organics (Over C10-C28)	<50.0 U		999	1020		mg/Kg			102	70 - 130		
010-020)		-										
	MS M	S										

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	91		70 - 130

Eurofins Carlsbad

Job ID: 890-3606-1 SDG: Lea County NM

Client: Ensolum Project/Site: James A Waterflood

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

Lab Sample ID: 890-3605-A-1	-D MSD							Jumpio	ID: Matrix S		
Matrix: Solid										Type: To	
Analysis Batch: 41693									Pre	p Batch:	4162
	Sample	Sample	Spike	MSD	MSD				%Rec		RPI
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limi
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	2
C10-C28)											
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	94		70 - 130								
o-Terphenyl	93		70 - 130								
lethod: 300.0 - Anions, l	on Chromat	ography									
Lab Sample ID: MB 880-4147	0/1_0							Client	Sample ID:	Mothod	Blan
Matrix: Solid	V/ 1-A							Gieilt	-	Type: S	
Analysis Batch: 41945									Fieb	, iyhe. S	
Analysis Batch: 41945		МВ МВ									
Analuta	D	esult Qualifier		RL	Unit		D	Prepared	Analy	and	Dil Fa
					Unit		U	Frepareu	Analy	zeu	DII Га
-						a			12/16/22	02.07	
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid	<	25.00 U		5.00	mg/K	g	Clie	nt Samp	12/16/22 le ID: Lab C Prep		ampl
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid	<		Spike	5.00	mg/K	g	Clie	nt Samp	le ID: Lab C Prep	Control S	ample
Analyte Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte	<		Spike Added	5.00 LCS		g Unit	Clie		le ID: Lab C	Control S	ample
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte	<		•	5.00 LCS	LCS	-			le ID: Lab C Prep %Rec	Control S	ample
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride	79/2-A		Added	5.00 LCS Result	LCS	Unit mg/Kg	[% Rec	le ID: Lab C Prep %Rec Limits 90 - 110	Control S Type: S	ample oluble
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41	79/2-A		Added	5.00 LCS Result	LCS	Unit mg/Kg	[% Rec	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr	Control S Type: S	ample oluble
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid	79/2-A		Added	5.00 LCS Result	LCS	Unit mg/Kg	[% Rec	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr	Control S Type: S	ample oluble le Dup
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid	79/2-A		Added 250	5.00 LCS Result 253.5	LCS Qualifier	Unit mg/Kg	[% Rec	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr Prep	Control S Type: S	ample oluble le Dup oluble
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945	79/2-A		Added 250 Spike	5.00 LCS Result 253.5	LCS Qualifier	Unit mg/Kg Cli	ent Sa	%Rec 101 mple ID	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr Prep %Rec	ontrol S Type: S ol Samp	ample oluble le Dup coluble RPE
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte	79/2-A		Added 250 Spike Added	5.00 LCS Result 253.5 LCSD Result	LCS Qualifier	Unit mg/Kg Cli	[%Rec 101 mple ID	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr Prep %Rec Limits	ol Samp Type: S	ample oluble le Dup coluble RPE Limi
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945	79/2-A		Added 250 Spike	5.00 LCS Result 253.5	LCS Qualifier	Unit mg/Kg Cli	ent Sa	%Rec 101 mple ID	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr Prep %Rec	ontrol S Type: S ol Samp	ample oluble le Dup coluble RPE Limi
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte Chloride	79/2-A 479/3-A		Added 250 Spike Added	5.00 LCS Result 253.5 LCSD Result	LCS Qualifier	Unit mg/Kg Cli	ent Sa	%Rec 101 mple ID	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr Prep %Rec Limits 90 - 110	ol Samp Type: S Ol Samp Type: S	le Dup oluble coluble RPI Limi 20
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-1 M	79/2-A 479/3-A		Added 250 Spike Added	5.00 LCS Result 253.5 LCSD Result	LCS Qualifier	Unit mg/Kg Cli	ent Sa	%Rec 101 mple ID	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr Prep %Rec Limits 90 - 110 Client Sa	Control S Type: S ol Samp o Type: S <u>RPD</u> 1 mple ID:	le Dup oluble coluble coluble <u>Limi</u> 20 3
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-1 M Matrix: Solid	79/2-A 479/3-A		Added 250 Spike Added	5.00 LCS Result 253.5 LCSD Result	LCS Qualifier	Unit mg/Kg Cli	ent Sa	%Rec 101 mple ID	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr Prep %Rec Limits 90 - 110 Client Sa	ol Samp Type: S Ol Samp Type: S	le Dup foluble foluble RPE Limi 20 8 BH03
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-1 M	79/2-A 479/3-A		Added 250 Spike Added 250	5.00 LCS Result 253.5 LCSD Result 251.3	LCS Qualifier LCSD Qualifier	Unit mg/Kg Cli	ent Sa	%Rec 101 mple ID	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr Prep %Rec Limits 90 - 110 Client Sa Prep	Control S Type: S ol Samp o Type: S <u>RPD</u> 1 mple ID:	le Dup foluble foluble RPE Limi 20 8 BH03
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-1 M Matrix: Solid Analysis Batch: 41945	79/2-A 479/3-A IS Sample	5.00 U	Added 250 Spike Added 250 Spike	5.00 LCS Result 253.5 LCSD Result 251.3	LCS Qualifier Qualifier	Unit mg/Kg Cli	ent Sa	%Rec 101 mple ID %Rec 101	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr Prep %Rec Limits 90 - 110 Client Sa Prep %Rec	Control S Type: S ol Samp o Type: S <u>RPD</u> 1 mple ID:	le Dup soluble RPC Limi 20 5 BH03
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-1 M Matrix: Solid Analysis Batch: 41945 Analyte	79/2-A 479/3-A IS Sample Result	5.00 U	Added 250 Spike Added 250 Spike Added	5.00 LCS Result 253.5 LCSD Result 251.3 MS Result	LCS Qualifier LCSD Qualifier MS Qualifier	Unit mg/Kg Cli Unit mg/Kg	ent Sa	%Rec 101 %Rec 101	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr Prep %Rec Limits 90 - 110 Client Sa Prep %Rec Limits	Control S Type: S ol Samp o Type: S <u>RPD</u> 1 mple ID:	le Dup oluble oluble RPE Limi 20
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Chloride Lab Sample ID: 890-3606-1 M Matrix: Solid Analysis Batch: 41945 Analyte	79/2-A 479/3-A IS Sample	5.00 U	Added 250 Spike Added 250 Spike	5.00 LCS Result 253.5 LCSD Result 251.3	LCS Qualifier LCSD Qualifier MS Qualifier	Unit mg/Kg Cli	ent Sa	%Rec 101 mple ID %Rec 101	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr Prep %Rec Limits 90 - 110 Client Sa Prep %Rec	Control S Type: S ol Samp o Type: S <u>RPD</u> 1 mple ID:	le Dup oluble coluble coluble <u>Limi</u> 20 3
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-1 M Matrix: Solid Analysis Batch: 41945 Analyte Chloride Chloride Chloride	79/2-A 479/3-A IS Sample <u>Result</u> 506	5.00 U	Added 250 Spike Added 250 Spike Added	5.00 LCS Result 253.5 LCSD Result 251.3 MS Result	LCS Qualifier LCSD Qualifier MS Qualifier	Unit mg/Kg Cli Unit mg/Kg	ent Sa	%Rec 101 %Rec 101	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr Prep %Rec Limits 90 - 110 Client Sa Prep %Rec Limits 90 - 110	ol Samp ol Samp o Type: S <u>RPD</u> 1 mple ID: o Type: S	le Dup coluble RPI Limi 20 coluble
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-1 N Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-1 N	79/2-A 479/3-A IS Sample <u>Result</u> 506	5.00 U	Added 250 Spike Added 250 Spike Added	5.00 LCS Result 253.5 LCSD Result 251.3 MS Result	LCS Qualifier LCSD Qualifier MS Qualifier	Unit mg/Kg Cli Unit mg/Kg	ent Sa	%Rec 101 %Rec 101	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr Prep %Rec Limits 90 - 110 Client Sa 90 - 110 Client Sa	ontrol S Type: S ol Samp o Type: S <u>RPD</u> 1 mple ID: Type: S	le Dup coluble RPI Limi 20 coluble coluble
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-1 N Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-1 N Matrix: Solid Analyte Chloride Lab Sample ID: 890-3606-1 N Matrix: Solid	79/2-A 479/3-A IS Sample <u>Result</u> 506	5.00 U	Added 250 Spike Added 250 Spike Added	5.00 LCS Result 253.5 LCSD Result 251.3 MS Result	LCS Qualifier LCSD Qualifier MS Qualifier	Unit mg/Kg Cli Unit mg/Kg	ent Sa	%Rec 101 %Rec 101	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr Prep %Rec Limits 90 - 110 Client Sa 90 - 110 Client Sa	ol Samp ol Samp o Type: S <u>RPD</u> 1 mple ID: o Type: S	le Dup coluble <u>Limi</u> 20 coluble coluble coluble
Chloride Lab Sample ID: LCS 880-414 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-1 N Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-1 N	79/2-A 479/3-A IS Sample Result 506	5.00 U	Added 250 Spike Added 250 Spike Added	5.00 LCS Result 253.5 LCSD Result 251.3 MS Result 812.9	LCS Qualifier LCSD Qualifier MS Qualifier	Unit mg/Kg Cli Unit mg/Kg	ent Sa	%Rec 101 %Rec 101	le ID: Lab C Prep %Rec Limits 90 - 110 : Lab Contr Prep %Rec Limits 90 - 110 Client Sa 90 - 110 Client Sa	ontrol S Type: S ol Samp o Type: S <u>RPD</u> 1 mple ID: Type: S	le Dup coluble <u>Limi</u> 20 coluble coluble coluble

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0

82

90 - 110

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812.4 F1

mg/Kg

252

Chloride

506 F1

20

QC Association Summary

Client: Ensolum Project/Site: James A Waterflood Page 224 of 276

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8

Job ID: 890-3606-1 SDG: Lea County NM

GC VOA

Prep Batch: 41938

ab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
1B 880-41938/5-A	Method Blank	Total/NA	Solid	5035	
ep Batch: 41943					
ab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
90-3606-1	BH03	Total/NA	Solid	5035	
90-3606-2	BH03	Total/NA	Solid	5035	
IB 880-41943/5-A	Method Blank	Total/NA	Solid	5035	
CS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	5035	
CSD 880-41943/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
90-3601-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
90-3601-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Lab Sample ID **Client Sample ID** Prep Type Matrix Method Prep Batch 890-3606-1 BH03 Total/NA 8021B Solid 41943 BH03 890-3606-2 Total/NA Solid 8021B 41943 MB 880-41938/5-A Method Blank Total/NA 8021B 41938 Solid Method Blank MB 880-41943/5-A Total/NA Solid 8021B 41943 LCS 880-41943/1-A Lab Control Sample Total/NA Solid 8021B 41943 LCSD 880-41943/2-A Total/NA Lab Control Sample Dup 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	Ргер Туре	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	Ргер Туре	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

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Job ID: 890-3606-1 SDG: Lea County NM

GC Semi VOA

Analysis Batch: 41814

Client Sample ID	Prep Type	Matrix	Method	Prep Batch
BH03	Total/NA	Solid	8015 NM	
BH03	Total/NA	Solid	8015 NM	
-	BH03	BH03 Total/NA	BH03 Total/NA Solid	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		8
890-3606-2	BH03	Soluble	Solid	DI Leach		~
MB 880-41479/1-A	Method Blank	Soluble	Solid	DI Leach		a
LCS 880-41479/2-A	Lab Control Sample	Soluble	Solid	DI Leach		3
LCSD 880-41479/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach		10
890-3606-1 MS	BH03	Soluble	Solid	DI Leach		IU
890-3606-1 MSD	BH03	Soluble	Solid	DI Leach		
Analysis Batch: 41945						
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch	
890-3606-1	BH03	Soluble	Solid	300.0	41479	
890-3606-2	BH03	Soluble	Solid	300.0	41479	3
MB 880-41479/1-A	Method Blank	Soluble	Solid	300.0	41479	

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	

Job ID: 890-3606-1 SDG: Lea County NM

Lab Sample ID: 890-3606-1 Matrix: Solid

Lab Sample ID: 890-3606-2

Matrix: Solid

Client Sample ID: BH03 Date Collected: 12/06/22 12:30 Date Received: 12/08/22 11:20

Project/Site: James A Waterflood

Client: Ensolum

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 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 15:45	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			10.02 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 22:26	SM	EET MID
Soluble	Leach	DI Leach			4.97 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 02:29	СН	EET MID

Client Sample ID: BH03

Date Collected: 12/06/22 12:45 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	СН	EET MID

Laboratory References:

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

5 6 9

		Accreditation/C	ertification Summary		
Client: Ensolum Project/Site: James A V	Vaterflood			Job ID: 890-360 SDG: Lea County	
Laboratory: Eurofi		vere covered under each acc	raditation/contification holow		3
Authority		Program	Identification Number	Expiration Date	4
Texas			T104704400-22-24	06-30-23	
The following analytes the agency does not of		out the laboratory is not certif	ied by the governing authority. This list ma	y include analytes for which	5
Analysis Method	Prep Method	Matrix	Analyte		
8015 NM		Solid	Total TPH		
Total BTEX		Solid	Total BTEX		
					8
					9
					10
					11
					13

Eurofins Carlsbad

.

Method Summary

Client: Ensolum Project/Site: James A Waterflood

Job ID: 890-3606-1 SDG: Lea County NM

Vethod	Method Description	Protocol	Laboratory
3021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
3015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
3015B 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
3015NM Prep	Microextraction	SW846	EET MID
OI Leach	Deionized Water Leaching Procedure	ASTM	EET MID
	STM International		
	"Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, Mar	I I	
	Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edit	tion, November 1986 And Its Updates.	
TAL SOP =	 TestAmerica Laboratories, Standard Operating Procedure 		
Laboratory Re			
EET MID =	Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440		

Protocol References:

Laboratory References:

Eurofins Carlsbad

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	Depth	
890-3606-1	BH03	Solid	12/06/22 12:30	12/08/22 11:20	1	4
890-3606-2	BH03	Solid	12/06/22 12:45	12/08/22 11:20	4	
						5
						8
						9
						10
						12
						13

.

any Name: Ensolum, LLC Company Name: Ensolum, LLC ss: 601 N Marienfeld SI Suite 400 Address: 601 N Marienfeld SI Suite 400 ss: 601 N Marienfeld SI Suite 400 Address: 601 N Marienfeld SI Suite 400 ss: 817 683 2503 Ensiti Kennings@ensolum.com; jadams@ensolum.com tName: James A Waterflood Turn Around tName: Conner Shore Fish tLocation: Conner Shore Fish tell Sceenbed Intect: Ces No Wet fis: tell Sceenbed Intect: Ves No Wet fis: tell Sceenbed Intect: Ves No Wet fis: tell Sceenbed Intect: Ves No Wet fis: BH03 S 12.6.22 19.4.5 BH03 S 12.6.22 19.4.5 BH03 S 12.6.22 19.4.5 BH03 S 12.6.22 19.4.5 BH03 S 12.6.22 19.4.5 Ar Sample Identification Markin Sampled Sone Ba Be B Cd Ca Cr BH03 S 12.6.22 19.4.5 Ar G BH03 S 12.6.22 19.4.5 Ar G 1 X X BH03 S	Project Manager: Kalei Je	alei Jennings	Bill to: (If	0, TX (4)	vock, TX (806) 794-1296 vad, NM (575) 988-3199
pany Name: Ensolum, LLC Company Name: Ensolum, LLC Company Name: Ensolum, LLC ess: 601 N Marienfield SI Suite 400 Address: 601 N Marienfield SI Suite 400 Address: 601 N Marienfield SI Suite 400 state ZIP: Midland, TX 73701 Email: [kinnings@ensolum Cmineld SI Suite 400 et: Usines Value 50020241120 Email: [kinnings@ensolum Cmineld SI Suite 400 et: Lasi County, NM Due Date: Rush Rest Rest piles Received Inted: Les County, NM Due Date: Rush Received Inted: AMALY piles Received Inted: Les County, NM Due Date: Rush Received Inted: AMALY piles Received Inted: Les County, NM Due Date: Received Inted: Adv Adv piles Received Inted: Les County, NM Cornection Factor: - - - - - - - - - - - - - - - - -		Kalei Jennings	Bill to: (if different)	Kalei Jennings	
Iddees: 601 N Marienfeld SI Suite 400 Address: 601 N Marienfeld SI Suite 400 orget Name: James A Waterflood Tum Around Chy, Stale ZIP: Midland, TX 79701 oper Name: James A Waterflood Tum Around Resh Commercial Status oper Name: Connet Shore Trans Resh Bourine Resh Connet Shore mples Connet Shore TAT starts the day resided by the lab. If include by		insolum, LLC	Company Name		
Ny, State ZIP: Midland, TX 79701 Email: kignnings@ensolum.com; jadams@ensolum.com one: 817.683.2503 Tum Around Amaly Kignnings@ensolum.com; jadams@ensolum.com oject Name: James A Waterflood Tum Around Run oject Name: Connet Shore Tat suits the day received by the lab. if receive		01 N Marienfeld St Suite		601 N Marienfeld S	st Suite 400
one: 817.683.2503 Email: kigenings@ensolum.com; jadams@ensolum.com oject Name: James A Waterflood Turn Around Maintain Second Commentation Second Commentati	City, State ZIP: N	fidland, TX 79701	City, State ZIP:	Midland, TX 79701	
oject Name: James A Waterflood Turn Around Routine Invance Name AMALY oject Location: Use County, NM Due Date: Trail statistic day received by Trail statistic day received by 430pm Non Market Conner Shore Non Water Conner Shore Trail statistic day received by trail statistic day received by trail containers: Non Water Outer Custody Correction Factor: Parameters Parameters Parameters BH03 S 12.6.22 13/30 11.6.22 13/30 11.4.5.2 Statistic day received by conter Custody Seals: Non Non Statistic day received by conterestic day received by conterestic day received by train statistic availage and stating assame availage day out to the second day out to the		17.683.2503	Email: kjennings@en	olum.com; jadams@er	nsolum.com
opect Number: 03D2024119 & 03D2024120 Routine Protect opect Location: Lea County, NM Due Date: That starts the day received by mpler's Name: Connert Shore That starts the day received by NMPLE RECEIPT Temp Blank: (es) No Wet loc: -0.6 Map Cash Yes No The Monometer ID: No Parameters Other Custory Seals: Yes No No Correction Factor: -0.6 Parameters all Containers: Ves No Na Correction Factor: -0.6 Parameters all Containers: Ves No Na Correction Factor: -0.6 Parameters all Containers: Ves No Na Correction Factor: -0.6 Parameters all Containers: Ves Na Correction Factor: -0.6 Parameters Parameters all Containers: Na S 12.6.22 10.45 4 G 1 x x BH03 S 12.6.22 10.45 4 G 1 x x x BH03 S 12.6.22 10.45 4 G 1 x x x	Project Name:	James A Waterflood			ANALYSIS REQUEST
opect Location: Lea County, NM Due Date: mpler's Name: Conner Shore TraT starts the day received by the lab. if received by 4 30pm 0.8: Conner Shore TaT starts the day received by the lab. if received by 4 30pm 0.8: Conner Shore The finance The lab. if received by 4 30pm 0.8: Yes No The finance Starts the day received by the lab. if received by 4 30pm 0.8: Yes No Mark Corrector Factor: - 0 Parameters Sample Custody Seals: Yes No Mark to apple the factor: - 0 Parameters BH03 S 12.6.22 10/4 S 4 G 1 x x BH03 S 12.6.22 10/4 S 4 G 1 x x assample Barcen 10 x x x x assample But the lab. Free dott A A A A A A A A A A A A A A A <td>Project Number:</td> <td>03D2024119 & 03D2024</td> <td> Routine </td> <td>Pres. Code</td> <td></td>	Project Number:	03D2024119 & 03D2024	 Routine 	Pres. Code	
Impler's Name: Conner Shore TAT starts the day received by the bb. if receiv	Project Location:	Lea County, NM	Due Date:		
J#: Ite lab. if received v3 approximate received v4 300m AMPLE RECEIPT Temp Blank: (res) No Wei loe: Vei No No Imples Received Intact: Ves No Minimum retring Mininum retring Mininum retring	Sampler's Name:	Conner Shore	TAT starts the day received by		
AMPLE RECEIPT Temp Blank: (les) No Wet loc: Vet No Thermometer ID: No N	PO#:		the lab, if received by 4:30pm		
Imples Received Intact: V(e) No Themformeter ID: VM/VIC Parar	SAMPLE RECEIPT	Temp Blank:	Wet Ice: Yes		
order Custody Seals: Yes No. Kill Correction Factor: - 0. 6 Fill all Containers: Ves No. Matrix Sampled temperature Reading: 2 - 6 Fill Reading: 2 - 6 Reading: Readin	Samples Received Inta	Ves No	IN		
Imple Custody Seals: Yes No W/W Temperature Reading: O - 0 Bell sample Identification Matrix Sampled	Cooler Custody Seals:	Yes No NIA	-0.		
Sample Identification Matrix Date Sampled Time Sampled Depth Sampled Comp Cont Sampled Cont Sampled Comp Cont Sampled	Sample Custody Seals	Yes NO NAY	28.	5)	E-068
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	Relinquished by: ((Signature)	Received by: (Signature)	Date/Time	Relinquished by

Chain of Custody

Page 230 of 276

Job Number: 890-3606-1 SDG Number: Lea County NM

List Source: Eurofins Carlsbad

Login Sample Receipt Checklist

Client: Ensolum

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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Job Number: 890-3606-1 SDG Number: Lea County NM

List Source: Eurofins Midland

List Creation: 12/09/22 11:39 AM

Login Sample Receipt Checklist

Client: Ensolum

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	

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

5 6

Received by OCD: 5/3/2023 1:10:37 PM



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

See page two for job notes and contact information



Received by OCD: 5/3/2023 1:10:37 PM

1

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

RAMER

Generated 12/19/2022 4:42:00 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

Laboratory Job ID: 890-3607-1 SDG: Lea County NM

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QC Sample Results	9
QC Association Summary	13
Lab Chronicle	15
Certification Summary	16
Method Summary	17
Sample Summary	18
Chain of Custody	19
Receipt Checklists	20

2

3

	Definitions/Glossary	
Client: Ensolur		Job ID: 890-3607-1
Project/Site: Ja	ames 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		
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
a	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)	

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

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

Limit of Quantitation (DoD/DOE)

Method Detection Limit Minimum Level (Dioxin)

Most Probable Number

Not Calculated

Negative / Absent

Positive / Present Practical Quantitation Limit

Presumptive

Quality Control

Method Quantitation Limit

EPA recommended "Maximum Contaminant Level"

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

Minimum Detectable Activity (Radiochemistry) Minimum Detectable Concentration (Radiochemistry)

LOQ MCL

MDA

MDC MDL

ML MPN

MQL

NC

ND NEG

POS

PQL PRES

QC

RER

RL RPD

TEF

TEQ

TNTC

Job ID: 890-3607-1 SDG: Lea County NM

Job ID: 890-3607-1

Client: Ensolum

Laboratory: Eurofins Carlsbad

Project/Site: James A Waterflood

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.

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Job ID: 890-3607-1 SDG: Lea County NM

Client Sample ID: BH02

Project/Site: James A Waterflood

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

Sample Depth: 1

Client: Ensolum

SDG: Lea County

Lab Sample ID: 890-3607-1 Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00199	U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 16:27	
Toluene	<0.00199	U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 16:27	
Ethylbenzene		U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 16:27	
m-Xylene & p-Xylene			0.00398	mg/Kg		12/15/22 15:22	12/17/22 16:27	
o-Xylene		U	0.00199	mg/Kg		12/15/22 15:22	12/17/22 16:27	
Xylenes, Total	<0.00398		0.00398	mg/Kg		12/15/22 15:22	12/17/22 16:27	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)			70 - 130			12/15/22 15:22	12/17/22 16:27	
1,4-Difluorobenzene (Surr)	105		70 - 130			12/15/22 15:22	12/17/22 16:27	
Method: TAL SOP Total BTEX - To	otal BTEX Calo	ulation						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00398		0.00398	mg/Kg		·	12/19/22 16:21	
Method: SW846 8015 NM - Diese	l Range Organi	ics (DRO) (0	GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	<49.9		49.9	mg/Kg			12/14/22 12:15	
Method: SW846 8015B NM - Dies	el Range Orga	nics (DRO)	(GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/12/22 11:03	12/13/22 23:10	
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/12/22 11:03	12/13/22 23:10	
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/12/22 11:03	12/13/22 23:10	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	112		70 - 130			12/12/22 11:03	12/13/22 23:10	
o-Terphenyl	111		70 - 130			12/12/22 11:03	12/13/22 23:10	
Method: MCAWW 300.0 - Anions	, Ion Chromato	graphy - So	oluble					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	5.94		4.97	mg/Kg			12/16/22 02:58	
lient Sample ID: BH02						Lab San	nple ID: 890-	3607-2
ate Collected: 12/06/22 12:25								x: Soli
ate Received: 12/08/22 11:20							math	
ample Depth: 4								
Method: SW846 8021B - Volatile (Organic Comp	ounds (GC)						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00199		0.00199	mg/Kg		12/15/22 15:22	12/17/22 16:47	
Toluene	< 0.00199		0.00199	mg/Kg		12/15/22 15:22	12/17/22 16:47	
Ethylbenzene	< 0.00199		0.00199	mg/Kg		12/15/22 15:22	12/17/22 16:47	
m-Xylene & p-Xylene	<0.00199		0.00398	mg/Kg		12/15/22 15:22	12/17/22 16:47	
	~0.00390	0	0.00030	iiig/Kg		12/10/22 10.22	12/11/22 10.41	

o-Xylene <0.00199 U 0.00199 12/15/22 15:22 12/17/22 16:47 mg/Kg 1 Xylenes, Total <0.00398 U 0.00398 mg/Kg 12/15/22 15:22 12/17/22 16:47 1 Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 4-Bromofluorobenzene (Surr) 121 70 - 130 12/15/22 15:22 12/17/22 16:47 1

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Released to Imaging: 9/20/2023 2:58:49 PM

Client Sample Results

Job ID: 890-3607-1 SDG: Lea County NM

Client Sample ID: BH02

Project/Site: James A Waterflood

Date Collected: 12/06/22 12:25 Date Received: 12/08/22 11:20

Sample Depth: 4

Client: Ensolum

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

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 - To	otal BTEX Calo	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	Range Organ	ics (DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/14/22 12:15	1
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 23:32	
Method: SW846 8015B NM - Dies Analyte		nics (DRO) Qualifier	(GC) RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 23:32	1
C10-C28)		-						
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/12/22 11:03	12/13/22 23:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	128		70 - 130			12/12/22 11:03	12/13/22 23:32	1
o-Terphenyl	123		70 - 130			12/12/22 11:03	12/13/22 23:32	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	ography - So	oluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35.4		4.98	mg/Kg			12/16/22 03:05	1

Eurofins	Carlsbad

Lab Sample ID: 890-3607-2 Matrix: Solid 5 Project/Site: James A Waterflood

Job ID: 890-3607-1 SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Client: Ensolum

				Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		5
890-3601-A-1-C MS	Matrix Spike	85	92		
890-3601-A-1-D MSD	Matrix Spike Duplicate	86	89		6
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		8
MB 880-41938/5-A	Method Blank	92	93		
MB 880-41943/5-A	Method Blank	97	90		0
					9
Surrogate Legend					

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

-			
		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

Prep Type: Total/NA

Prep Type: Total/NA

Project/Site: James A Waterflood

Client: Ensolum

Job ID: 890-3607-1 SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41938/5-/	A										client Sa	ample ID: M		
Matrix: Solid												Prep Ty		
Analysis Batch: 41993		мв	мр									Prep	Batch	: 41938
Analyte	Re		MB Qualifier		RL		Uni	t	D	Р	repared	Analyze	h	Dil Fac
Benzene	<0.00		U	0.00			mg/				5/22 14:55	12/16/22 2		1
Toluene	<0.00			0.00			mg/				5/22 14:55	12/16/22 2		1
Ethylbenzene	<0.00		U	0.00			mg/	-			5/22 14:55	12/16/22 2		1
m-Xylene & p-Xylene	<0.00		U	0.00			mg/				5/22 14:55	12/16/22 2		
o-Xylene	<0.00		U	0.00			mg/	-			5/22 14:55	12/16/22 2		1
Xylenes, Total	<0.00			0.00			mg/	-			5/22 14:55	12/16/22 2		1
	0.00			0.00						, .	0,22 1100	,	2.0.	
		MΒ	МВ											
Surrogate	%Reco	-	Qualifier	Limits							repared	Analyze		Dil Fac
4-Bromofluorobenzene (Surr)		92		70 - 13							5/22 14:55	12/16/22 2		1
1,4-Difluorobenzene (Surr)		93		70 - 13	30					12/1	5/22 14:55	12/16/22 2	2:04	1
Lab Sample ID: MB 880-41943/5-/	A										Client Sa	ample ID: N	letho	d Blank
Matrix: Solid												Prep Ty		
Analysis Batch: 41993														: 41943
		ΜВ	МВ											
Analyte	Re	sult	Qualifier		RL		Uni	t	D	Р	repared	Analyze	d	Dil Fac
Benzene	<0.00	0200	U	0.00	200		mg/	Кg		12/1	5/22 15:22	12/17/22 0	8:47	1
Toluene	<0.00)200	U	0.00	200		mg/	ΊKg		12/1	5/22 15:22	12/17/22 0	8:47	1
Ethylbenzene	<0.00)200	U	0.00	200		mg/	-		12/1	5/22 15:22	12/17/22 0	8:47	1
m-Xylene & p-Xylene	<0.00	0400	U	0.00	400		mg/	Κg		12/1	5/22 15:22	12/17/22 0	8:47	1
o-Xylene	<0.00	0200	U	0.00	200		mg/	-		12/1	5/22 15:22	12/17/22 0	8:47	1
Xylenes, Total	<0.00)400	U	0.00	400		mg/			12/1	5/22 15:22	12/17/22 0	8:47	1
								0						
		MВ	MB											
Surrogate	%Reco		Qualifier	Limits							repared	Analyze		Dil Fac
4-Bromofluorobenzene (Surr)		97		70 - 13							5/22 15:22	12/17/22 0		1
1,4-Difluorobenzene (Surr)		90		70 - 13	30					12/1	5/22 15:22	12/17/22 0	8:47	1
Lab Sample ID: LCS 880-41943/1	-A								С	lient	Sample	ID: Lab Co	ntrol	Sample
Matrix: Solid	^								Ŭ		Compio	Prep Ty		-
Analysis Batch: 41993														: 41943
				Spike		LCS	LCS					%Rec		
Analyte				Added			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		
								0.0						
Surrogoto	LCS			Limito										
Surrogate 4-Bromofluorobenzene (Surr)	%Recovery 97	Qua		Limits 70 - 130										
1,4-Difluorobenzene (Surr)	97 95			70 - 130 70 - 130										
	30			10 - 100										
Lab Sample ID: LCSD 880-41943/	2-A							С	lient	Sam	nple ID: L	ab Control	Samp	ole Dup
Matrix: Solid												Prep Ty	ype: T	otal/NA
Analysis Detals 44000												Prep	Batch	: 41943
Analysis Batch: 41993														
Analysis Batch: 41993				Spike		LCSD	LCSD					%Rec		RPD
Analysis Batch: 41993 Analyte				Spike Added			LCSD Qualifier	Unit		D	%Rec	%Rec Limits	RPD	

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Client: Ensolum Project/Site: James A Waterflood

Job ID: 890-3607-1 SDG: Lea County NM

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

Lab Sample ID: LCSD 880-41943/2-AClient Sample ID: Lab Control SampleMatrix: SolidPrep Type: Total								tal/NA			
Analysis Batch: 41993										Batch:	
			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 T	ype: To	tal/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

1,4-Difluorobenzene (Surr)

Analysis Batch: 41993									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	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	86		70 - 130								

70 - 130

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

89

Lab Sample ID: MB 880-41626/1-A Matrix: Solid Analysis Batch: 41693	мв	МВ				Client Sa	mple ID: Metho Prep Type: ⁻ Prep Batcl	Total/NA
Analyte	Result	Qualifier	RL	Unit	<u>D</u>	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 19:51	1

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Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Gasoline Range Organics

Diesel Range Organics (Over

(GRO)-C6-C10

C10-C28)

Dil Fac

Dil Fac

1

1

1

Job ID: 890-3607-1 SDG: Lea County NM

Prep Type: Total/NA Prep Batch: 41626

Prep Type: Total/NA Prep Batch: 41626

Client Sample ID: Method Blank

Analyzed

12/13/22 19:51

12/13/22 19:51

Analyzed

12/13/22 19:51

Method: 8015B NM - Diesel Ra Lab Sample ID: MB 880-41626/1-A Matrix: Solid	ange Orgai	nics (DR	O) (GC) (Co	ntinue	∍d)			Client Sa
Analysis Batch: 41693								
	МВ	MB						
Analyte	Result	Qualifier	RL		Unit		D	Prepared
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/K	g		12/12/22 11:03
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/K	g		12/12/22 11:03
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits					Prepared
1-Chlorooctane	152	S1+	70 - 130					12/12/22 11:03
o-Terphenyl	207	S1+	70 - 130					12/12/22 11:03
- Lab Sample ID: LCS 880-41626/2-A	\						С	lient Sample I
Matrix: Solid								
Analysis Batch: 41693								
-			Spike	LCS	LCS			
Analyte			Added	Result	Qualifier	Unit		D %Rec

2/12/22 11:03 12/13/22 19:51 1 nt Sample ID: Lab Control Sample

mg/Kg	83	70 - 130

%Rec

Limits

70 - 130

81

	LCS		
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	116		70 - 130

Lab Sample ID: LCSD 880-41626/3-A Clien							Lab Contro	I Sample	e Dup
Matrix: Solid							Prep 1	Type: Tot	tal/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	1000	928.5		mg/Kg		93	70 - 130	13	20
(GRO)-C6-C10	1000	0.40 E						4.0	
Diesel Range Organics (Over C10-C28)	1000	910.5		mg/Kg		91	70 - 130	10	20

1000

1000

811.3

825.1

mg/Kg

	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	
Matrix: Solid	
Analysis Batch: 41693	
Sample	Sample

Analysis Batch: 41693									Prep	p Batch: 4162	0
	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
o-Terphenyl	91		70 - 130

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Client Sample ID: Matrix Spike

Prep Type: Total/NA Dren Detahi 44000

Client: Ensolum Project/Site: James A Waterflood Job ID: 890-3607-1 SDG: Lea County NM

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

Matrix: Solid									Prep 1	Гуре: То	tal/N/
Analysis Batch: 41693										Batch:	
	Sample	Sample	Spike	MSD	MSD				%Rec		RP
Analyte	-	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Lim
Gasoline Range Organics	<50.0	U	997	910.9		mg/Kg		89	70 - 130	3	2
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<50.0	U	997	1037		mg/Kg		104	70 - 130	2	2
010-020)	MSD	мер									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane			70 - 130								
o-Terphenyl	93		70 - 130								
lethod: 300.0 - Anions, I Lab Sample ID: MB 880-4147 Matrix: Solid Analysis Batch: 41945		ography						Client S	Sample ID: Prep	Method Type: S	
Analista	D	MB MB		ы	11	-	、 r) was a second	Amelur	d	
Analyte Chloride		esult Qualifier 5.00 U		RL 5.00	Unit mg/Kg			Prepared	Analyz 12/16/22		Dil F
									Prep	Type: S	
Analysis Batch: 41945			Spike		LCS	Unit	п	%Pec	%Rec	Type: S	
Analysis Batch: 41945			Spike Added 250		LCS Qualifier	Unit mg/Kg	D	%Rec 101	-	Type: S	
Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid	- 1479/3-A		Added	Result		mg/Kg		101	%Rec Limits 90 - 110		le Du
Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid	 1479/3-A		Added	Result 253.5		mg/Kg		101	%Rec Limits 90 - 110		le Du
Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945	 1479/3-A		Added 250	Result 253.5 LCSD	Qualifier	mg/Kg		101	%Rec Limits 90 - 110 Lab Contro Prep		le Du olub RI
Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945	 1479/3-A 		Added 250 Spike	Result 253.5 LCSD	Qualifier	mg/Kg Cliei	nt Sar	101 nple ID:	%Rec Limits 90 - 110 Lab Contro Prep %Rec	ol Sampl Type: S	le Du olut olut
Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-A Matrix: Solid			Added 250 Spike Added	Result 253.5 LCSD Result	Qualifier	mg/Kg Clier Unit	nt Sar	101 nple ID: %Rec 101	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID	DI Sampl Type: S 	le Du olub Rf Lin Spil
Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-A Matrix: Solid			Added 250 Spike Added	Result 253.5 LCSD Result 251.3	Qualifier	mg/Kg Clier Unit	nt Sar	101 nple ID: %Rec 101	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID	DI Sampl Type: S RPD 1 : Matrix	le Du olub RF Lin
Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-A-7 Matrix: Solid Analysis Batch: 41945	 1-C MS Sample	Sample Qualifier	Added 250 Spike Added 250	Result 253.5 LCSD Result 251.3 MS	Qualifier LCSD Qualifier	mg/Kg Clier Unit	nt Sar	101 nple ID: %Rec 101	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep	DI Sampl Type: S RPD 1 : Matrix	le Du olub RF Lin
Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Chloride Lab Sample ID: 890-3606-A-4 Matrix: Solid Analysis Batch: 41945 Analyte	 1-C MS Sample	Qualifier	Added 250 Spike Added 250 Spike	Result 253.5 LCSD Result 251.3 MS	Qualifier LCSD Qualifier MS Qualifier	mg/Kg Clien Unit mg/Kg	D	101 nple ID: %Rec 101 Client	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec	DI Sampl Type: S RPD 1 : Matrix	le Du olub Rf Lin Spil
Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-A-4 Matrix: Solid Analyte Chloride Lab Sample ID: 890-3606-A-4 Matrix: Solid	1-C MS Sample Result 606	Qualifier	Added 250 Spike Added 250 Spike Added	Result 253.5 LCSD Result 251.3 MS Result	Qualifier LCSD Qualifier MS Qualifier	mg/Kg Clien Unit mg/Kg Unit mg/Kg	D	101 nple ID: %Rec 101 Client %Rec 82	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110	I Sampi Type: S RPD 1 : Matrix Type: S	le Du Ri Lir Spil solub
Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-41 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-A-4 Matrix: Solid Analyte Chloride Lab Sample ID: 890-3606-A-4 Matrix: Solid	1-C MS Sample Result 606	Qualifier F1	Added 250 Spike Added 250 Spike Added	Result 253.5 LCSD Result 251.3 MS Result 812.9	Qualifier LCSD Qualifier MS Qualifier	mg/Kg Clien Unit mg/Kg Unit mg/Kg	D	101 nple ID: %Rec 101 Client %Rec 82	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110	ol Sampi Type: S <u>RPD</u> 1 : Matrix Type: S 	le Du Rf Lin Spil
Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: LCSD 880-44 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-A-4 Matrix: Solid Analysis Batch: 41945 Analyte Chloride Lab Sample ID: 890-3606-A-4 Matrix: Solid Analyte Chloride	1-C MS Sample <u>Result</u> 606 1-D MSD Sample	Qualifier F1	Added 250 Spike Added 250 Spike Added 252	Result 253.5 LCSD Result 251.3 MS Result 812.9	Qualifier LCSD Qualifier MS Qualifier F1	mg/Kg Clien Unit mg/Kg Unit mg/Kg	D	101 nple ID: %Rec 101 Client %Rec 82	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110 O: Matrix Sp Prep	ol Sampi Type: S <u>RPD</u> 1 : Matrix Type: S 	le iol sol

QC Association Summary

Client: Ensolum Project/Site: James A Waterflood Page 245 of 276

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	
rep Batch: 41943					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3607-1	BH02	Total/NA	Solid	5035	
390-3607-2	BH02	Total/NA	Solid	5035	
MB 880-41943/5-A	Method Blank	Total/NA	Solid	5035	
_CS 880-41943/1-A	Lab Control Sample	Total/NA	Solid	5035	
_CSD 880-41943/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
390-3601-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

Method Blank	Iotal/NA	Solid	5035		
Lab Control Sample	Total/NA	Solid	5035		8
Lab Control Sample Dup	Total/NA	Solid	5035		
Matrix Spike	Total/NA	Solid	5035		9
Matrix Spike Duplicate	Total/NA	Solid	5035		
Client Sample ID	Prep Type	Matrix	Method	Prep Batch	
BH02	Total/NA	Solid	8021B	41943	
BH02	Total/NA	Solid	8021B	41943	
Method Blank	Total/NA	Solid	8021B	41938	
Method Blank	Total/NA	Solid	8021B	41943	10
Lab Control Sample	Total/NA	Solid	8021B	41943	13
Lab Control Sample Dup	Total/NA	Solid	8021B	41943	
Matrix Spike	Total/NA	Solid	8021B	41943	
Matrix Spike Duplicate	Total/NA	Solid	8021B	41943	
_	Lab Control Sample Dup Matrix Spike Matrix Spike Duplicate Client Sample ID BH02 BH02 Method Blank Method Blank Lab Control Sample Lab Control Sample Dup Matrix Spike	Lab Control Sample Total/NA Lab Control Sample Dup Total/NA Matrix Spike Total/NA Matrix Spike Duplicate Total/NA Client Sample ID Prep Type BH02 Total/NA BH02 Total/NA Method Blank Total/NA Method Blank Total/NA Lab Control Sample Total/NA Lab Control Sample Total/NA Matrix Spike Total/NA	Lab Control SampleTotal/NASolidLab Control Sample DupTotal/NASolidMatrix SpikeTotal/NASolidMatrix Spike DuplicateTotal/NASolidPrep TypeMatrixBH02Total/NASolidBH02Total/NASolidMethod BlankTotal/NASolidMethod BlankTotal/NASolidLab Control Sample DupTotal/NASolidMatrix SpikeTotal/NASolidMatrix SpikeTotal/NASolidMethod BlankTotal/NASolidMatrix SpikeTotal/NASolidSolidSolidSolid	Lab Control SampleTotal/NASolid5035Lab Control Sample DupTotal/NASolid5035Matrix SpikeTotal/NASolid5035Matrix Spike DuplicateTotal/NASolid5035Client Sample IDPrep TypeMatrixMethodBH02Total/NASolid8021BBH02Total/NASolid8021BMethod BlankTotal/NASolid8021BMethod BlankTotal/NASolid8021BLab Control SampleTotal/NASolid8021BLab Control SampleTotal/NASolid8021BLab Control Sample DupTotal/NASolid8021BMatrix SpikeTotal/NASolid8021BMatrix SpikeTotal/NASolid8021B	Lab Control SampleTotal/NASolid5035Lab Control Sample DupTotal/NASolid5035Matrix SpikeTotal/NASolid5035Matrix Spike DuplicateTotal/NASolid5035Client Sample IDPrep TypeMatrixMethodPrep BatchBH02Total/NASolid8021B41943BH02Total/NASolid8021B41943BH02Total/NASolid8021B41943Method BlankTotal/NASolid8021B41943Method BlankTotal/NASolid8021B41943Lab Control SampleTotal/NASolid8021B41943Lab Control SampleTotal/NASolid8021B41943Matrix SpikeTotal/NASolid8021B41943Hatrix SpikeTotal/NASolid8021B41943

Analysis Batch: 42254

Lab Sample ID	Client Sample ID	Ргер Туре	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	Ргер Туре	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	Ргер Туре	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

Prep Type Total/NA

Total/NA

Prep Type

Soluble

Soluble

Soluble

Soluble

Soluble

Soluble

Soluble

Client Sample ID

Client Sample ID

Method Blank

Matrix Spike

Lab Control Sample

Lab Control Sample Dup

Matrix Spike Duplicate

BH02

BH02

BH02

BH02

GC Semi VOA

Lab Sample ID

890-3607-1

890-3607-2

HPLC/IC

Analysis Batch: 41815

Leach Batch: 41479

Lab Sample ID

MB 880-41479/1-A

LCS 880-41479/2-A

LCSD 880-41479/3-A

890-3606-A-1-C MS

890-3606-A-1-D MSD

890-3607-1

890-3607-2

Prep Batch

Prep Batch

Job ID: 890-3607-1 SDG: Lea County NM

Method

8015 NM

8015 NM

Method

DI Leach

Matrix

Solid

Solid

Matrix

Solid

Solid

Solid

Solid

Solid

Solid

Solid

5
8
9

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 1
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

Job ID: 890-3607-1 SDG: Lea County NM

Lab Sample ID: 890-3607-1 Matrix: Solid

Lab Sample ID: 890-3607-2

Matrix: Solid

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

Client Sample ID: BH02

Project/Site: James A Waterflood

Client: Ensolum

	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 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	СН	EET MID

Client Sample ID: BH02

Date Collected: 12/06/22 12:25 Date Received: 12/08/22 11:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	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 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	СН	EET MID

Laboratory References:

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

5 6 9

		Accreditation/Co	ertification Summary		
Client: Ensolum Project/Site: James A W	Vaterflood			Job ID: 890-3607-1 SDG: Lea County NM	2
Laboratory: Eurofi Unless otherwise noted, all an		/ were covered under each acc	reditation/certification below.		
Authority		Program	Identification Number	Expiration Date	
Texas		NELAP	T104704400-22-24	06-30-23	5
The following analytes a the agency does not off		t, but the laboratory is not certif	ied by the governing authority. This list ma	ay include analytes for which	5
Analysis Method	Prep Method	Matrix	Analyte		
8015 NM		Solid	Total TPH		
Total BTEX		Solid	Total BTEX		
					8
					9
					10
					11
					13
					14

Eurofins Carlsbad

.

Method Summary

Client: Ensolum Project/Site: James A Waterflood

Job ID: 890-3607-1 SDG: Lea County NM

lethod	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
otal 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
800.0	Anions, Ion Chromatography	MCAWW	EET MID
6035	Closed System Purge and Trap	SW846	EET MID
015NM Prep	Microextraction	SW846	EET MID
Ol 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

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Sample Summary

Client: Ensolum Project/Site: James A Waterflood Job ID: 890-3607-1 SDG: Lea County NM

ab Sample ID.	Client Sample ID	Matrix	Collected	Received	Depth	
90-3607-1	BH02	Solid	12/06/22 12:15	12/08/22 11:20	1	4
90-3607-2	BH02	Solid	12/06/22 12:25	12/08/22 11:20	4	
						5
						8
						9
						10
						12
						13

.

	Env	Environment Testing	esting	Midlan	d, TX (132) 70	4-5440, Sa	1 Antonio	Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334		Work Order No:	der N	lo:	
	Xenco	ico		EL Pa Hobb	aso, T) bs, NM	(915) (575) 3	585-3443, L 92-7550, Ca	ubbock, arlsbad,	EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199					-> (->
Project Manager:	Kalei Jennings			Bill to: (if different)	3	Kalei	Kalei Jennings				Work Order (k Orde	Work Order Comments	
Company Name:	Ensolum, LLC			Company Name:	œ.	Enso	Ensolum, LLC			Program: UST	/PST PRF		ownfields 🗌 F	Program: UST/PST PRP Brownfields RRC Superfund
Address:	601 N Marienfeld St Suite 400	St Suite 400		Address:		601 1	601 N Marienfeld St Suite 400	ld St Su	uite 400	State of Project:	Ħ			
City, State ZIP:	Midland, TX 79701	Z		City, State ZIP:		Midla	Midland, TX 79701	701		Reporting: Level II DLevel III PST/UST TRRP	el II 🗌 Level		J D TSU/ISc	
Phone:	817.683.2503		Email:	Email: kjennings@ensolum.com; jadams@ensolum.com	nsolun	1.com	; jadams(Densol	lum.com	Deliverables: EDD		AD	ADaPT 0 0	Other:
Project Name:	James A Waterflood	Vaterflood	Turn	Turn Around					ANALYSIS REQUEST	UEST			Pres	Preservative Codes
Project Number:	03D2024119 & 03D2024120	03D2024120	Routine	🗌 Rush	Pres. Code			-					None: NO	Dł Water: H ₂ O
Project Location:	Lea County, NM	nty, NM	Due Date:										Cool: Cool	MeOH: Me
Sampler's Name:	Conner Shore	Shore	TAT starts the	TAT starts the day received by									HCL: HC	HNO3: HN
PO#			the lab, if rece	the lab, if received by 4:30pm	rs	_						-	H ₂ S0 ₄ : H ₂	NaOH: Na
SAMPLE RECEIPT	PT Temp Blank:	nk: Uyes No	Wet Ice:	(Yes No	nete	.0)						_	H ₃ PO ₄ : HP	
Samples Received Intact:		o Thermometer ID:	IN	MOOL	aran	300						_	NaHSO4: NABIS	VABIS
Cooler Custody Seals:	Yes No	NIA Correction Factor:		0.0	P	EPA							Na25203: NaSU3	VaSU3
Sample Custody Seals:	IS: Yes NO	N/A / emperatu	/ emperature keading:	2:0		ES (-		890-3607 Chain o	Chain of Custody		_		NaOH+Assorbis Asid: SAPC
Sample Identification		Matrix Date	Time	Depth Grab/	# of	ILORI	'H (80'	'EX (8					Sam	Sample Comments
RH02	2	12622	1912	- <u>-</u> G .	-	T	+	×						
BH02			Ì	4 G	_	×		×						
		_						-				-	Inc	Incident Number
								-				-		
		22			T			+				+		
					T	T		+				+		
>	10							╟						
								-			_	-		
								\vdash				-		
Total 200.7 / 6010	010 200.8 / 6020:		8RCRA 13PPM	DM Texas 11		Sb As	s Ba Be	B Cd	Pb	Pb Mg Mn Mo Ni	K Se A	SiO2	Na Sr TI Si	Sn U V Zn 7470 / 7471
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Sence, its affiliates and subcon	document and relinquis	hment of samples co	onstitutes a valid pu	utes a valid purchase order from client	n client	compar	to Eurofin	s Xenco,	company to Eurofins Xenco, its affiliates and subcontractors.	Intractors. It assigns standard terms and conditions	terms and cor	nditions	onditions	
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. The	imum charge of \$85.00 v	will be applied to ea	ch project and a ch	arge of \$5 for each	h samp	e subm	itted to Euro	ins Xenc	co, but not analyzed. These terms	se terms will be enforced unless previously negotiated	less previously	negotiat	ted.	
Relinquished by: (Signature)	r: (Signature)	A Receiv	ived by: (Signature)	ure)		Date	Date/Time		Relinquished by: (Signature)		Received by: (Signature)	(Signa	ature)	Date/Time
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G								5					Revis	Revised Date: 08/25/2020 Rev. 2020.2

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12 13

eurofins

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300 Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334 Chain of Custody

Job Number: 890-3607-1 SDG Number: Lea County NM

List Source: Eurofins Carlsbad

Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3607 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	

Job Number: 890-3607-1 SDG Number: Lea County NM

List Source: Eurofins Midland

List Creation: 12/09/22 11:39 AM

Login Sample Receipt Checklist

Client: Ensolum

<6mm (1/4").

Login Number: 3607 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	

Eurofins Carlsbad Released to Imaging: 9/20/2023 2:58:49 PM 14

Received by OCD: 5/3/2023 1:10:37 PM



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

See page two for job notes and contact information

Received by OCD: 5/3/2023 1:10:37 PM

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

RAMER

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

Laboratory Job ID: 890-3608-1 SDG: Lea County NM

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Method Summary	17
Sample Summary	18
Chain of Custody	19
Receipt Checklists	20

Client: Ensolum Pr

Released to Imaging: 9/20/2023 2:58:49 PM

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin) Toxicity Equivalent Quotient (Dioxin)

Too Numerous To Count

Reporting Limit or Requested Limit (Radiochemistry)

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

Quality Control

Eurofins Carlsbad

	Deminions/Giossal y		
Client: Ensolur Proiect/Site: J/	n AMES A WATERFLOOD	Job ID: 890-3608-1 SDG: Lea County NM	
Qualifiers			
			3
GC VOA Qualifier	Qualifier Description		4
F1	MS and/or MSD recovery exceeds control limits.		
F2	MS/MSD RPD exceeds control limits		5
S1+	Surrogate recovery exceeds control limits, high biased.		
U	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.		8
U	Indicates the analyte was analyzed for but not detected.		U
HPLC/IC			Q
Qualifier	Qualifier Description		3
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		
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)		
MCL	EPA recommended "Maximum Contaminant Level"		
MDA	Minimum Detectable Activity (Radiochemistry)		
MDC	Minimum Detectable Concentration (Radiochemistry)		
MDL	Method Detection Limit		
MDN	Minimum Level (Dioxin)		
MPN MQL	Most Probable Number		
	Method Quantitation Limit		
NC ND	Not Calculated		
NEG	Not Detected at the reporting limit (or MDL or EDL if shown)		
POS	Negative / Absent Positive / Present		
PQL	Practical Quantitation Limit		
PRES	Presumptive		
FRES			

Q GC

QC

RER

RPD TEF

TEQ TNTC

RL

Job ID: 890-3608-1 SDG: Lea County NM

Job ID: 890-3608-1

Client: Ensolum

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 guality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method: SW846 8021B - Volatile Organic Compounds (GC)

Method: TAL SOP Total BTEX - Total BTEX Calculation

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Result Qualifier

<0.00202 U

<0.00202 U

<0.00202 U

<0.00404 U

<0.00202 U

<0.00404 U

%Recovery Qualifier

135 75

< 0.00404

S1+

Result Qualifier

U

Result Qualifier

<49.9 U

RL

0.00202

0.00202

0.00202

0.00404

0.00202

0.00404

Limits

70 - 130

70 - 130

RL

RL

49.9

0.00404

Unit

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

Unit

Unit

mg/Kg

mg/Kg

D

D

D

Prepared

12/15/22 10:18

12/15/22 10:18

12/15/22 10:18

12/15/22 10:18

12/15/22 10:18

12/15/22 10:18

Prepared

12/15/22 10:18

12/15/22 10:18

Prepared

Prepared

Job ID: 890-3608-1 SDG: Lea County NM

Analyzed

12/16/22 12:38

12/16/22 12:38

12/16/22 12:38

12/16/22 12:38

12/16/22 12:38

12/16/22 12:38

Analyzed

12/16/22 12:38

12/16/22 12:38

Analyzed

12/16/22 14:05

Analyzed

12/14/22 12:15

Client Sample ID: BH01

Date Collected: 12/05/22 09:40 Date Received: 12/08/22 11:20

Sample Depth: 1

Analyte

Benzene

Toluene

o-Xylene

Surrogate

Analyte

Analyte

Total TPH

Total BTEX

Ethylbenzene

Xylenes, Total

m-Xylene & p-Xylene

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

Client: Ensolum

Matrix: Solid

	5
Dil Fac	
1	
1	
1	
1	_
1	8
1	
Dil Fac	9
1	
1	

Dil Fac

Dil Fac

1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		12/12/22 11:00	12/13/22 15:00	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U *1	49.9	mg/Kg		12/12/22 11:00	12/13/22 15:00	1
C10-C28)								
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

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.8	4.98	mg/Kg			12/16/22 03:12	1
Client Sample ID: BH01					Lab San	nple ID: 890-	3608-2

Date Collected: 12/05/22 09:55 Date Received: 12/08/22 11:20 Sample Depth: 4

lethod: 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 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

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Matrix: Solid

Client Sample Results

Limits

70 - 130

RL

RL

49.8

0.00398

Unit

Unit

mg/Kg

mg/Kg

Job ID: 890-3608-1 SDG: Lea County NM

Analyzed

12/16/22 12:58

Analyzed

12/16/22 14:05

Analyzed

12/14/22 12:15

Client Sample ID: BH01

Date Collected: 12/05/22 09:55 Date Received: 12/08/22 11:20

Sample Depth: 4

1,4-Difluorobenzene (Surr)

Client: Ensolum

Surrogate

Analyte

Analyte

Total TPH

Total BTEX

Lab Sample ID: 890-3608-2 Matrix: Solid

D

D

Prepared

12/15/22 10:18

Prepared

Prepared

Matrix: Solid

Dil Fac

Dil Fac

Dil Fac

1

1

1

5
8
9

Method: SW846 8015B	NM - Diesel Range Organics (DRO) (GC)
Analyta	Beault Qualifier

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Method: TAL SOP Total BTEX - Total BTEX Calculation

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

%Recovery Qualifier

Result Qualifier

Result Qualifier

<49.8 U

97

<0.00398 U

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.8	U	49.8	mg/Kg		12/12/22 11:00	12/13/22 15:44	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.8	U *1	49.8	mg/Kg		12/12/22 11:00	12/13/22 15:44	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		12/12/22 11:00	12/13/22 15:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane			70 - 130			12/12/22 11:00	12/13/22 15:44	1
o-Terphenyl	119		70 - 130			12/12/22 11:00	12/13/22 15:44	1
- Method: MCAWW 300.0 - Anions	, Ion Chromato	ography - S	oluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	54.4		4.96	mg/Kg		-	12/16/22 03:34	1

Furofins	Carlsbad
Laionno	ounobuu

Job ID: 890-3608-1 SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Client: Ensolum

				Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		Ę
890-3590-A-1-D MS	Matrix Spike	105	73		
890-3590-A-1-E MSD	Matrix Spike Duplicate	100	90		6
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		8
MB 880-41899/5-A	Method Blank	102	87		
Surrogate Legend					

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Sample ID	Client Sample ID	(70-130)	(70-130)	
78-A-1-E MS	Matrix Spike	125	104	
78-A-1-F MSD	Matrix Spike Duplicate	127	106	
608-1	BH01	127	125	
)8-2	BH01	115	119	
-41625/2-A	Lab Control Sample	165 S1+	162 S1+	
D 880-41625/3-A	Lab Control Sample Dup	127	128	
80-41625/1-A	Method Blank	148 S1+	209 S1+	

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

SDG: Lea County NM

Prep Type: Total/NA

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Lab Sample ID: MB 880-4189	9/5-A
Matrix: Solid	

Analysis Batch: 41993

	INIB	INIB						
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
	МВ	МВ						
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

Lab Sample ID: LCS 880-41899/1-A Matrix: Solid

Analysis Batch: 41993

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1057		mg/Kg		106	70 - 130	
Toluene	0.100	0.1002		mg/Kg		100	70 - 130	
Ethylbenzene	0.100	0.09641		mg/Kg		96	70 - 130	
m-Xylene & p-Xylene	0.200	0.2086		mg/Kg		104	70 - 130	
o-Xylene	0.100	0.1033		mg/Kg		103	70 - 130	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: LCSD 880-41899/2-A

Matrix: Solid

Analysis Batch: 41993							Prep	Batch:	41899
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1010		mg/Kg		101	70 - 130	5	35
Toluene	0.100	0.09757		mg/Kg		98	70 - 130	3	35
Ethylbenzene	0.100	0.09721		mg/Kg		97	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.2124		mg/Kg		106	70 - 130	2	35
o-Xylene	0.100	0.1060		mg/Kg		106	70 - 130	3	35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Lab Sample ID: 890-3590-A-1-D MS

Matrix: Solid

Analysis Batch: 41993									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	

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Prep Type: Total/NA

Client Sample ID: Matrix Spike

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 41899

		Eurofi

QC Sample Results

MS MS

0.09723

0.1697

0.08477

Result Qualifier

Unit

mg/Kg

mg/Kg

mg/Kg

Spike

Added

0.101

0.202

0.101

Limits

70 - 130

70 - 130

70 - 130

70 - 130

Client: Ensolum Project/Site: JAMES A WATERFLOOD

Lab Sample ID: 890-3590-A-1-D MS

Matrix: Solid

Analyte

o-Xylene

Surrogate

Ethylbenzene

m-Xylene & p-Xylene

Analysis Batch: 41993

4-Bromofluorobenzene (Surr)

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

Sample Sample

<0.00199

<0.00398 U

<0.00199 U

105

73

100

90

%Recovery

Result Qualifier

U

MS MS

Qualifier

Job ID: 890-3608-1 SDG: Lea County NM

Prep Type: Total/NA

Prep Batch: 41899

Client Sample ID: Matrix Spike

%Rec

Limits

70 - 130

70 - 130

70 - 130

%Rec

96

84

84

D

2 3 4 5 6 7 8 9 10 11

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

rix Spike Duplicate Prep Type: Total/NA Prep Batch: 41899 ac RPD

Lab Sample ID: 890-3590-A-1-E MSD
Matrix: Solid
Analysis Batch: 41993

-												
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
alyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
nzene	<0.00199	U F1 F2	0.0996	0.08835	F2	mg/Kg		89	70 - 130	66	35	
lene	<0.00199	U	0.0996	0.08545		mg/Kg		86	70 - 130	7	35	
ylbenzene	<0.00199	U	0.0996	0.08497		mg/Kg		85	70 - 130	13	35	
(ylene & p-Xylene	<0.00398	U	0.199	0.1852		mg/Kg		93	70 - 130	9	35	
ylene	<0.00199	U	0.0996	0.09154		mg/Kg		92	70 - 130	8	35	
	MCD	MOD										
	WSD	WSD										
rogate	%Recovery	Qualifier	Limits									
	zene lene /lbenzene ylene & p-Xylene /lene	Sample Iyte Result zene <0.00199 iene <0.00199 //benzene <0.00199 ylene & p-Xylene <0.00398 ylene <0.00199	Sample Sample Iyte Result Qualifier zene <0.00199 U F1 F2 iene <0.00199 U //benzene <0.00199 U ylene & p-Xylene <0.00398 U ylene <0.00199 U	Sample Sample Sample Spike Iyte Result Qualifier Added zene <0.00199 U F1 F2 0.0996 iene <0.00199 U 0.0996 i/benzene <0.00199 U 0.0996 i/benzene <0.00398 U 0.199 i/lene <0.00199 U 0.0996 i/lene <0.00199 U 0.0996	Sample Sample Spike MSD Iyte Result Qualifier Added Result zene <0.00199 U F1 F2 0.0996 0.08835 iene <0.00199 U 0.0996 0.08545 /Ibenzene <0.00199 U 0.0996 0.08497 ylene & p-Xylene <0.00398 U 0.199 0.1852 ylene <0.00199	Sample Sample Sample Spike MSD MSD Iyte Result Qualifier Added Result Qualifier zene <0.00199 U F1 F2 0.0996 0.08835 F2 iene <0.00199 U 0.0996 0.08845 F2 iene <0.00199 U 0.0996 0.08497 F2 iylene & p-Xylene <0.00398 U 0.199 0.1852 F2 iylene <0.00199 U 0.0996 0.09154 F2 MSD MSD MSD MSD F2 F2	Sample Sample Spike MSD MSD Iyte Result Qualifier Added Result Qualifier Unit zene <0.00199 U F1 F2 0.0996 0.08835 F2 mg/Kg iene <0.00199 U 0.0996 0.08497 mg/Kg //benzene <0.00199 U 0.0996 0.08497 mg/Kg ylene & p-Xylene <0.00398 U 0.199 0.1852 mg/Kg ylene <0.00199 U 0.0996 0.09154 mg/Kg	Sample Sample Spike MSD MSD Iyte Result Qualifier Added Result Qualifier Unit D zene <0.00199 U F1 F2 0.0996 0.08835 F2 mg/Kg mg/Kg ene <0.00199 U 0.0996 0.08835 mg/Kg mg/Kg /Ibenzene <0.00199 U 0.0996 0.08497 mg/Kg /Ibenzene <0.00398 U 0.199 0.1852 mg/Kg /Ibenzene <0.00398 U 0.0996 0.09154 mg/Kg /Ibenzene <0.00199 U 0.0996 0.09154 mg/Kg	Sample Sample Spike MSD MSD Iyte Result Qualifier Added Result Qualifier Unit D %Rec zene <0.00199 U F1 F2 0.0996 0.08835 F2 mg/Kg 89 ene <0.00199 U 0.0996 0.08845 mg/Kg 86 /lbenzene <0.00199 U 0.0996 0.08497 mg/Kg 85 ylene & p-Xylene <0.00398 U 0.199 0.1852 mg/Kg 93 ylene <0.00199 U 0.0996 0.09154 mg/Kg 92	Sample Sample Spike MSD MSD %Rec Iyte Result Qualifier Added Result Qualifier Unit D %Rec Limits zene <0.00199 U F1 F2 0.0996 0.08835 F2 mg/Kg 89 70 - 130 ene <0.00199 U 0.0996 0.08845 mg/Kg 86 70 - 130 /lbenzene <0.00199 U 0.0996 0.08497 mg/Kg 85 70 - 130 ylene & p-Xylene <0.00398 U 0.199 0.1852 mg/Kg 93 70 - 130 ylene <0.00199 U 0.0996 0.09154 mg/Kg 92 70 - 130	Sample Sample Spike MSD MSD %Rec Limits RPD Iyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD zene <0.00199 U F1 F2 0.0996 0.08835 F2 mg/Kg 86 70.130 66 ene <0.00199 U 0.0996 0.08845 mg/Kg 86 70.130 71 /lbenzene <0.00199 U 0.0996 0.08497 mg/Kg 85 70.130 13 ylene & p-Xylene <0.00398 U 0.199 0.1852 mg/Kg 93 70.130 9 ylene <0.00199 U 0.0996 0.09154 mg/Kg 92 70.130 8	Sample Sample Spike MSD MSD MSD %Rec RPD Iyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limits zene <0.00199 U F1 F2 0.0996 0.08835 F2 mg/Kg 86 70 - 130 66 35 ene <0.00199 U 0.0996 0.08835 F2 mg/Kg 86 70 - 130 7 35 /dbenzene <0.00199 U 0.0996 0.08497 mg/Kg 85 70 - 130 13 35 ylene & p-Xylene <0.00398 U 0.199 0.1852 mg/Kg 93 70 - 130 9 35 ylene <0.00199 U 0.0996 0.09154 mg/Kg 92 70 - 130 8 35

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

Lab Sample ID: MB 880-41625/1-A Matrix: Solid Analysis Batch: 41693						Client Sa	mple ID: Metho Prep Type: ⊺ Prep Batch	Fotal/NA
	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
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/12/22 11:00	12/13/22 08:06	1
	МВ	МВ						
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					c	lient Sample I	D: Lab Control	Sample
Matrix: Solid							Prep Type: 1	fotal/NA

Matrix: Solid Analysis Batch: 41693

Analysis Batch: 41693							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)								

Eurofins Carlsbad

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QC Sample Results

Client: Ensolum Project/Site: JAMES A WATERFLOOD

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

	J • •	U (/ \ = / \		,						
Lab Sample ID: LCS 880-41	625/2-A						Client	t Sample	D: Lab Co		-
Matrix: Solid										ype: To	
Analysis Batch: 41693									Prep	Batch:	41625
	LCS	LCS									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane		S1+	70 - 130								
o-Terphenyl	162	S1+	70 - 130								
Lab Sample ID: LCSD 880-4	1625/3-A					Clie	nt San	nple ID:	Lab Contro	I Sampl	e Dup
Matrix: Solid									Prep T	ype: To	tal/NA
Analysis Batch: 41693									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: 880-22478-4	A-1-E MS							Client	Sample ID	: Matrix	Spike
Matrix: Solid									Prep T	ype: To	tal/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	<50.0	U *1	999	1148		mg/Kg		113	70 - 130		
C10-C28)											
	MS	MS									
Surragata	%Recovery		Limits								
Surrogate 1-Chlorooctane		Quaimer	70 - 130								
o-Terphenyl	125		70 - 130 70 - 130								
	104		70 - 130								
Lab Sample ID: 880-22478-4	A-1-F MSD					CI	ient S	amnle IF): Matrix Sp	nike Dun	licate
Matrix: Solid										ype: To	
Analysis Batch: 41693										Batch:	
	Sample	Sample	Spike	MSD	MSD				%Rec	Dutoin	RPD
Analyte	•	Qualifier	Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	<50.0		997	1120		mg/Kg		109	70 - 130	3	20
(GRO)-C6-C10	20.0					55				-	_,
Diesel Range Organics (Over	<50.0	U *1	997	1190		mg/Kg		117	70 - 130	4	20
C10-C28)											
	Men	MSD									
Surrogate	MSD %Recovery		Limits								
1-Chlorooctane		quanner	70 - 130								
	127		10 - 150								

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Job ID: 890-3608-1 SDG: Lea County NM

Eurofins Carlsbad

o-Terphenyl

106

70 _ 130

QC Sample Results

Job ID: 890-3608-1 SDG: Lea County NM

Client: Ensolum Project/Site: JAMES A WATERFLOOD

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Method: 300	.0 -	Anions,	lon	Chromatog	graphy
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Lab Sample ID: MB 880-41479/1-A											Client S	ample ID:	Method	Blank
Matrix: Solid												Prep	o Type: S	oluble
Analysis Batch: 41945														
		MB	MB											
Analyte			Qualifier		RL		Uni		D	Pr	epared	Analy		Dil Fac
Chloride	<	<5.00	U		5.00		mg/	Kg				12/16/22	2 02:07	1
Lab Sample ID: LCS 880-41479/2-A									Clie	ent	Sample	ID: Lab C	Control S	ample
Matrix: Solid												Prep	o Type: S	oluble
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							CI	ient S	am	ple ID: I	Lab Contr	ol Samp	le Dup
Matrix: Solid												Prep	o Type: S	oluble
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-A-1-C MS	5										Client	Sample II	D: Matrix	Spike
Matrix: Solid												Prep	o Type: S	oluble
Analysis Batch: 41945														
	Sample	Samp	le	Spike		MS	MS					%Rec		
Analyte	Result		fier	Added		Result	Qualifier	Unit		<u>D</u>	%Rec	Limits		
Chloride	606	F1		252		812.9	F1	mg/Kg			82	90 - 110		
Lab Sample ID: 890-3606-A-1-D MS	SD								Client	Sa	mple ID): Matrix S	pike Du	plicate
Matrix: Solid											-	Prep	o Type: S	oluble
Analysis Batch: 41945														
	Sample	Samp	le	Spike		MSD	MSD					%Rec		RPD
Analyte	Result	Qualit	fier	Added		Result	Qualifier	Unit		D	%Rec	Limits	RPD	Limit
Chloride	606	-		252		812.4								20

QC Association Summary

Client: Ensolum Project/Site: JAMES A WATERFLOOD

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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
_CS 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	Ргер Туре	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	Ргер Туре	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	

QC Association Summary

Client: Ensolum Project/Site: JAMES A WATERFLOOD Job ID: 890-3608-1

SDG: Lea County NM

HPLC/IC

Leach Batch: 41479

ab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
390-3608-1	BH01	Soluble	Solid	DI Leach	
390-3608-2	BH01	Soluble	Solid	DI Leach	
MB 880-41479/1-A	Method Blank	Soluble	Solid	DI Leach	
_CS 880-41479/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
_CSD 880-41479/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
390-3606-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
· · · · · · · · · · · · · · · · · · ·					
390-3606-A-1-D MSD nalysis Batch: 41945		Soluble	Solid	DI Leach	Prop Batch
390-3606-A-1-D MSD nalysis Batch: 41945					Pron Batch
390-3606-A-1-D MSD		Soluble Prep Type Soluble	Solid <u>Matrix</u> Solid	DI Leach Method 300.0	Prep Batch 41479
390-3606-A-1-D MSD nalysis Batch: 41945 .ab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	
390-3606-A-1-D MSD nalysis Batch: 41945 Lab Sample ID 390-3608-1	Client Sample ID BH01	Prep Type Soluble	Matrix Solid	Method 300.0	41479
390-3606-A-1-D MSD nalysis Batch: 41945 Lab Sample ID 390-3608-1 390-3608-2	Client Sample ID BH01 BH01	Prep Type Soluble Soluble	Matrix Solid Solid	Method 300.0 300.0	41479 41479 41479
390-3606-A-1-D MSD nalysis Batch: 41945 Lab Sample ID 390-3608-1 390-3608-2 MB 880-41479/1-A	Client Sample ID BH01 BH01 Method Blank	Prep Type Soluble Soluble Soluble	Matrix Solid Solid Solid	Method 300.0 300.0 300.0	41479 41479 41479 41479
390-3606-A-1-D MSD nalysis Batch: 41945 Lab Sample ID 390-3608-1 390-3608-2 MB 880-41479/1-A .CS 880-41479/2-A	Client Sample ID BH01 BH01 Method Blank Lab Control Sample	Prep Type Soluble Soluble Soluble Soluble	Matrix Solid Solid Solid Solid Solid	Method 300.0 300.0 300.0 300.0 300.0 300.0	41479 41479 41479 41479 41479

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

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Job ID: 890-3608-1 SDG: Lea County NM

Lab Sample ID: 890-3608-1 Matrix: Solid

Lab Sample ID: 890-3608-2

Matrix: Solid

Client Sample ID: BH01 Date Collected: 12/05/22 09:40 Date Received: 12/08/22 11:20

Client: Ensolum

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 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	СН	EET MID

Client Sample ID: BH01

Date Collected: 12/05/22 09:55 Date Received: 12/08/22 11:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 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 12:58	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			10.04 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 15:44	SM	EET MID
Soluble	Leach	DI Leach			5.04 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 03:34	СН	EET MID

Laboratory References:

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

		Accreditation/C	ertification Summary		
Client: Ensolum Project/Site: JAMES A	WATERFLOOD			Job ID: 890-3608-1 SDG: Lea County NM	2
Laboratory: Eurofi					
Unless otherwise noted, all a	analytes for this laborato	ry were covered under each acc	reditation/certification below.		
Authority		Program	Identification Number	Expiration Date	
Texas		NELAP	T104704400-22-24	06-30-23	
The following analytes	are included in this repo	ort, but the laboratory is not certif	ied by the governing authority. This list ma	av include analytes for which	5
the agency does not of					
Analysis Method	Prep Method	Matrix	Analyte		
8015 NM		Solid	Total TPH		
Total BTEX		Solid	Total BTEX		
					8
					9
					10
					11
					13

Eurofins Carlsbad

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Job ID: 890-3608-1 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:

Client: Ensolum

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: 890-3608-1 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	4
890-3608-2	BH01	Solid	12/05/22 09:55	12/08/22 11:20	4	
						5
						8
						9
						1:
						1:
						14

Environment Testing Maintaint, Natory vessel, Same Andrew, Karley Vessel, Same Andrew, Same Andrew, Karley Vesse	
Signatu	Signatu
Signatu	Signatu
	Work Order No Work Order No Work Order No Work Order I Wo

Received by OCD: 5/3/2023 1:10:37 PM



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Chain of Custody

Job Number: 890-3608-1 SDG Number: Lea County NM

List Source: Eurofins Carlsbad

Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3608 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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Job Number: 890-3608-1 SDG Number: Lea County NM

List Source: Eurofins Midland

List Creation: 12/09/22 11:39 AM

Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3608 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	

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

Received by OCD: 5/3/2023 1:10:37 PM Form C-141 State of New Mexico

Incident ID	NAB1912758567
District RP	2RP-5398
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: Each of the following items must be included in the plan.

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	V

Page 5

- Detailed description of proposed remediation technique
- Scaled sitemap with GPS coordinates showing delineation points
- Estimated volume of material to be remediated
- Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: Each of the following items must be 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 are responsibility for compliance with any other federal, state, or local la	ertain 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, cceptance of a C-141 report does not relieve the operator of
Printed Name:	Title:Principal Program Manager
Signature:	Date:May-01-2023
email:5454CA5BAD33498 Sam.Widmer@conocophillips.com	Telephone: 281-206-5298
OCD Only	
Received by: Jocelyn Harimon	Date:05/03/2023
Approved X Approved with Attached Conditions of A	Approval Denied Deferral Approved
Signature: <u>Robert Hamlet</u>	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

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

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

CONDITIONS

Operator:		OGRID:	
(CONOCOPHILLIPS COMPANY	217817	
		Action Number:	
ľ	/lidland, TX 79701	213256	
		Action Type:	
		[C-141] Release Corrective Action (C-141)	
CONDITION	IS		
Created By	Condition		Condition

		Date
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

Action 213256