Location:	PLU 30 Big Sinks CTB		
Spill Date:	3/14/2022		
	Area 1		
Approximate A	rea =	449.16	cu.ft
	VOLUME OF LEAK	-	-
Total Crude Oil	=	64.00	bbls
Total Produced	Water =	16.00	bbls
	Area 2		
Approximate A	rea =	1116.00	sq. ft.
Average Satura	tion (or depth) of spill =	0.50	inches
Average Porosi	y Factor =	0.03	
			÷

VOLUME OF LEAK		
Total Crude Oil =	0.20	bbls
Total Produced Water =	0.05	bbls

TOTAL VOLUME OF LEAK											
Total Crude Oil =	64.20 bbls										
Total Produced Water =	16.05 bbls										
TOTAL VOLUME RECOVERED											
Total Crude Oil =	64.00 bbls										
Total Produced Water =	16.00 bbls										



June 28, 2024

**New Mexico Oil Conservation Division** 1220 South St. Francis Drive Santa Fe, New Mexico 87505

#### Re: Deferral Request Addendum PLU 30 Big Sinks Battery Incident Numbers NAPP2206853301, NAPP2208351954, & NAPP2209137379 Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this *Deferral Request Addendum (Addendum)* to document assessment, delineation, excavation, and soil sampling activities at the PLU 30 Big Sinks Battery (Site). This Addendum details the additional remediation activities completed at the Site in response to the New Mexico Oil Conservation Division (NMOCD) denial of the original *Deferral Request* and subsequent *Deferral Request Addendum*. Based on the additional remediation activities described below, XTO is submitting this *Addendum* and requesting deferral of final remediation for Incident Numbers NAPP2206853301, NAPP2208351954, and NAPP2209137379 until the Site is reconstructed, and/or the well pad is abandoned.

#### BACKGROUND

The Site is located in Unit F, Section 30, Township 25 South, Range 31 East, in Eddy County, New Mexico (32.10395°, -103.82149°) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management (BLM).

#### Incident Number NAPP2206853301

On February 24, 2022, a water dump washed out on a separator, causing the skim tank to overflow and release approximately 99.23 barrels (bbls) of crude oil into lined containment and onto the pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 99 bbls of crude oil were recovered from within the lined containment. XTO reported the release to the NMOCD via email on February 25, 2022, and submitted a Release Notification Form C-141 (Form C-141) on March 9, 2022. The release was assigned Incident Number NAPP2206853301.

#### Incident Number NAPP2208351954

On March 14, 2022, a diaphragm failed on a 6-inch water dump, causing the skim tank to overflow and release approximately 64.2 bbls of crude oil and 16.05 bbls of produced water into lined containment and onto the pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 64 bbls of crude oil and 16 bbls of produced water were recovered from within the lined

containment. XTO reported the release to the NMOCD via email on March 14, 2022, and submitted a Form C-141 on March 24, 2022. The release was assigned Incident Number NAPP2208351954.

#### Incident Number NAPP2209137379

On March 19, 2022, a diaphragm on a water dump failed, causing the skim tank to overflow and release approximately 145.52 bbls of crude oil and 97.01 bbls of produced water into lined containment and onto the pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 144 bbls of crude oil and 96 bbls of produced water were recovered from within the lined containment. XTO reported the release to the NMOCD via email on March 19, 2022, and submitted a Form C-141 on April 1, 2022. The release was assigned Incident Number NAPP2209137379.

A *Deferral Request* submitted on May 25, 2022, detailed the Site characterization according to Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the Site characterization are presented in the original *Deferral Request* included in Appendix A. Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)- gasoline range organics (GRO) and TPH- diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

A 48-hour advance notice of liner inspection was provided via email to the NMOCD District II. A liner integrity inspection was conducted May 2, 2022. Upon inspection, the liner was determined to be competent. Photographic documentation was completed during the liner inspection and a photographic log is included in Appendix A. The release areas outside of containment overlapped for all three releases and were addressed concurrently.

Between April 2022 and May 2022, XTO conducted assessment, delineation, and excavation activities in response to the releases. An estimated 30 cubic yards of accessible impacted soil was excavated from the Site. To address residual petroleum hydrocarbon impacts left in place, a 5 percent (%) solution of Micro-Blaze<sup>®</sup> with freshwater was applied to the impacted area to promote natural attenuation of the hydrocarbons through biodegradation. Based on the remedial activities and laboratory analytical results from the soil sampling events, XTO submitted a Deferral Request on May 25, 2022, requesting to defer impacted soil immediately adjacent to and in between active production equipment until major facility reconstruction or abandonment.

On September 26, 2022, NMOCD denied the *Deferral Request* for Incident Number nAPP2209137379 for the following reasons:

• The deferral request is denied. Depth to groundwater is not adequately identified. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided. If evidence of depth to ground water within a ½ mile radius of the site cannot be provided, impacted soils will need to meet Table 1 Closure Criteria for ground



water at a depth of 50 feet or less. As much of the contaminated soil outside the secondary containment area should be removed safely with alternative methods. Delineation up against and under the containment needs to occur to define edge of release. The work will need to occur in 90 days after the report has been reviewed.

In October and November 2022 additional excavation activities were completed via hand shoveling to remove impacted soil to the maximum extent practicable (MEP). No mechanical equipment could reach the area of the impacted soil. Following excavation activities additional delineation was completed to delineate the soil as close to the secondary containment as possible. Delineation was completed with a hand auger and a rock bar; however, the maximum depth of the soil sample was 1.5 feet below ground surface (bgs) due to refusal. Following a review of the final laboratory analytical results a *Deferral Request Addendum* was submitted to NMOCD on March 6, 2023, detailing the additional remediation activities, which included installation of a depth to water boring to confirm depth to water in the region and the applicable Closure Criteria, removal of an additional 30 cubic yards of impacted soil, and further delineation soil sampling. Residual impacted soil still remained in place due to the release area being surrounded by active production equipment, tank battery containments, and surface piping which cannot be accessed mechanical equipment. Any sampling at deeper depths or additional excavation would require major facility deconstruction.

Between June 29 and July 11, 2023, XTO received three separate denials from two different regulators for differing reasons.

#### Incident Numbers nAPP2206853301 and nAPP2208351954

The *Deferral Request Addendum* was reviewed on July 10, and July 11, 2023, and the email response contained the following denial reasons:

• The Deferral Request is Denied. The "step-out" samples on pad to verify the edge of the release should only be a maximum of 1-2 feet from the observed edge of the release. Stepping out away from the release area toward the edge of the pad may tell us whether or not the release left the active well pad, but it does not tell us where the actual edge of the release is located. When equipment is located in and around the release area, samples must come from the sidewalls of the release area excavation. The OCD needs to know if the release went in, around, or under equipment/tanks/pipelines. Not having sidewall samples from the actual excavation won't give us those sampling data points that we need. On future reports, "step-out" samples should only be taken a maximum of 1-2 feet from the observed edge of the release area. "Step-out" samples should never be conducted if equipment is in the vicinity of the release area. Please conduct sidewalls in the release area excavation.

#### Incident Number nAPP2209137379

The same *Deferral Request Addendum* was reviewed on June 29, 2023, and the email response contained the following denial reasons:

• This deferral application is not approved. The release should be horizontally and vertically delineated to 600 mg/kg for chlorides 100 mg/kg TPH to define the edges of the release. Delineation samples must include lab tested analytical results. A scaled diagram of the release area was not included in this report.

The *Deferral Request Addendum* did not contain a copy of the original *Deferral Request*; however, historically that was not required by the NMOCD and a copy of the original *Deferral Request* is readily available and accessible on the NMOCD web portal. The *Deferral Request Addendum* is included in



Appendix A and all NMOCD correspondence is included in Appendix B of this *Addendum*. XTO proceeded to complete additional soil sampling and remediation activities. The following *Addendum* includes details of the additional remediation activities.

#### SOIL SAMPLING ACTIVITIES

On February 1, 2024, Ensolum personnel returned to the Site to conduct soil sampling activities to confirm the lateral extent of the release. Four delineation soil samples, SS03 through SS07, were collected at 0.5 feet bgs, no more than 1-foot to 2 feet from the edge of the excavation. In addition, two sidewalls soil samples, SW01 and SW02, were collected at depths ranging from ground surface to 1-foot bgs. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Sidewall soil sample SW01 was collected along the excavation edge immediately adjacent to the tank battery containment and sidewall soil sample SW02 was collected on the outside edge of the excavation closest to the active production equipment and surface piping. The delineation and confirmation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach<sup>®</sup> chloride QuanTab<sup>®</sup> test strips. The excavation extent, delineation soil sample, and confirmation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Appendix C.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Soil was previously excavated to the MEP via hand shoveling. XTO safety policy restricts soil disturbing activities within a 2-foot radius of any on-site equipment and/or piping. Active production equipment and no mechanical equipment could access the release area, restricting the amount of soil that could be removed via hand shoveling to 1-foot bgs due to refusal. A total of approximately 60 cubic yards of impacted soil was excavated from the Site. Total TPH concentrations from confirmation samples collected in May 2022 to the October 2022 and December 2022 confirmation sampling events have reduced by an average of 62% with some areas decreasing more than 70%. Lighter end TPH in the GRO range have reduced by an average of 85% with some areas decreasing to 98%, indicating the gross impacts have been effectively remediated from the Site through excavation and the application of a bio-amendment that supports natural attenuation, which is protective of human health and the environment.

The final excavation extent measured approximately 1,075 square feet. A total of approximately 60 cubic yards of impacted soil was removed during excavation activities and was properly disposed of at the R360 Landfill Facility in Hobbs, New Mexico.

#### LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples SS03 through SS07 indicated all COC concentrations are compliant with the Closure Criteria and all delineation soil samples except SS05 are compliant with the reclamation requirement confirming the lateral extent of the release, not immediately adjacent to active production equipment. Laboratory analytical results for sidewall soil samples SW01 and SW02 indicate all COCs are in compliance with Closure Criteria. Sidewall soil sample SW02 collected on the western edge of the excavation, away from the tank containment is compliant with the



reclamation requirement and laterally defines the edge of the release. Laboratory analytical results are summarized on Table 1, and the complete laboratory analytical reports are included in Appendix D.

#### **DEFERRAL REQUEST**

Due to active production equipment and process piping present in the area and prohibiting access to the release area with mechanical equipment, the remaining impacted soil could not be removed, and XTO is requesting deferral of final remediation. The remaining impacted soil is delineated vertically by delineation soil samples BH02/BH02A, BH03, and BH04 to maximum depth of 1.5 feet bgs. The estimated area of remaining impacted soil measures approximately 1,075 square feet, and an estimated total of 30 cubic yards of impacted soil remains in place, assuming a depth of 1.5 feet bgs based on laboratory analytical results from the delineation soil samples. The impacted soil is limited to the area beneath and immediately adjacent to active production equipment and surface piping where remediation would require major facility deconstruction. The release extent has been laterally delineated by delineation soil samples SS03 through SS07 and excavation sidewall soil samples SW01 and SW02. The proposed deferral area and all delineation and excavation soil samples used to define the deferral area are depicted on Figure 4. The area is further defined to the reclamation requirement by delineation soil samples SS03, SS04, SS06, and SS07 collected at 0.5 feet bgs, BH01/BH01A, and PH01/PH01A through PH03/PH03A collected at depths ranging from 0.5 feet to 2 feet bgs, and confirmation soil sample SW02 collected at depths ranging from ground surface to 1-foot bgs. An estimated 800 cubic yards of soil, exceeding the reclamation requirement, remains in place around active production equipment and piping on the active well pad across an estimated area of approximately 20,000 square feet. The area will be reclaimed during major facility reconstruction or following pad abandonment.

XTO does not believe deferment will result in imminent risk to human health, the environment, or groundwater. Depth to groundwater was determined to be greater than 110 feet bgs, and the entirety of the release remained on pad. Based on the presence of active production equipment and process piping within the release area and the complete lateral and vertical definition of impacted soil remaining in place, XTO requests deferral of final remediation for Incident Numbers NAPP2206853301, NAPP2208351954, and NAPP2209137379 until final reclamation of the well pad or major facility reconstruction, whichever comes first.

If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely, **Ensolum, LLC** 

Moursey

Tacoma Morrissey Associate Principal

cc: Amy Ruth, XTO Amanda Garcia, XTO BLM



Daniel R. Moir, PG (licensed in WY & TX) Senior Managing Geologist

#### Appendices:

- Figure 1 Site Receptor Map
- Figure 2 Delineation Soil Sample Locations
- Figure 3 Excavation Soil Sample Locations
- Figure 4 Deferral Area Map
- Table 1
   Soil Sample Analytical Results
- Appendix A Previous Reports: May 25, 2022 *Deferral Request* and March 6, 2023 *Deferral Request* Addendum
- Appendix B NMOCD Correspondence
- Appendix C Photographic Log
- Appendix D Laboratory Analytical Reports & Chain-of-Custody Documentation



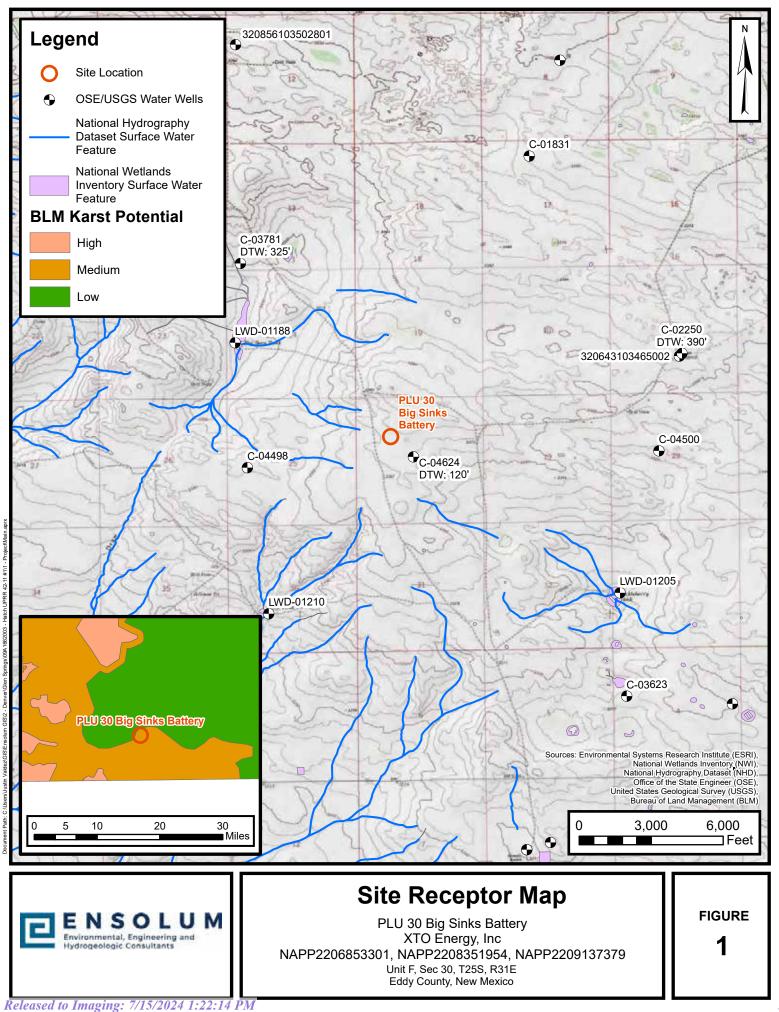
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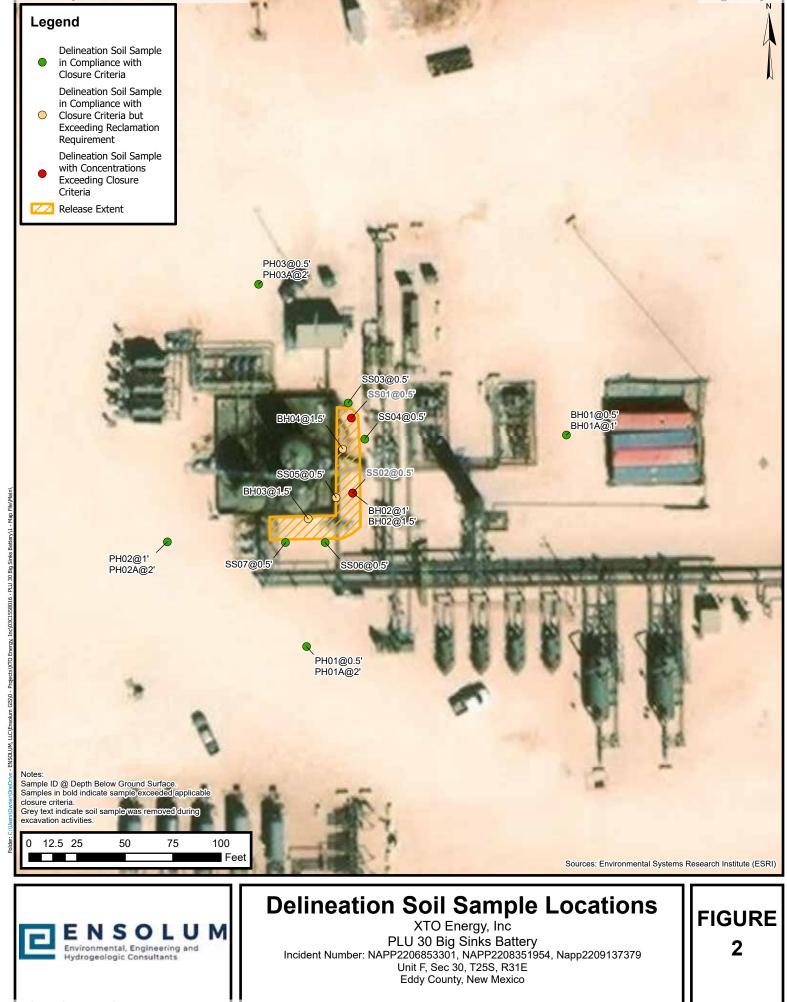
**FIGURES** 

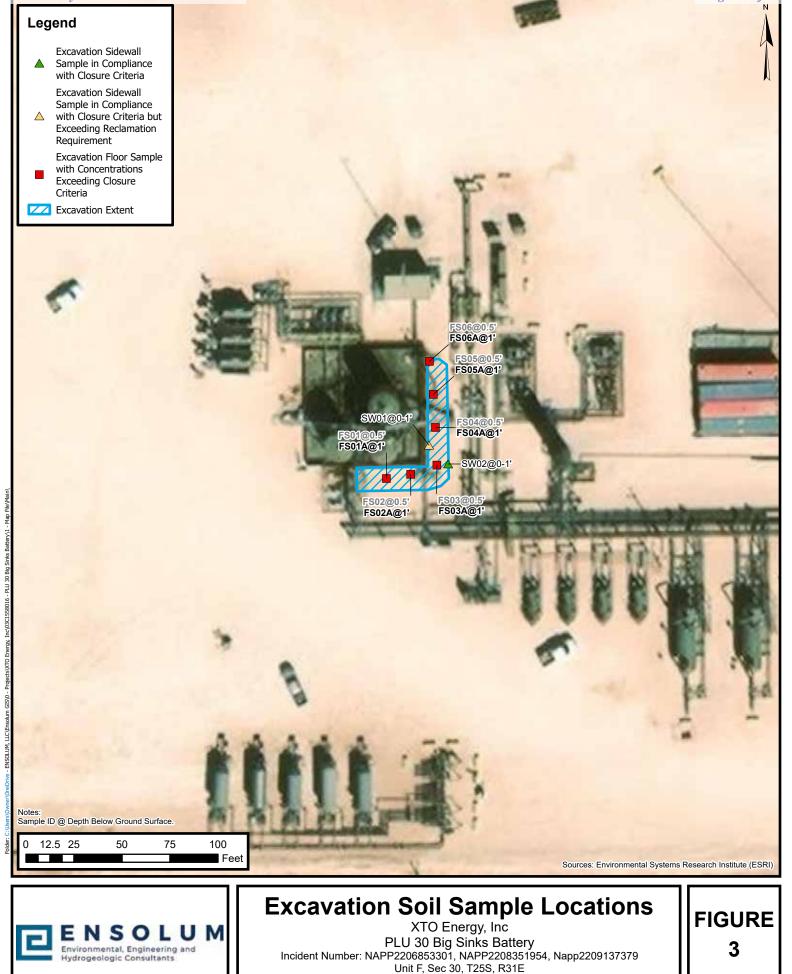
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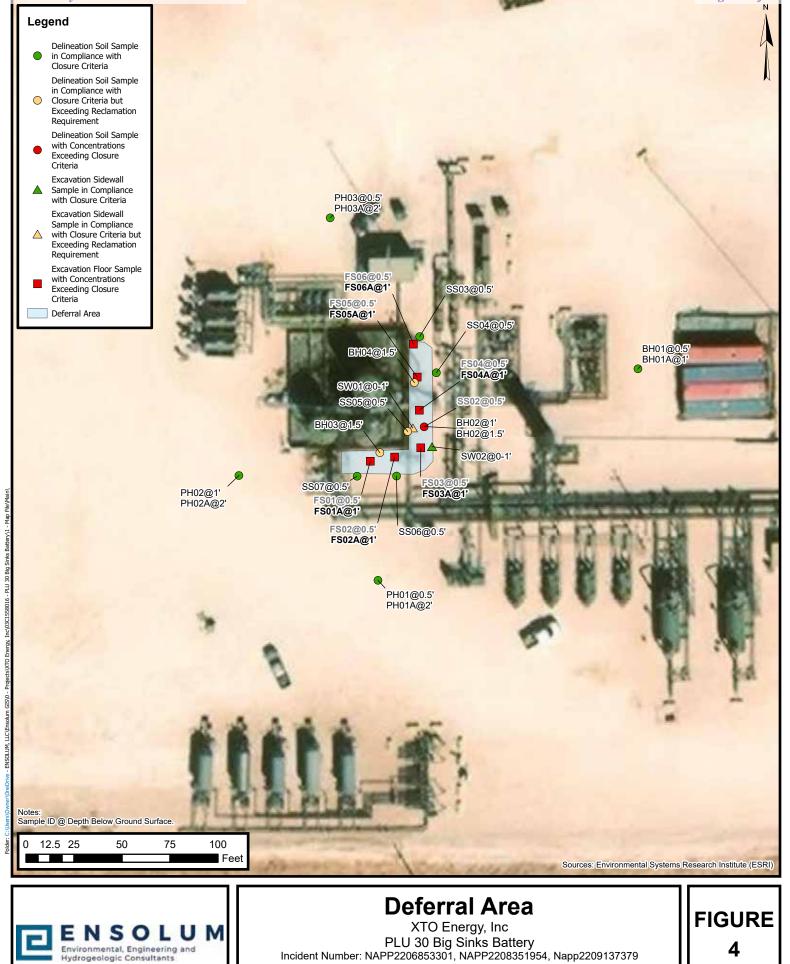
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Eddy County, New Mexico





Unit F, Sec 30, T25S, R31E Eddy County, New Mexico



## TABLES

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#### TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS PLU 30 BIG SINKS BATTERY XTO ENERGY, INC EDDY COUNTY, NEW MEXICO

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I C	losure Criteria (I	NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	20,000
				Deliı	neation Soil Sa	mples	•		•	
<del>SS01</del>	04/15/2022	0.5	<del>&lt;0.0398</del>	<del>158</del>	4,620	<del>11,200</del>	<del>&lt;250</del>	<del>15,800</del>	<del>15,800</del>	<del>103</del>
<del>\$\$02</del>	04/15/2022	0.5	<0.0402	157	2,060	7,820	<del>&lt;49.9</del>	<del>9,880</del>	<del>9,880</del>	448
SS03	02/01/2024	0.5	<0.00199	<0.00398	50.3	50.3	50.3	50.3	50.3	83.8
SS04	02/01/2024	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	78.0
SS05	02/01/2024	0.5	<0.00200	<0.00399	201	201	201	201	201	102
SS06	02/01/2024	0.5	<0.00201	<0.00402	<49.6	<49.6	<49.6	<49.6	<49.6	75.3
SS07	02/01/2024	0.5	<0.00200	<0.00401	<50.3	<50.3	<50.3	<50.3	<50.3	76.7
BH01	05/02/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	46.1
BH01A	05/02/2022	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	14.6
BH02	05/02/2022	1	<0.00200	<0.00399	<49.9	428	60.9	428	489	26.2
BH02	05/02/2022	1.5	<0.00199	<0.00398	<50.0	110	<50.0	110	110	15.4
BH03	10/19/2022	1.5	<0.00199	<0.00398	<49.9	216	124	216	340	263
BH04	10/19/2022	1.5	<0.00200	<0.00399	63.3	377	263	440	703	201
PH01	05/02/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	85.9
PH01A	05/02/2022	2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	17.0
PH02	05/02/2022	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	76.4
PH02A	05/02/2022	2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	52.1
PH03	05/02/2022	0.5	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	36.9
PH03A	05/02/2022	2	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	36.3

#### TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS PLU 30 BIG SINKS BATTERY XTO ENERGY, INC EDDY COUNTY, NEW MEXICO

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I C	osure Criteria (	NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	20,000
				Confi	irmation Soil Sa	amples			•	
FS01	05/03/2022	0.5'	<0.00201	0.299	1,290	<del>10,400</del>	1,640	<del>11,700</del>	<del>13,300</del>	394
FS01A	10/19/2022	1'	<0.00201	0.0449	244	5,310	3,130	5,550	8,680	224
FS02	05/03/2022	0.5'	<0.00200	0.844	<del>1,180</del>	7,810	1,380	<del>8,990</del>	<del>10,400</del>	141
FS02A	10/19/2022	1'	<0.00199	0.0327	204	3,150	1,730	3,350	5,080	80.0
FS03	05/03/2022	0.5'	<0.00199	45.1	<del>2,140</del>	11,500	1,880	<del>13,600</del>	<del>15,500</del>	723
FS03A	10/24/2022	1'	<0.00200	0.0639	321	5,750	<49.8	6,070	6,070	62.2
FS04	05/03/2022	0.5'	<0.00200	1.09	2,220	14,200	<del>2,330</del>	16,400	<del>18,800</del>	790
FS04A	10/24/2022	1'	<0.00199	0.237	<50.0	4,540	488	4,540	5,030	107
FS05	05/03/2022	0.5'	0.00362	1.35	496	<del>12,400</del>	<250	<del>12,900</del>	<del>12,900</del>	528
FS05A	12/01/2022	1'	<0.00200	0.0153	84.4	4000	<50.0	4,084	4,084	39.9
FS06	05/03/2022	0.5'	<0.400	0.177	617	16,000	<250	16,600	<del>16,600</del>	106
FS06	12/01/2022	1'	<0.00199	0.0288	107	3,740	<50.0	3,847	3,847	18.6
SW01	02/01/2024	0-1	<0.00201	<0.00402	<248	<248	<248	<248	<248	1,040
SW02	02/01/2024	0-1	<0.00200	<0.00401	<50.5	<50.5	<50.5	<50.5	<50.5	95.9

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation requirement where applicable. GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

Grey text indicates soil sample removed during excavation activities



**APPENDIX A** 

Previous Reports: May 25, 2022 *Deferral Request* and March 6, 2023 *Deferral Request Addendum* 



May 25, 2022

District II New Mexico Oil Conservation Division 811 South First Street Artesia, New Mexico 88210

#### Re: Deferral Request PLU 30 Big Sinks Battery Incident Numbers NAPP2206853301, NAPP2208351954, & NAPP2209137379 Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this Deferral Request to document site assessment and remediation activities completed at the Poker Lake Unit (PLU) 30 Big Sinks Battery (Site). The purpose of the site assessment and remediation activities was to address impacts to soil following three separate releases of crude oil and produced water in an area of active production equipment, by excavating impacted soil to the extent possible. Based on the soil sample analytical results from the excavation and delineation activities, XTO is submitting this Deferral Request, describing remediation that has occurred and requesting deferral of final remediation for Incident Numbers NAPP2206853301, NAPP2208351954, and NAPP2209137379 until the Site is reconstructed, and/or the well pad is abandoned.

#### SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit F, Section 30, Township 25 South, Range 31 East, in Eddy County, New Mexico (32.10395° N, 103.82149°W) and is associated with oil and gas exploration and production operations on Bureau of Land Management (BLM) Federal Land.

#### Incident Number NAPP2206853301

On February 24, 2022, a water dump washed out on a separator, causing the skim tank to overflow and release approximately 99.23 barrels (bbls) of crude oil into lined containment and onto the pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 99 bbls of crude oil were recovered from within the lined containment. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on February 25, 2022, and submitted a Release Notification Form C-141 (Form C-141) on March 9, 2022. The release was assigned Incident Number NAPP2206853301.

#### Incident Number NAPP2208351954

On March 14, 2022, a diaphragm failed on a 6-inch water dump, causing the skim tank to overflow and release approximately 64.2 bbls of crude oil and 16.05 bbls of produced water into lined containment

Ensolum, LLC | Environmental, Engineering & Hydrogeologic Consultants 705 W. Wadley, Suite 210 | Midland, TX 78209 | ensolum.com Texas PG Firm No. 50588 | Texas PE Firm No. F-21843 PLU 30 Big Sinks Battery

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and onto the pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 64 bbls of crude oil and 16 bbls of produced water were recovered from within the lined containment. XTO reported the release to the NMOCD via email on March 14, 2022, and submitted a Form C-141 on March 24, 2022. The release was assigned Incident Number NAPP2208351954.

#### Incident Number NAPP2209137379

On March 19, 2022, a diaphragm on a water dump failed, causing the skim tank to overflow and release approximately 145.52 bbls of crude oil and 97.01 bbls of produced water into lined containment and onto the pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 144 bbls of crude oil and 96 bbls of produced water were recovered from within the lined containment. XTO reported the release to the NMOCD via email on March 19, 2022, and submitted a Form C-141 on April 1, 2022. The release was assigned Incident Number NAPP2209137379.

A 48-hour advance notice of liner inspection was provided via email to the NMOCD District II. A liner integrity inspection was conducted following fluid recovery from the third release. Upon inspection, the liner was determined to be competent (photo 3 and 4). The release areas outside of containment overlapped for all three releases and were addressed concurrently.

#### SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized according to Table 1, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on a recent soil boring drilled for determination of regional groundwater depth. During February 2021, a soil boring (C-4498) was drilled 1.0 mile west of the Site utilizing a track-mounted hollow-stem auger rig. Soil boring C-4498 was drilled to a depth of 110 feet bgs. A field geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activities. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater was greater than 110 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. An additional soil boring (C-4500) was drilled to a depth of 110 feet bgs approximately 2 miles east of the Site. No groundwater was encountered in the soil boring, which provides additional support in a different direction that groundwater beneath the Site is greater than 110 feet bgs. There are no hydrological features near the Site that would indicate shallow groundwater. The referenced well records are included in Appendix A

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 952 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table 1 Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg

PLU 30 Big Sinks Battery

- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

### SITE ASSESSMENT ACTIVITIES

On April 15, 2022, Ensolum personnel visited the Site to evaluate the release extent and conduct site assessment activities. Two preliminary assessment soil samples were collected within the release extent from a depth of 0.5 feet bgs to assess the extent of the release. The preliminary soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and Hach<sup>®</sup> chloride QuanTab<sup>®</sup> test strips. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Appendix B.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for preliminary soil samples SS01 and SS02 indicated that BTEX, TPH-DRO/TPH-GRO, and TPH concentrations exceeded the Closure Criteria. Based on visible staining in the release area, elevated field screening results, and laboratory analytical results for the preliminary soil samples, excavation and delineation activities were warranted.

### DELINEATION ACTIVITIES AND ANALYTICAL RESULTS

On May 2, 2022, Ensolum personnel returned to the Site to complete delineation activities. Three potholes (PH01 through PH03) and two boreholes (BH01 and BH02) were advanced within and around the release extent to delineate the lateral and vertical extent of the release. Potholes PH01 through PH03 and borehole BH01 were advanced around the release extent to depths ranging from 1-foot to 2 feet bgs to confirm the lateral extent of the release. Borehole BH02 was advanced within the release extent to a depth of 1.5 feet bgs to confirm the vertical extent of the release. Two discrete soil samples were collected from each pothole and borehole at depths ranging from 0.5 feet bgs to 2 feet bgs. Soil from the potholes and boreholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated PID and Hach<sup>®</sup> chloride QuanTab<sup>®</sup> test strips, respectively. Field screening results and observations for the potholes and boreholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The delineation soil samples were handled and analyzed as described above. The delineation soil sample locations are depicted on Figure 2.

Laboratory analytical results for the delineation soil samples collected from potholes PH01 through PH03 and borehole BH01, advanced around the release extent, indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria and compliant with the most stringent Table 1 Closure Criteria. Laboratory analytical results for delineation soil samples collected from borehole BH02, advanced within the release extent, indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria. Based on the laboratory analytical results, the lateral and vertical extent of the impacted soil was successfully defined.

### **ENSOLUM**

Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D. Based on laboratory analytical results for the preliminary soil samples and field screening results from the delineation activities, excavation of impacted soil was completed to the extent possible.

#### **EXCAVATION SOIL SAMPLING ACTIVITIES AND ANALYTICAL RESULTS**

On May 2, 2022, and May 3, 2022, excavation activities were completed via hand shoveling to remove impacted soil to the extent possible as indicated by visible staining, field screening activities, and laboratory analytical results for preliminary samples SS01 and SS02. The excavation depth was limited to an approximate depth of 0.5 bgs due to refusal with hand shovels. The release area was not accessible with mechanical equipment due to the surrounding active production equipment preventing access.

Following removal of impacted soil to the extent possible, Ensolum personnel collected 5-point composite soil samples at a frequency of every 200 square feet from the floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS06 were collected from the floor of the excavation from a depth of 0.5 feet bgs. The excavation soil samples were collected, handled, and analyzed as described above. The excavation extent and excavation soil sample locations are depicted on Figure 3.

Laboratory analytical results for excavation floor samples FS01 through FS06, collected at 0.5 feet bgs, indicated that TPH and TPH-GRO/TPH-DRO concentrations exceeded the Closure Criteria. Impacted soil was excavated to the maximum extent possible via hand shoveling. Due to the surrounding active production equipment, the release area was not accessible with mechanical equipment, including a hydrovac or skidsteer. Photographic documentation is included in Appendix B. To address the hydrocarbon impacts left in place, a 5 percent solution of Micro-Blaze<sup>®</sup> and freshwater was applied to the impacted area to promote degradation of the hydrocarbons.

The excavation measured approximately 1,200 square feet in area. Approximately 30 cubic yards of impacted soil were removed during the excavation activities. The impacted soil was transported and properly disposed of at a permitted disposal facility in Carlsbad, New Mexico.

#### **DEFFERAL REQUEST**

A total of 30 cubic yards of impacted soil was excavated from the Site via hand shoveling to a maximum depth of 0.5 feet bgs before encountering refusal. Impacted soil was left in place in the floor of the excavation, due to the release area being surrounded by active production equipment where it could not be accessed with mechanical equipment and remediation would require a major facility deconstruction. The impacted soil remaining in place is delineated vertically by delineation soil samples BH02/BH02A and laterally by delineation soil samples from borehole BH01 and potholes PH01 through PH03. A maximum of 30 cubic yards of hydrocarbon impacted soil remains in place assuming a maximum 1-foot depth based on the delineation soil samples listed above, that were compliant with the Closure Criteria. The deferral area and delineation soil samples are depicted on Figure 4.

XTO does not believe deferment will result in imminent risk to human health, the environment, or groundwater. Depth to groundwater was estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the Site. Based on the presence of active production equipment within and around the release area and the complete lateral and vertical delineation of impacted soil remaining in place, XTO requests deferral of final remediation for Incident Numbers NAPP2206853301,

PLU 30 Big Sinks Battery

NAPP2208351954, and NAPP2209137379 until final reclamation of the well pad or major construction, whichever comes first.

If you have any questions or comments, please contact Ms. Aimee Cole at (720) 384-7365 or acole@ensolum.com.

Sincerely, Ensolum, LLC

Monissey

Tacoma Morrissey Senior Geologist

mé Cale

Aimee Cole Senior Managing Scientist

cc: Adrian Baker, XTO Bureau of Land Management

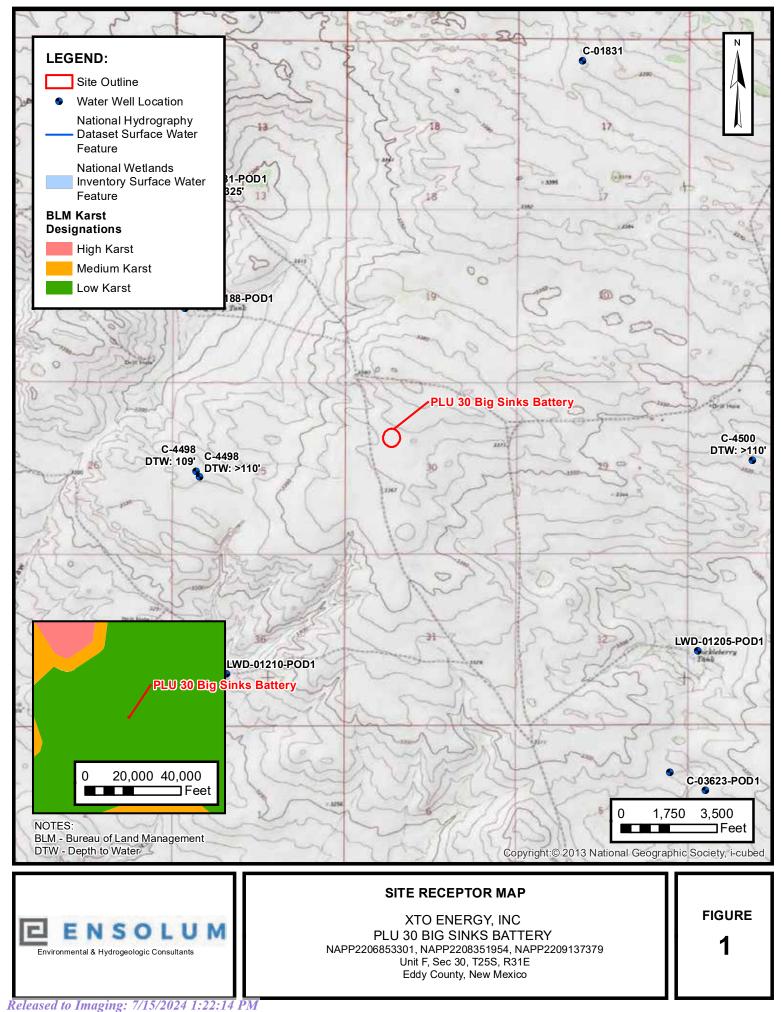
Appendices:

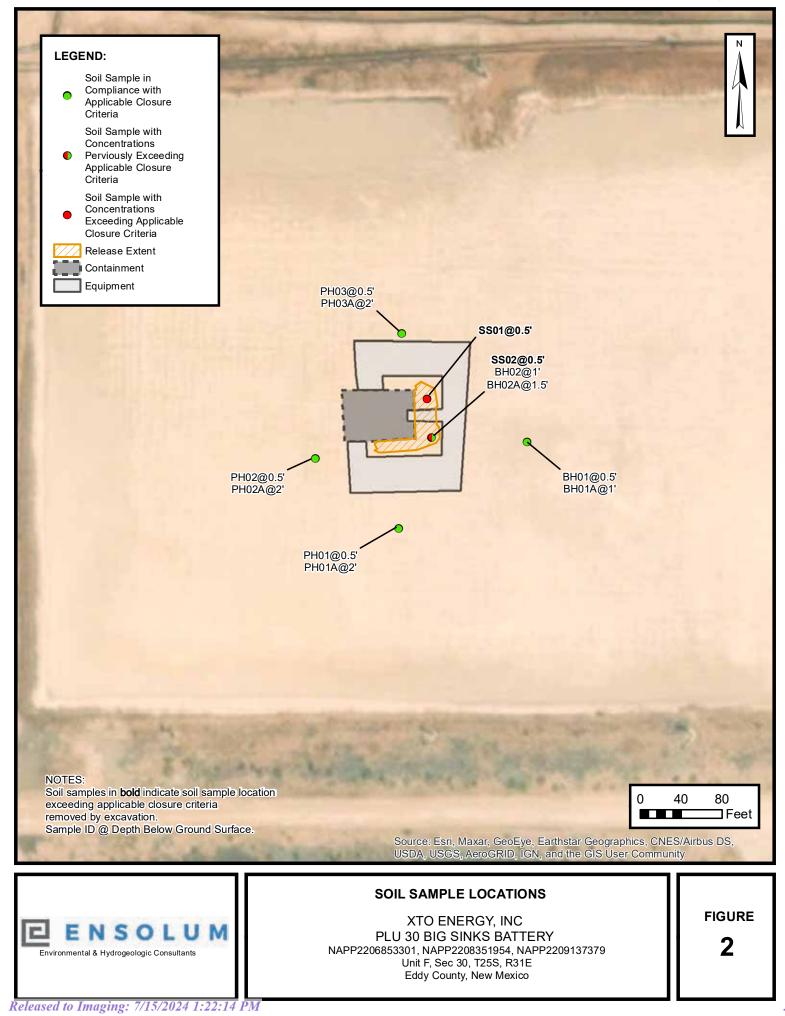
- Figure 1 Site Receptor Map
- Figure 2 Soil Sample Locations
- Figure 3 Excavation Soil Sample Locations
- Figure 4 Deferral Map
- Table 1Soil Sample Analytical Results
- Appendix A Referenced Well Records
- Appendix B Photographic Log
- Appendix C Lithologic / Soil Sampling Logs
- Appendix D Laboratory Analytical Reports & Chain-of-Custody Documentation
- Appendix E NMOCD Notifications

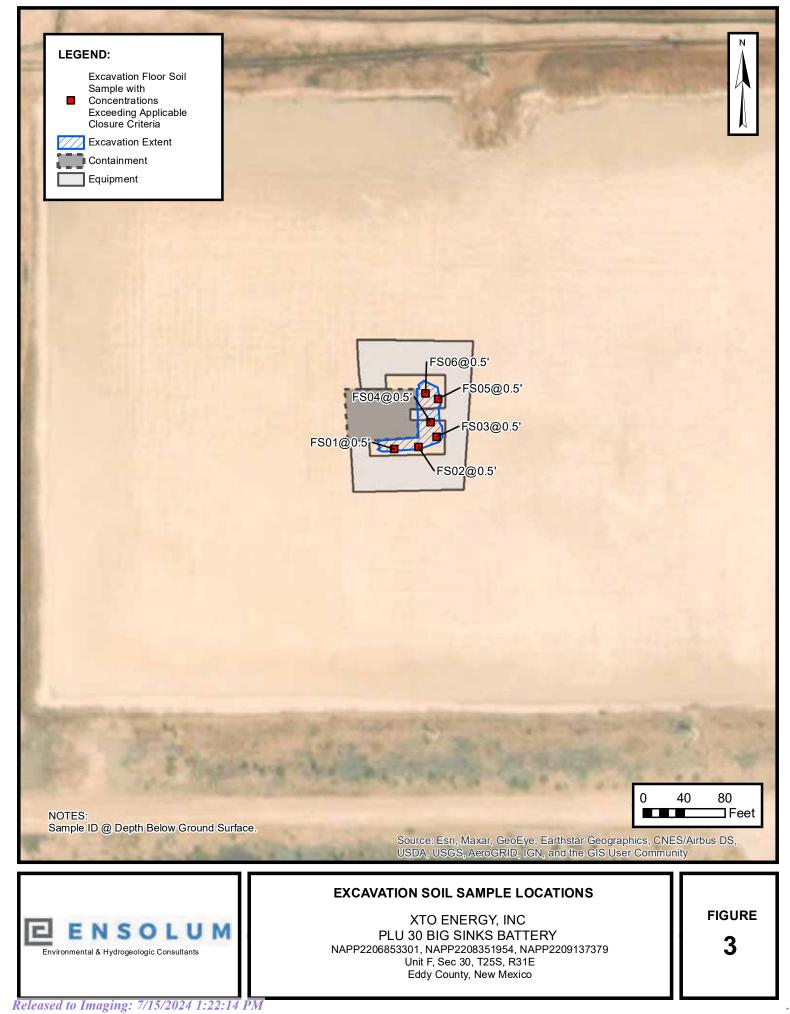


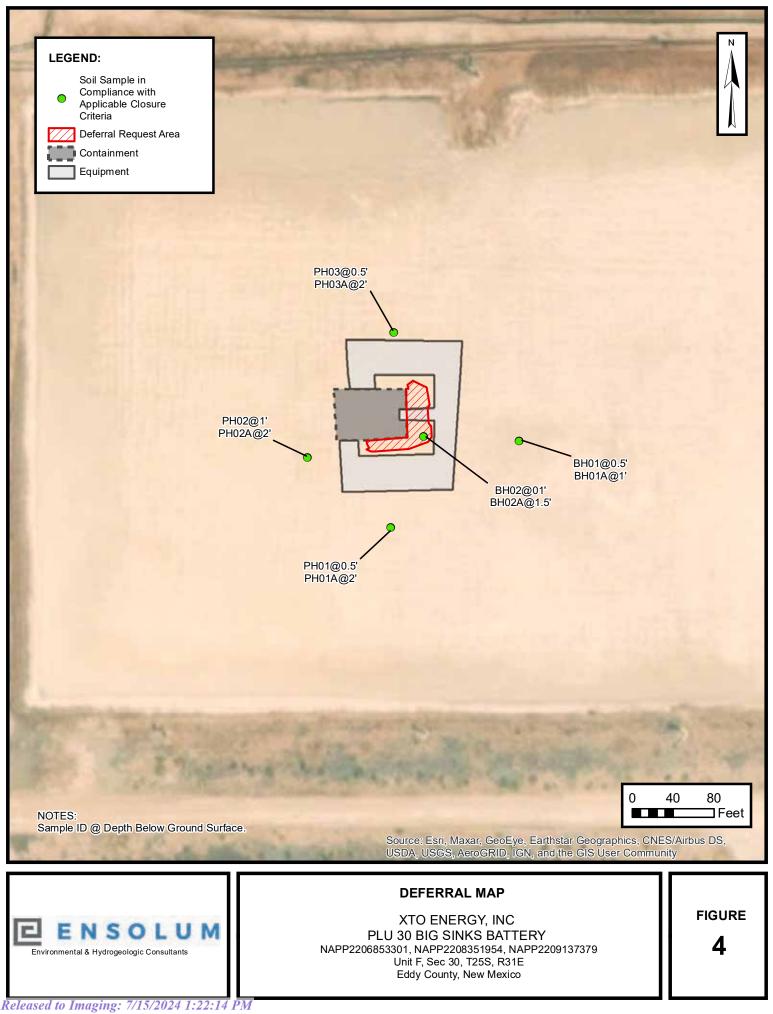
**FIGURES** 

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## TABLES

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## **ENSOLUM**

	TABLE 1         SOIL SAMPLE ANALYTICAL RESULTS         PLU 30 Big Sinks Battery         XTO Energy, Inc.         Eddy County, New Mexico														
Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)					
NMOCD Table 1 Cl	losure Criteria (l	NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	20,000					
Preliminary Soil Samples															
SS01	04/15/2022	0.5	<0.0398	158	4,620	11,200	<250	15,800	15,800	103					
SS02	04/15/2022	0.5	<0.0402	157	2,060	7,820	<49.9	9,880	9,880	448					
Delineation Soil Samples															
BH01	05/02/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	46.1					
BH01A	05/02/2022	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	14.6					
BH02	05/02/2022	1	<0.00200	<0.00399	<49.9	428	60.9	428	489	26.2					
BH02A	05/02/2022	1.5	<0.00199	<0.00398	<50.0	110	<50.0	110	110	15.4					
PH01	05/02/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	85.9					
PH01A	05/02/2022	2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	17.0					
PH02	05/02/2022	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	76.4					
PH02A	05/02/2022	2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	52.1					
PH03	05/02/2022	0.5	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	36.9					
PH03A	05/02/2022	2	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	36.3					
				Cont	firmation Soil Sa	nples									
FS01	05/03/2022	0.5	<0.00201	0.299	1,290	10,400	1,640	11,700	13,300	394					
FS02	05/03/2022	0.5	<0.00200	0.844	1,180	7,810	1,380	8,990	10,400	141					
FS03	05/03/2022	0.5	<0.00199	45.1	2,140	11,500	1,880	13,600	15,500	723					
FS04	05/03/2022	0.5	<0.00200	1.09	2,220	14,200	2,330	16,400	18,800	790					
FS05	05/03/2022	0.5	0.00362	1.35	496	12,400	<250	12,900	12,900	528					
FS06	05/03/2022	0.5	<0.400	0.177	617	16,000	<250	16,600	16,600	106					

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in bold exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.

GRO: Gasoline Range Organics DRO: Diesel Range Organics ORO: Oil Range Organics TPH: Total Petroleum Hydrocarbon

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## APPENDIX A

**Referenced Well Records** 



# New Mexico Office of the State Engineer **Point of Diversion Summary**

			(quar	ters are	e 1=N	W 2=N	E 3=SV	W 4=SE)			
		(qua	rters a	e sma	allest to	o largest	t)	(NAD83 UT	M in meters)		
Well Tag	POD	Number	Q64	Q16	Q4	Sec	Tws	Rng	Χ	Y	
NA	C 0	4498 POD1	2	1	3	25	25S	30E	609394	3552168 🧲	
x Driller Lice	ense:	1249	Drille	r Cor	npai	ıy:	AT	KINS E	NGINEERIN	IG ASSOC. II	NC.
Driller Nan	ne:	JAKCIE D ATKINS									
Drill Start ]	Date:	02/24/2021	Drill I	Finisł	n Da	te:	0	2/24/202	21 Plu	g Date:	03/02/202
Log File Da	ate:	03/11/2021	PCW	Rcv ]	Date	:			Sou	irce:	
Pump Type	e:		Pipe I	Disch	arge	Size	1		Est	imated Yield	: 0 GPM
<b>Casing Size</b>	•:		Depth	Well	l:		1	09 feet	Der	oth Water:	

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.

5/17/22 12:21 PM

POINT OF DIVERSION SUMMARY



# New Mexico Office of the State Engineer Point of Diversion Summary

			(quar	ers are	: 1=N	W 2=N	E 3=SV	W 4=SE)			
		(qua	rters ar	e sma	allest to	o largest	t)	(NAD83 UT	(NAD83 UTM in meters)		
Well Tag	POD	Number	Q64	Q16	Q4	Sec	Tws	Rng	Х	Y	
NA	C 0-	4500 POD1	4	4	1	28	25S	31E	614620	3552380	
x Driller Lice	ense:	1249	Drille	r Cor	npa	ny:	AT	KINS EI	NGINEERIN	IG ASSOC.	INC.
Driller Nar	ne:	ATKINS, JACKIE I	D.UELE	NER							
Drill Start	Date:	03/24/2021	Drill I	Finish	n Da	te:	0	3/24/202	21 <b>Plu</b>	g Date:	04/27/2021
Log File Da	ate:	05/05/2021	PCW	Rcv I	Date	:			Sou	irce:	
Pump Type	e:		Pipe I	Discha	arge	Size:	1		Est	imated Yiel	d:
<b>Casing Size</b>	<b>p</b> •		Depth	Well	:				Der	oth Water:	

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.

5/17/22 12:40 PM

POINT OF DIVERSION SUMMARY



USGS Home Contact USGS Search USGS

### **National Water Information System: Web Interface**

USGS Water Resources	Data Category:		Geographic Area:		
	Groundwater	~	United States	~	GO

### Click to hideNews Bulletins

- Explore the NEW <u>USGS National Water Dashboard</u> interactive map to access realtime water data from over 13,500 stations nationwide.
- Full News 🔊

Groundwater levels for the Nation

Important: <u>Next Generation Monitoring Location Page</u>

## Search Results -- 1 sites found

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

## USGS 320643103465002 25S.31E.21.413314A

Available data for this site Groundwater: Field measurements 🗸

Eddy County, New Mexico

Hydrologic Unit Code 13070001

Latitude 32°06'46.0", Longitude 103°46'56.3" NAD83

Land-surface elevation 3,374.00 feet above NGVD29

The depth of the well is 400 feet below land surface.

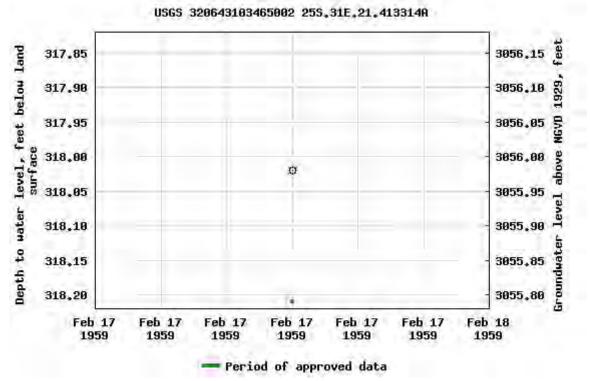
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.

GO

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

**Output formats** 

Table of data	
Tab-separated data	
Graph of data	
Reselect period	



Breaks in the plot represent a gap of at least one year between field measurements. <u>Download a presentation-quality graph</u>

Questions about sites/data? Feedback on this web site Automated retrievals Help Data Tips Explanation of terms Subscribe for system changes News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey Title: Groundwater for USA: Water Levels URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

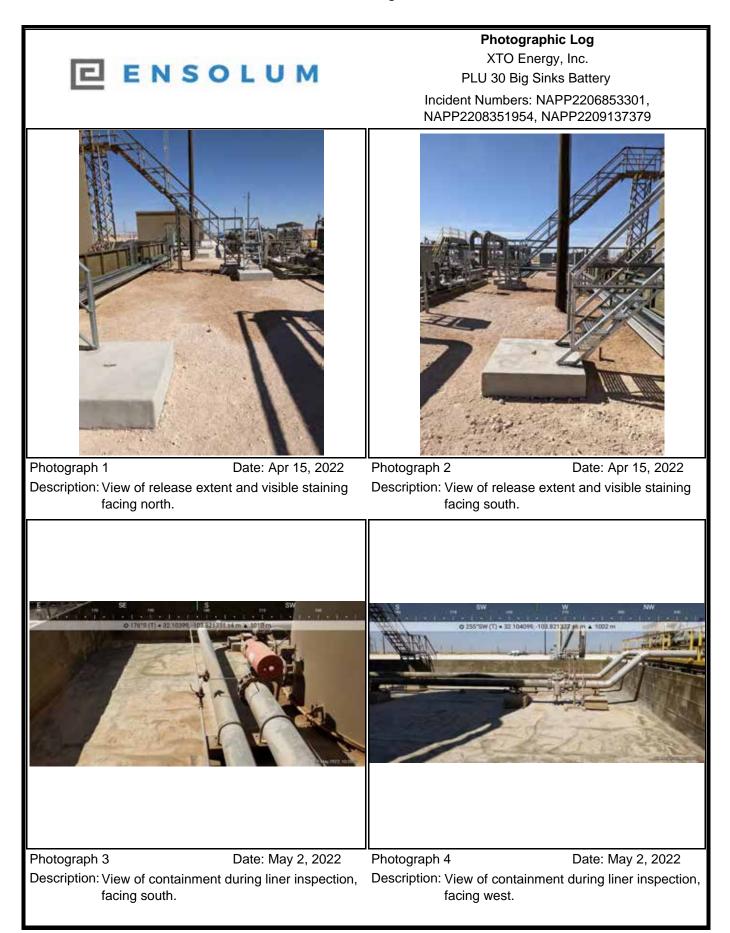
Page Contact Information: <u>USGS Water Data Support Team</u> Page Last Modified: 2022-05-17 14:23:51 EDT 0.54 0.49 nadww01

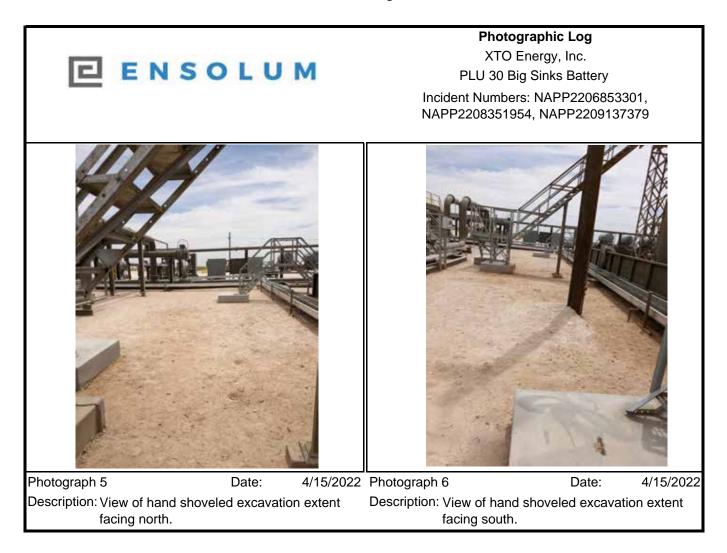




## APPENDIX B

Photographic Log







APPENDIX C

Lithologic Soil Sampling Logs

			D 1 05 (00 (0000
		Sample Name: BH01	Date: 05/02/2022
		Site Name: PLU 30 Big Sinks Batter	
<b>E</b> E N S O L		Incident Number: NAPP220685330 NAPP2209137379	1, NAPP2208351954,
		Job Number: 03E1558016	
LITHOLOGIC / SOIL SAMPLING LO	G	Logged By: CS	Method: hand auger
Coordinates: 32.103973°, -103.821072°		Hole Diameter: 4"	Total Depth: 1'
Comments: Field screening conducted with HACH Chloric performed with 1:4 dilution factor of soil to distilled wate			ively. Chloride test
	USCS/Rock Symbol	Lithologic Des	criptions
D <168 3.2 N BH01 0.5	0.5 CCHE	caliche	
D <168 0.0 N BH01A 1	1 CCHE	caliche TD @ 1 foot auger refusal	

_								Sample Name: BH02	Date: 05/02/2022
		-		-	0			Site Name: PLU 30 Big Sinks	Battery
		E	N	5	UI	. U	M	Incident Number: NAPP2206 NAPP2209137379	
								Job Number: 03E1558016	
		LITHOLO	OGIC	/ SOIL S	AMPLING	LOG		Logged By: CS	Method: hand auger
oord				3.821327°				Hole Diameter: 4"	Total Depth: 1'
								PID for chloride and vapor, reson factor is included.	spectively. Chloride test
Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologia	c Descriptions
D	212.8	3,863	Y	SS02	0.5	0.5	CCHE	caliche	
D	<168	101.2	Y	BH02	1	1	CCHE	caliche	
D	<168	40.2	N	BH02	1.5	1.5	CCHE	caliche	
-	100	.0.2		21102		Γ		TD @ 1.5 foot bgs, auge	
								2	
								$\mathbf{i}$	
									$\mathbf{i}$
									<b>\</b>

and the second se					
				Sample Name: PH01	Date: 05/02/2022
				Site Name: PLU 30 Big Sinks Ba	
		OLU		Incident Number: NAPP22068 NAPP2209137379	53301, NAPP2208351954,
				Job Number: 03E1558016	
LIT	HOLOGIC / SOIL	SAMPLING LOG		Logged By: CS	Method: back hoe
Coordinates: 32.1	103777°, -103.82141	5°		Hole Diameter: 2'	Total Depth: 2'
	-	with HACH Chloride Test pil to distilled water. A 40		PID for chloride and vapor, res ion factor is included.	pectively. Chloride test
Moisture <u>Content</u> Chloride (ppm) Vapor	(ppm) Staining Sample ID	Sample Depth (ft bgs)	USCS/Rock Symbol	Lithologic	Descriptions
D <168 4	4.9 N PHO1		CCHE	caliche	
D <168 1	1.0 N PH01A		CCHE	caliche TD @ 2 feet	

						Sample Name: PH02	Date: 05/02/2022
		C				Site Name: PLU 30 Big Sinks B	attery
5	N	2				Incident Number: NAPP22068 NAPP2209137379	53301, NAPP2208351954,
						Job Number: 03E1558016	
LITHOLO	OGIC	/ SOIL S		i log		Logged By: CS	Method: back hoe
32.103935	°, -103	3.821637°				Hole Diameter: 2'	Total Depth: 2'
							spectively. Chloride test
Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic	Descriptions
2.5	N		T -	0.5	CCHE	caliche	
6.8	Ν	PH02	1	1	CCHE	caliche	
3 1.1	N	PH02A	2	2	CCHF	caliche	
						TD @ 2 feet	
	LITHOL( 32.103935 ield screeni ith 1:4 dilut	LITHOLOGIC 32.103935°, -103 ield screening con ith 1:4 dilution fa ode A 2.5 N 2.5 N 6.8 N	LITHOLOGIC / SOIL S 32.103935°, -103.821637° ield screening conducted w ith 1:4 dilution factor of soi	LITHOLOGIC / SOIL SAMPLING         32.103935°, -103.821637°         ield screening conducted with HACH Ch         ith 1:4 dilution factor of soil to distilled         ith 1:4 dilution factor of soil to distilled         ith 0       0       0         ith 1:4 dilution factor of soil to distilled         ith 0       0       0         ith 0       0       0         ith 1:4 dilution factor of soil to distilled       0         ith 2       0       0         ith 2       0       0         ith 2       0       0         ith 3       0       0         ith 4       0       0         ith 5       0       0         ith 3       0       0         ith 4       0       0         ith 5       0       0         ith 4       0       0         ith 5       0       0         ith 6       0       0         ith 5       0       0         ith 6       0	LITHOLOGIC / SOIL SAMPLING LOG         32.103935°, -103.821637°         ield screening conducted with HACH Chloride Test is         isth 1:4 dilution factor of soil to distilled water. A 40         O O O O O O O O O O O O O O O O O O O	32.103935°, -103.821637° ield screening conducted with HACH Chloride Test Strips and ith 1:4 dilution factor of soil to distilled water. A 40% correct	Interviewentse         Job Number: 03E1558016         Job Number: 03E1558016         Ligged By: CS         32.103935°, -103.821637°       Hole Diameter: 2'         ield screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, re         ith 1:4 dilution factor of soil to distilled water. A 40% correction factor is included.         Image: Colspan="2">Image: Colspan="2">Colspan="2">Lithologic         Image: Colspan="2">Output         Image: Colspan="2">Image: Colspan="2">Colspan="2"

the second s						Sample Name: PH03	Date: 05/02/2022
		C			NA	Site Name: PLU 30 Big Sinks Batt	
已		3		. U		Incident Number: NAPP2206853 NAPP2209137379	301, NAPP2208351954,
						Job Number: 03E1558016	
LI	THOLOGI	C / SOIL S	SAMPLING	6 LOG		Logged By: CS	Method: back hoe
Coordinates: 32	.104218°, -1	03.821406	þ			Hole Diameter: 2'	Total Depth: 2'
						PID for chloride and vapor, responsion factor is included.	ectively. Chloride test
Moisture Content Chloride (ppm)	Vapor (ppm) Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic D	escriptions
D 168	3.6 N	PH03	0.5 _ -	L _ 0.5 _	CCHE	caliche	
D <168	2.1 N	PH03	2	- 2	CCHE	<u>caliche</u> TD @ 2 feet	



## APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

Received by OCD: 6/28/2024 6:18:11 PM

## 1 2 3 4 5 6 7 8 9 10 11 12 13

🔅 eurofins

# Environment Testing America

# **ANALYTICAL REPORT**

Eurofins Carlsbad 1089 N Canal St. Carlsbad, NM 88220 Tel: (575)988-3199

## Laboratory Job ID: 890-2195-1

Laboratory SDG: 03E1558019 03E1558020 03E1558022 Client Project/Site: PLU 30 BS

## For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Tacoma Morrissey

RAMER

Authorized for release by: 4/22/2022 12:43:15 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Expert

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2

## **Definitions/Glossary**

Client: Ensolum Project/Site: PLU 30 BS

2

Job ID: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

## Qualifiers

		- <b>3</b>
GC VOA		
Qualifier	Qualifier Description	4
*+	LCS and/or LCSD is outside acceptance limits, high biased.	
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not	5
	applicable.	
F1	MS and/or MSD recovery exceeds control limits.	6
F2	MS/MSD RPD exceeds control limits	
S1-	Surrogate recovery exceeds control limits, low biased.	
U	Indicates the analyte was analyzed for but not detected.	
GC Semi VO	Α	Q
Qualifier	Qualifier Description	0
S1+	Surrogate recovery exceeds control limits, high biased.	0
U	Indicates the analyte was analyzed for but not detected.	3
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	13
%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

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: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

## Job ID: 890-2195-1

Project/Site: PLU 30 BS

Client: Ensolum

## Laboratory: Eurofins Carlsbad

### Narrative

Job Narrative 890-2195-1

## Receipt

The samples were received on 4/15/2022 3:41 PM. 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 3.2°C

## GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-23784 and analytical batch 880-23768 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-23898 and analytical batch 880-23883 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery 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: Surrogate recovery for the following sample was outside control limits: SS01 (890-2195-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: SS02 (890-2195-2). Evidence of matrix interferences is not obvious.

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 880-23782 and analytical batch 880-23971 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.

Method: 8021B - Volatile Organic Compounds (GC)

Result Qualifier

<0.0398 UF1

4.47 F1

2.36 F1

1.87 F1

149

RL

0.0398

0.0398

0.0398

0.0398

1.98

Unit

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

D

Prepared

04/19/22 13:14

04/19/22 13:14

04/19/22 13:14

04/21/22 09:32

04/19/22 13:14

Job ID: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

## **Client Sample ID: SS01**

Project/Site: PLU 30 BS

Client: Ensolum

Analyte

Benzene

Toluene

o-Xylene

Ethylbenzene

m-Xylene & p-Xylene

Date Collected: 04/15/22 11:00 Date Received: 04/15/22 15:41

Sample Depth: 0.5

## Lab Sample ID: 890-2195

Analyzed

04/20/22 01:04

04/20/22 01:04

04/20/22 01:04

04/21/22 14:46

04/20/22 01:04

Matrix: Sol

195-1 Solid	
	4
	5
Dil Fac	
20	6
20	
20	
500	
20	
500	ŏ
500	
Dil Fac	9
20	
20	
Dil Fac	
1	
I	
Dil Fac	13
1	

				5 5				
Xylenes, Total	183		1.98	mg/Kg		04/21/22 09:32	04/21/22 14:46	500
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	76		70 - 130			04/19/22 13:14	04/20/22 01:04	20
1,4-Difluorobenzene (Surr)	26	S1-	70 - 130			04/19/22 13:14	04/20/22 01:04	20
Method: Total BTEX - Total BTEX	Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	158		1.98	mg/Kg			04/20/22 11:37	1
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	15800		250	mg/Kg			04/20/22 15:20	1
Method: 8015B NM - Diesel Rang	e Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	4620		250	mg/Kg		04/19/22 10:31	04/20/22 07:29	5
Diesel Range Organics (Over C10-C28)	11200		250	mg/Kg		04/19/22 10:31	04/20/22 07:29	5
Oll Range Organics (Over C28-C36)	<250	U	250	mg/Kg		04/19/22 10:31	04/20/22 07:29	5
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	231	S1+	70 - 130			04/19/22 10:31	04/20/22 07:29	5
o-Terphenyl	96		70 - 130			04/19/22 10:31	04/20/22 07:29	5
Method: 300.0 - Anions, Ion Chro	matography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	103		5.00	mg/Kg			04/22/22 01:41	1
lient Sample ID: SS02						Lab Sar	nple ID: 890-	2195-2
ate Collected: 04/15/22 11:05 ate Received: 04/15/22 15:41							Matri	x: Solid
Sample Depth: 0.5								
Method: 8021B - Volatile Organic	Compounds	(GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0402	U	0.0402	mg/Kg		04/19/22 13:14	04/20/22 01:24	20
Toluene	3.39		0.0402	mg/Kg		04/19/22 13:14	04/20/22 01:24	20
Ethylbenzene	3.17		0.0402	mg/Kg		04/19/22 13:14	04/20/22 01:24	20
m Vulana 9 n Vulana	424		1.08	ma/Ka		04/21/22 00:32	04/21/22 15:07	500

#### Tolu Ethy 1.98 04/21/22 09:32 04/21/22 15:07 500 124 mg/Kg m-Xylene & p-Xylene 100 0.199 04/20/22 10:15 04/20/22 19:14 o-Xylene 26.9 mg/Kg 1.98 mg/Kg 04/21/22 09:32 04/21/22 15:07 500 151 **Xylenes**, Total Surrogate Qualifier Limits Prepared Dil Fac %Recovery Analyzed 4-Bromofluorobenzene (Surr) 70 - 130 04/19/22 13:14 04/20/22 01:24 20 94

## **Client Sample Results**

Job ID: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

Project/Site: PLU 30 BS **Client Sample ID: SS02** 

## Date Collected: 04/15/22 11:05

Date Received: 04/15/22 15:41

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

Sample Depth: 0.5

Client: Ensolum

Lab Sar

Matrix: Solid

5

mple ID: 890-2195-2

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1,4-Difluorobenzene (Surr)	2	S1-	70 - 130			04/19/22 13:14	04/20/22 01:24	20
Method: Total BTEX - Total BTEX	Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	157		1.98	mg/Kg			04/20/22 11:37	
Method: 8015 NM - Diesel Range	Organics (DR	0) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	9880		49.9	mg/Kg			04/20/22 15:20	
Method: 8015B NM - Diesel Rang	o Organice (D							
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics	2060		49.9	mg/Kg		04/19/22 10:31	04/20/22 03:40	
(GRO)-C6-C10								
Diesel Range Organics (Over C10-C28)	7820		49.9	mg/Kg		04/19/22 10:31	04/20/22 03:40	
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		04/19/22 10:31	04/20/22 03:40	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	147	S1+	70 - 130			04/19/22 10:31	04/20/22 03:40	
o-Terphenyl	141	S1+	70 - 130			04/19/22 10:31	04/20/22 03:40	
Method: 300.0 - Anions, Ion Chro	matography -	Soluble						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	448		5.00	mg/Kg			04/22/22 02:06	

Client: Ensolum Project/Site: PLU 30 BS

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

Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)	4
		BFB1	DFBZ1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		5
880-13843-A-3-F MS	Matrix Spike	100	107		
880-13843-A-3-G MSD	Matrix Spike Duplicate	94	104		6
880-13935-A-1-G MS	Matrix Spike	99	85		
880-13935-A-1-H MSD	Matrix Spike Duplicate	103	99		
890-2195-1	SS01	76	26 S1-		
890-2195-1 MS	SS01	24 S1-	11 S1-		8
890-2195-1 MSD	SS01	25 S1-	2 S1-		
890-2195-2	SS02	94	2 S1-		9
LCS 880-23784/1-A	Lab Control Sample	95	103		<b>J</b>
LCS 880-23824/1-A	Lab Control Sample	102	108		
LCS 880-23898/1-A	Lab Control Sample	100	101		
LCSD 880-23784/2-A	Lab Control Sample Dup	94	103		
LCSD 880-23824/2-A	Lab Control Sample Dup	97	106		
LCSD 880-23898/2-A	Lab Control Sample Dup	100	101		
MB 880-23779/5-A	Method Blank	97	102		
MB 880-23784/5-A	Method Blank	96	102		
MB 880-23824/5-A	Method Blank	96	103		13
MB 880-23898/5-A	Method Blank	101	97		
Currente Levend					

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Prep Type: Total/NA

Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-13850-A-21-B MS	Matrix Spike	82	90	
880-13850-A-21-C MSD	Matrix Spike Duplicate	77	81	
890-2195-1	SS01	231 S1+	96	
890-2195-2	SS02	147 S1+	141 S1+	
Surrogato Logond				

## Surrogate Legend

1CO = 1-Chlorooctane

## OTPH = o-Terphenyl

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

				Percent Surrogate Recovery (Acceptance Limits)
		1CO2	OTPH2	
ab Sample ID	Client Sample ID	(70-130)	(70-130)	
S 880-23780/2-A	Lab Control Sample	92	108	
CSD 880-23780/3-A	Lab Control Sample Dup	100	116	
3 880-23780/1-A	Method Blank	98	120	
Surrogate Legend				
1CO = 1-Chlorooctane				

OTPH = o-Terphenyl

Client: Ensolum

Project/Site: PLU 30 BS

## **QC Sample Results**

Job ID: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

## Method: 8021B - Volatile Organic Compou

Matrix: Solid										ample ID: Metho	
										Prep Type: <sup>-</sup>	
Analysis Batch: 23768										Prep Batcl	
	N	ИΒ	мв								
Analyte	Res	ult (	Qualifier	RL		Unit		D	Prepared	Analyzed	Dil Fa
Benzene	<0.002	00	U	0.00200		mg/Kg		04	4/19/22 10:22	04/19/22 12:24	
Toluene	< 0.002			0.00200		mg/Kg			4/19/22 10:22	04/19/22 12:24	
Ethylbenzene	< 0.002			0.00200		mg/Kg			4/19/22 10:22	04/19/22 12:24	
m-Xylene & p-Xylene	<0.004			0.00400		mg/Kg			4/19/22 10:22	04/19/22 12:24	
o-Xylene	<0.002			0.00200		mg/Kg			4/19/22 10:22	04/19/22 12:24	
Xylenes, Total	<0.004			0.00400		mg/Kg			4/19/22 10:22	04/19/22 12:24	
, j.e., e.a.	0.001		•	0.00100						0 // 10/22 12/21	
			MB								
Surrogate	%Recove	-	Qualifier	Limits					Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)		97		70 - 130					4/19/22 10:22	04/19/22 12:24	
1,4-Difluorobenzene (Surr)	1	02		70 - 130				04	4/19/22 10:22	04/19/22 12:24	
Lab Sample ID: MB 880-23784/5-A									Client Sa	ample ID: Metho	d Blan
Matrix: Solid										Prep Type: 7	Total/N/
Analysis Batch: 23768										Prep Batch	h: 2378
	I	/IB I	мв								
Analyte	Res	ult (	Qualifier	RL		Unit		D	Prepared	Analyzed	Dil Fa
Benzene	<0.002	00	U	0.00200		mg/Kg		04	4/19/22 13:14	04/20/22 00:35	
Toluene	<0.002	00	U	0.00200		mg/Kg		04	4/19/22 13:14	04/20/22 00:35	
Ethylbenzene	<0.002	00	U	0.00200		mg/Kg		04	4/19/22 13:14	04/20/22 00:35	
m-Xylene & p-Xylene	<0.004	00	U	0.00400		mg/Kg		04	4/19/22 13:14	04/20/22 00:35	
o-Xylene	<0.002	00	U	0.00200		mg/Kg		04	4/19/22 13:14	04/20/22 00:35	
Xylenes, Total	<0.004	00	U	0.00400		mg/Kg		04	4/19/22 13:14	04/20/22 00:35	
	,	ИВ	МВ								
Surrogate	%Recove			Limits					Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)		96		70 - 130				04	4/19/22 13:14	04/20/22 00:35	
1,4-Difluorobenzene (Surr)	1	02		70 - 130				04	4/19/22 13:14	04/20/22 00:35	
Lab Sample ID: LCS 880-23784/1-4	•							Clie	nt Sample	ID: Lab Control	
Matrix: Solid										Prep Type: 7	
Analysis Batch: 23768										Prep Batcl	h: 2378
				Spike	LCS	LCS				%Rec	
Analyte				Added		Qualifier	Unit		D %Rec	Limits	
Benzene				0.100	0.1185		mg/Kg		118	70 - 130	
Toluene				0.100	0.1239		mg/Kg		124	70 - 130	
Ethylbenzene				0.100	0.1119		mg/Kg		112	70 - 130	
m-Xylene & p-Xylene				0.200	0.2319		mg/Kg		116	70 - 130	
o-Xylene				0.100	0.1098		mg/Kg		110	70 - 130	
	LCS L	cs									
Surrogate %	Recovery G	Qualit	fier	Limits							
4-Bromofluorobenzene (Surr)	95			70 - 130							
1,4-Difluorobenzene (Surr)	103			70 - 130							
,											
							0.			als O antical O	
Lab Sample ID: LCSD 880-23784/2	-A						Clie	nt Sa	ample ID: L	ab Control Sam	
	- <b>A</b>						Clie	ent Sa	ample ID: L	ab Control Sam Prep Type: <sup>-</sup> Prep Batcl	Total/N

Analysis Batch: 23768							Prep	Batch:	23784
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1199		mg/Kg		120	70 - 130	1	35

## **QC Sample Results**

Client: Ensolum Project/Site: PLU 30 BS Job ID: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

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

Lab Sample ID: LCSD 880-2378 Matrix: Solid	4/2-A					Clie	nt Sam	ple ID:	Lab Contro Prep 1	l Sampl ype: To	
Analysis Batch: 23768										Batch:	
			Spike	LCSD	LCSD				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Toluene			0.100	0.1189		mg/Kg		119	70 - 130	4	35
Ethylbenzene			0.100	0.1069		mg/Kg		107	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.2204		mg/Kg		110	70 - 130	5	35
o-Xylene			0.100	0.1044		mg/Kg		104	70 - 130	5	35
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	94		70 - 130								
1,4-Difluorobenzene (Surr)	103		70 - 130								
Lab Sample ID: 890-2195-1 MS									Client Sa		
Matrix: Solid										ype: To	
Analysis Batch: 23768										Batch:	23784
		Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Benzene	<0.0398	U F1	0.100	<0.0401	U F1	mg/Kg		0	70 - 130		
Toluene	4.47	F1	0.100	2.004	F1	mg/Kg		1777	70 - 130		
Ethylbenzene	2.36	F1	0.100	1.189	F1	mg/Kg		1069	70 - 130		
m-Xylene & p-Xylene	23.3	E	0.200	10.24	4	mg/Kg		4527	70 - 130		
o-Xylene	1.87	F1	0.100	0.6170	F1	mg/Kg		522	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	24	S1-	70 - 130
1,4-Difluorobenzene (Surr)	11	S1-	70 - 130

## Lab Sample ID: 890-2195-1 MSD Matrix: Solid Analysis Batch: 23768

· · · · · · · · · · · · · · · · · · ·											
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.0398	U F1	0.0998	<0.0399	U F1	mg/Kg		0	70 - 130	NC	35
Toluene	4.47	F1	0.0998	2.017	F1	mg/Kg		1797	70 - 130	1	35
Ethylbenzene	2.36	F1	0.0998	1.198	F1	mg/Kg		1082	70 - 130	1	35
m-Xylene & p-Xylene	23.3	E	0.200	10.10	4	mg/Kg		4476	70 - 130	1	35
o-Xylene	1.87	F1	0.0998	0.6504	F1	mg/Kg		558	70 - 130	5	35

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	25	S1-	70 - 130
1,4-Difluorobenzene (Surr)	2	S1-	70 - 130

## Lab Sample ID: MB 880-23824/5-A Matrix: Solid Analysis Batch: 23822

-	МВ	МВ						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		04/20/22 10:15	04/20/22 13:02	1
Toluene	<0.00200	U	0.00200	mg/Kg		04/20/22 10:15	04/20/22 13:02	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		04/20/22 10:15	04/20/22 13:02	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		04/20/22 10:15	04/20/22 13:02	1

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## Client Sample ID: SS01 Prep Type: Total/NA Prep Batch: 23784

Prep Type: Total/NA

Prep Batch: 23824

Client Sample ID: Method Blank

Client: Ensolum

Project/Site: PLU 30 BS

## **QC Sample Results**

Job ID: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

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

4/5-A							Client Sa	ample ID: Me		
								Prep Ba	atch:	2382
						D	•			Dil Fa
<0.00200	U	0.00200		mg	/Kg		04/20/22 10:15	04/20/22 13:	02	
<0.00400	U	0.00400		mg	/Kg		04/20/22 10:15	04/20/22 13:	02	
ME	B MB									
		Limits					Prepared	Analvzed		Dil Fa
		70 - 130					-		02	
		70 - 130					04/20/22 10:15			
24/1-A						С	lient Sample	ID: Lab Cont	trol S	ampl
		Spike	LCS	LCS				%Rec		
		Added	Result	Qualifier	Unit		D %Rec	Limits		
		0.100	0.1042		mg/Kg		104	70 - 130		
		0.100	0.1178				118	70 - 130		
		0.100	•••••					10 - 100		
		Limite								
100		10 - 100								
824/2-A					CI	ient	Sample ID: L	ab Control S	ampl	e Du
								Ргер Тур	e: To	tal/N
								Prep B	atch:	
		Spike	LCSD	LCSD				Prep Ba %Rec	atch:	2382
		Spike Added		LCSD Qualifier	Unit		D %Rec		atch: RPD	2382 RP
		-			Unit mg/Kg		D %Rec 128	%Rec		2382 RP Lim
		Added	Result	Qualifier				%Rec Limits	RPD	2382 RP Lim
		<b>Added</b> 0.100	<b>Result</b> 0.1277	Qualifier	mg/Kg		128	%Rec Limits 70 - 130	<b>RPD</b> 20	2382 RP Lim
		Added 0.100 0.100	<b>Result</b> 0.1277 0.1308	Qualifier	mg/Kg mg/Kg		128 131	%Rec Limits 70 - 130 70 - 130	<b>RPD</b> 20 10	
		Added 0.100 0.100 0.100	<b>Result</b> 0.1277 0.1308 0.1194	Qualifier	mg/Kg mg/Kg mg/Kg		128 131 119	%Rec Limits 70 - 130 70 - 130 70 - 130	<b>RPD</b> 20 10 1	2382 RP Lim
		Added 0.100 0.100 0.100 0.200	<b>Result</b> 0.1277 0.1308 0.1194 0.2455	Qualifier	mg/Kg mg/Kg mg/Kg		128 131 119 123	%Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130	<b>RPD</b> 20 10 1 2	2382 RP Lim 3 3
LCSD LC: %Recovery Qui		Added 0.100 0.100 0.100 0.200 0.100	<b>Result</b> 0.1277 0.1308 0.1194 0.2455	Qualifier	mg/Kg mg/Kg mg/Kg		128 131 119 123	%Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130	<b>RPD</b> 20 10 1 2	2382 RP Lim
LCSD LC: %Recovery Qua 97		Added 0.100 0.100 0.100 0.200 0.100 Limits	<b>Result</b> 0.1277 0.1308 0.1194 0.2455	Qualifier	mg/Kg mg/Kg mg/Kg		128 131 119 123	%Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130	<b>RPD</b> 20 10 1 2	2382 RP Lim 3 3 3
%Recovery Qua		Added 0.100 0.100 0.100 0.200 0.100	<b>Result</b> 0.1277 0.1308 0.1194 0.2455	Qualifier	mg/Kg mg/Kg mg/Kg		128 131 119 123	%Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130	<b>RPD</b> 20 10 1 2	2382 RP Lim
%Recovery Qua 97 106		Added 0.100 0.100 0.200 0.100 Limits 70 - 130	<b>Result</b> 0.1277 0.1308 0.1194 0.2455	Qualifier	mg/Kg mg/Kg mg/Kg		128 131 119 123 115	%Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130	<b>RPD</b> 20 10 1 2 2 2	2382 RF Lin
%Recovery Qua		Added 0.100 0.100 0.200 0.100 Limits 70 - 130	<b>Result</b> 0.1277 0.1308 0.1194 0.2455	Qualifier	mg/Kg mg/Kg mg/Kg		128 131 119 123 115	%Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130 70 - 130	<b>RPD</b> 20 10 2 2 2	2382 RF Lin
%Recovery Qua 97 106		Added 0.100 0.100 0.200 0.100 <i>Limits</i> 70 - 130	<b>Result</b> 0.1277 0.1308 0.1194 0.2455	Qualifier	mg/Kg mg/Kg mg/Kg		128 131 119 123 115	%Rec           Limits           70 - 130           70 - 130           70 - 130           70 - 130           70 - 130	<b>RPD</b> 20 10 2 2 2 <b>Natrix be: To</b>	2382 RP Lim
	Result           <0.00200	LCS LCS %Recovery Qualifier 102 108	Result         Qualifier         RL           <0.00200	Result         Qualifier         RL           <0.00200	Result         Qualifier         RL         Unitial           <0.00200	Result         Qualifier         RL         Unit           <0.00200	Result         Qualifier         RL         Unit         D $< 0.00200$ U $0.00200$ mg/Kg         D $< 0.00400$ U $0.00400$ mg/Kg         D           MB         MB         MB         Gamma (Marrow (	Result         Qualifier         RL         Unit         D         Prepared           <0.00200	MB         MB           Result         Qualifier         RL         Unit         D         Prepared         Analyzed           40.00200         U         0.00200         mg/Kg         04/20/22 10:15         04/20/22 13:3            MB         MB          Prepared         Analyzed           %Recovery         Qualifier         Limits         Prepared         Analyzed           0.100         0.1042         mg/Kg         104         70.130           %Rec         Limits         Qualifier         Unit         D         %Rec           Added         Result         Qualifier         Unit         D         %Rec           Added         Result         Qualifier         Unit         D         %Rec           0.100         0.100         0.1178         mg/Kg         118 <th< td=""><td>Result         Qualifier         RL         Unit         D         Prepared         Analyzed           &lt;0.00200</td>         U         0.00200         mg/Kg         04/20/22 10:15         04/20/22 13:02         04/20/22 13:02           &lt;0.00400</th<>	Result         Qualifier         RL         Unit         D         Prepared         Analyzed           <0.00200

Sample	Sample	Spike	MS	MS				%Rec
Analyte Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene 0.0457	F1	0.0998	0.1336		mg/Kg		88	70 - 130
Toluene 0.214	*+ F1 F2	0.0998	0.1427	F1	mg/Kg		-72	70 - 130
Ethylbenzene 0.0551		0.0998	0.1311		mg/Kg		76	70 - 130
m-Xylene & p-Xylene 0.151	F1	0.200	0.2704	F1	mg/Kg		60	70 - 130
o-Xylene 0.0492		0.0998	0.1263		mg/Kg		77	70 - 130

Eurofins Carlsbad

## QC Sample Results

Client: Ensolum Project/Site: PLU 30 BS

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

## Lab Sample ID: 880-13843-A-3-F MS

## Matrix: Solid Analysis Batch: 23822

	MS		
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

## Lab Sample ID: 880-13843-A-3-G MSD Matrix: Solid

Analysis Batch: 23822									Prep	Batch:	23824
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.0457	F1	0.0996	0.1898	F1	mg/Kg		145	70 - 130	35	35
Toluene	0.214	*+ F1 F2	0.0996	0.3655	F1 F2	mg/Kg		152	70 - 130	88	35
Ethylbenzene	0.0551		0.0996	0.1663		mg/Kg		112	70 - 130	24	35
m-Xylene & p-Xylene	0.151	F1	0.199	0.3680		mg/Kg		109	70 - 130	31	35
o-Xylene	0.0492		0.0996	0.1563		mg/Kg		108	70 - 130	21	35
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								

5		
4-Bromofluorobenzene (Surr)	94	
1,4-Difluorobenzene (Surr)	104	
Lab Camala ID: MD 000 02000/		

#### MB MB Prepared Analyte Result Qualifier RL Unit D Analyzed Benzene <0.00200 U 0.00200 04/21/22 09:32 04/21/22 11:41 mg/Kg Toluene <0.00200 U 0.00200 mg/Kg 04/21/22 09:32 04/21/22 11:41 Ethylbenzene <0.00200 U 0.00200 04/21/22 09:32 04/21/22 11:41 mg/Kg m-Xylene & p-Xylene <0.00400 U 0.00400 mg/Kg 04/21/22 09:32 04/21/22 11:41 <0.00200 U o-Xylene 0.00200 mg/Kg 04/21/22 09:32 04/21/22 11:41 Xylenes, Total <0.00400 U 0.00400 mg/Kg 04/21/22 09:32 04/21/22 11:41 MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed 70 - 130 4-Bromofluorobenzene (Surr) 101 04/21/22 09:32 04/21/22 11:41

70 - 130

97

70 <sub>-</sub> 130 70 <u>-</u> 130

1,4-Difluorobenzene (Surr)
----------------------------

## Lab Sample ID: LCS 880-23898/1-A Matrix: Solid Analysis Batch: 23883

			Spike	LCS	LCS				%Rec
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene			0.100	0.1186		mg/Kg		119	70 - 130
Toluene			0.100	0.1257		mg/Kg		126	70 - 130
Ethylbenzene			0.100	0.1111		mg/Kg		111	70 - 130
m-Xylene & p-Xylene			0.200	0.2368		mg/Kg		118	70 - 130
o-Xylene			0.100	0.1103		mg/Kg		110	70 - 130
	LCS	LCS							
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene (Surr)	100		70 - 130						

**Client Sample ID: Matrix Spike Duplicate** 

Client Sample ID: Matrix Spike Prep Type: Total/NA Prep Batch: 23824

Prep Type: Total/NA

## Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 23898

04/21/22 11:41

Prep Type: Total/NA

Prep Batch: 23898

**Client Sample ID: Lab Control Sample** 

04/21/22 09:32

Dil Fac

1

1

1

1

1

1

1

1

Dil Fac

Client: Ensolum

## **QC Sample Results**

Job ID: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

Project/Site: PLU 30 BS

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

Lab Sample ID: LCS 880-238	398/1-A						Clien	t Sample	D: Lab C			
Matrix: Solid										Type: To		
Analysis Batch: 23883									Prep	Batch:	23898	
		LCS										
Surrogate	%Recovery	Qualifier	Limits									
1,4-Difluorobenzene (Surr)	101		70 - 130									
Lab Sample ID: LCSD 880-2	3898/2-A					CI	ient San	nple ID:	Lab Contro	ol Sampl	e Dup	
Matrix: Solid									Prep 1	Гуре: To	tal/NA	2
Analysis Batch: 23883									Prep	Batch:	23898	
			Spike	LCSD	LCSD				%Rec		RPD	
Analyte			Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene			0.100	0.1153		mg/Kg		115	70 - 130	3	35	1
Toluene			0.100	0.1219		mg/Kg		122	70 - 130	3	35	
Ethylbenzene			0.100	0.1082		mg/Kg		108	70 - 130	3	35	
m-Xylene & p-Xylene			0.200	0.2279		mg/Kg		114	70 - 130	4	35	
o-Xylene			0.100	0.1087		mg/Kg		109	70 - 130	1	35	
	LCSD	LCSD										
Surrogate	%Recovery		Limits									
4-Bromofluorobenzene (Surr)	100	<u> </u>	70 - 130									
1,4-Difluorobenzene (Surr)	101		70 - 130									
	4.0.00							<b>C</b> 11	0		0	
Lab Sample ID: 880-13935-A	1-1-G MS							Client	Sample ID			
Matrix: Solid										Type: To		
Analysis Batch: 23883	0	Comm!-	0		ме					Batch:	23898	
A	-	Sample	Spike		MS	11. 11	-	0/ F	%Rec			
Analyte		Qualifier	Added		Qualifier	Unit	D	%Rec	Limits			
Benzene	<0.00200		0.100	0.01409		mg/Kg		14	70 - 130			
Toluene	<0.00200		0.100	0.01879		mg/Kg		19	70 - 130			
Ethylbenzene	<0.00200		0.100	0.01667		mg/Kg		17	70 - 130			
m-Xylene & p-Xylene	<0.00399		0.200	0.03234		mg/Kg		16	70 - 130 70 - 130			
o-Xylene	<0.00200	UFI	0.100	0.01595	ΓI	mg/Kg		16	70 - 130			
		MS										
Surrogate	%Recovery	Qualifier	Limits									
4-Bromofluorobenzene (Surr)	99		70 - 130									
1,4-Difluorobenzene (Surr)	85		70 - 130									
Lab Sample ID: 880-13935-A	-1-H MSD						Client S	ample II	D: Matrix Sp	oike Dup	licate	
Matrix: Solid									Prep 1	Г <mark>уре: Т</mark> о	tal/NA	
Analysis Batch: 23883									Prep	Batch:	23898	
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte		Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	<0.00200	U F1 F2	0.100	0.02589		mg/Kg		26	70 - 130	59	35	
Toluene	<0.00200	U F1	0.100	0.02168	F1	mg/Kg		22	70 - 130	14	35	
Ethylbenzene	<0.00200	U F1	0.100	0.01789	F1	mg/Kg		18	70 - 130	7	35	
m-Xylene & p-Xylene	<0.00399	U F1	0.201	0.03600	F1	mg/Kg		18	70 - 130	11	35	
o-Xylene	<0.00200	U F1	0.100	0.01774	F1	mg/Kg		18	70 - 130	11	35	
		MSD										
	MSD	11130										
Surrogate	MSD %Recovery		Limits									
Surrogate 4-Bromofluorobenzene (Surr)			Limits 70 - 130									

Client: Ensolum

Project/Site: PLU 30 BS

## **QC Sample Results**

Job ID: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

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

· · · · · · · · · · · · · · · · · · ·	0/1-A								C	lient Sa	ample ID: I		
Matrix: Solid											Prep T		
Analysis Batch: 23761											Prep	Batch	: 2378
		МВ											
Analyte			Qualifier	RL		Unit				pared	Analyz		Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<5	50.0	U	50.0		mg/K	9	04,	/19/2	22 10:31	04/19/22	19:58	
Diesel Range Organics (Over	</td <td>50.0</td> <td>U</td> <td>50.0</td> <td></td> <td>mg/K</td> <td>n</td> <td>04</td> <td>/19/2</td> <td>22 10:31</td> <td>04/19/22 <sup>-</sup></td> <td>19.58</td> <td></td>	50.0	U	50.0		mg/K	n	04	/19/2	22 10:31	04/19/22 <sup>-</sup>	19.58	
C10-C28)			•	0010			9	0.1	,		01110122		
Oll Range Organics (Over C28-C36)	<5	50.0	U	50.0		mg/K	g	04	/19/2	22 10:31	04/19/22	19:58	
		ΜВ	МВ										
Surrogate	%Recov		MD Qualifier	Limits					Bro	pared	Analyz	ad	Dil Fa
1-Chlorooctane	///////////////////////////////////////	98	Quaimer	70 - 130						22 10:31	04/19/22		Dii Fa
o-Terphenyl		120		70 <u>-</u> 130						22 10:31	04/19/22		
		120		10 - 100				0 //	, , , , , ,		0 // 10/22	10.00	
Lab Sample ID: LCS 880-237	80/2-A							Clier	nt S	ample	ID: Lab Co	ontrol S	Sample
Matrix: Solid											Prep T		
Analysis Batch: 23761											Prep	Batch	: 2378
				Spike	LCS	LCS					%Rec		
Analyte				Added	Result	Qualifier	Unit	D		%Rec	Limits		
Gasoline Range Organics				1000	1036		mg/Kg			104	70 - 130		
(GRO)-C6-C10				1000	835.6		m a // a			84	70 - 130		
Diesel Range Organics (Over C10-C28)				1000	035.0		mg/Kg			04	70 - 130		
010 020)													
	LCS												
Surrogate	%Recovery	Quali	fier	Limits									
1-Chlorooctane	92	Quali	tier	70 - 130									
		Quali	tier										
1-Chlorooctane o-Terphenyl	92 108	Quali	tier	70 - 130			Cli	ent Sa	mp	le ID: L	ab Contro	l Samr	ole Du
1-Chlorooctane	92 108	Quali	tier	70 - 130			Cli	ent Sa	mp	le ID: L	ab Contro Prep T		
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid	92 108	Quali	tier	70 - 130			Cli	ent Sa	mp	le ID: L	Prep T	ype: T	otal/N/
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23	92 108	Quali	tier	70 - 130	LCSD	LCSD	Cli	ent Sa	mp	le ID: L	Prep T	ype: T	otal/N/ : 23780
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid	92 108	Quali	tier	70 - 130 70 - 130		LCSD Qualifier	Cli Unit	ent Sa		le ID: L %Rec	Prep T Prep	ype: T	otal/N/ : 2378( RPI
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid Analysis Batch: 23761	92 108	Quali	tier	70 - 130 70 - 130 <b>Spike</b>							Prep T Prep %Rec	ype: To Batch	otal/N/ : 2378( RPI Limi
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid Analysis Batch: 23761 Analyte Gasoline Range Organics (GRO)-C6-C10	92 108	Quair	tier	70 - 130 70 - 130 <b>Spike</b> Added 1000	Result 1010		Unit			% <b>Rec</b>	Prep T Prep %Rec Limits 70 - 130	ype: To Batch RPD	otal/N/ : 23780 RPI Limi 20
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid Analysis Batch: 23761 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	92 108	Quair	tier	70 - 130 70 - 130 Spike Added	Result		Unit			%Rec	Prep T Prep %Rec Limits	ype: To Batch RPD	otal/N/ : 23780 RPI Limi 20
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid Analysis Batch: 23761 Analyte Gasoline Range Organics (GRO)-C6-C10	92 108	Quair	tier	70 - 130 70 - 130 <b>Spike</b> Added 1000	Result 1010		<b>Unit</b> mg/Kg			% <b>Rec</b>	Prep T Prep %Rec Limits 70 - 130	ype: To Batch RPD	otal/N/ : 23780 RPI Limi 20
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid Analysis Batch: 23761 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	92 108			70 - 130 70 - 130 <b>Spike</b> Added 1000	Result 1010		<b>Unit</b> mg/Kg			% <b>Rec</b>	Prep T Prep %Rec Limits 70 - 130	ype: To Batch RPD	otal/N/ : 23780 RPI Limi 20
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid Analysis Batch: 23761 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate	92 108 780/3-A <i>LCSD</i> %Recovery	LCSD	)	70 - 130 70 - 130 Spike Added 1000 1000	Result 1010		<b>Unit</b> mg/Kg			% <b>Rec</b>	Prep T Prep %Rec Limits 70 - 130	ype: To Batch RPD	otal/NA : 23780 RPE Limi 20
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid Analysis Batch: 23761 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	92 108 780/3-A <i>LCSD</i> %Recovery 100	LCSD	)	70 - 130 70 - 130 <b>Spike</b> Added 1000 1000 <i>Limits</i> 70 - 130	Result 1010		<b>Unit</b> mg/Kg			% <b>Rec</b>	Prep T Prep %Rec Limits 70 - 130	ype: To Batch RPD	otal/NA : 23780 RPE Limi 20
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid Analysis Batch: 23761 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate	92 108 780/3-A <i>LCSD</i> %Recovery	LCSD	)	70 - 130 70 - 130 Spike Added 1000 1000	Result 1010		<b>Unit</b> mg/Kg			% <b>Rec</b>	Prep T Prep %Rec Limits 70 - 130	ype: To Batch RPD	otal/N/ : 23780 RPI Limi 20
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid Analysis Batch: 23761 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl	92 108 780/3-A <i>LCSD</i> %Recovery 100 116	LCSD	)	70 - 130 70 - 130 <b>Spike</b> Added 1000 1000 <i>Limits</i> 70 - 130	Result 1010		<b>Unit</b> mg/Kg			% <b>Rec</b> 101 84	Prep T           %Rec           Limits           70 - 130           70 - 130	ype: To Batch RPD 2 1	otal/N/ : 23780 RPI Limi 20
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid Analysis Batch: 23761 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-13850-A-	92 108 780/3-A <i>LCSD</i> %Recovery 100 116	LCSD	)	70 - 130 70 - 130 <b>Spike</b> Added 1000 1000 <i>Limits</i> 70 - 130	Result 1010		<b>Unit</b> mg/Kg			% <b>Rec</b> 101 84	Prep T           %Rec           Limits           70 - 130           70 - 130	ype: To Batch RPD 2 1	otal/N/ : 23780 RPI Limi 20 20
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid Analysis Batch: 23761 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-13850-A- Matrix: Solid	92 108 780/3-A <i>LCSD</i> %Recovery 100 116	LCSD	)	70 - 130 70 - 130 <b>Spike</b> Added 1000 1000 <i>Limits</i> 70 - 130	Result 1010		<b>Unit</b> mg/Kg			% <b>Rec</b> 101 84	Prep T Prep %Rec Limits 70 - 130 70 - 130 70 - 130	ype: To Batch 2 1 : Matrix ype: To	otal/N/ : 23780 RPI Limi 20 20 20
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid Analysis Batch: 23761 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-13850-A-	92 108 780/3-A <u><i>kcsp</i></u> %Recovery 100 116 21-B MS	LCSE Quali	) fier	70 - 130 70 - 130 <b>Spike</b> Added 1000 1000 <i>Limits</i> 70 - 130 70 - 130	<b>Result</b> 1010 840.2	Qualifier	<b>Unit</b> mg/Kg			% <b>Rec</b> 101 84	Prep T Prep %Rec Limits 70 - 130 70 - 130 70 - 130 Sample ID Prep T Prep	ype: To Batch RPD 2 1	otal/NA : 23780 RPI Limi 20 20 20
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid Analysis Batch: 23761 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-13850-A- Matrix: Solid Analysis Batch: 23761	92 108 780/3-A <i>LCSD</i> %Recovery 100 116 21-B MS Sample	LCSE Quali	) fier	70 - 130 70 - 130 <b>Spike</b> Added 1000 1000 <i>Limits</i> 70 - 130 70 - 130 70 - 130	Result 1010 840.2 MS	Qualifier	Unit mg/Kg mg/Kg	D		%Rec 101 84 Client \$	Prep T Prep %Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130 70 - Prep T Prep T Prep %Rec	ype: To Batch 2 1 : Matrix ype: To	otal/NA : 23780 RPI Limi 20 20 20
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid Analysis Batch: 23761 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-13850-A- Matrix: Solid Analysis Batch: 23761 Analyte	92 108 780/3-A <u><i>kcsp</i></u> %Recovery 100 116 21-B MS	LCSE Quali Samp Quali	) fier	70 - 130 70 - 130 <b>Spike</b> Added 1000 1000 <i>Limits</i> 70 - 130 70 - 130	Result 1010 840.2 MS	Qualifier	Unit mg/Kg mg/Kg			% <b>Rec</b> 101 84	Prep T Prep %Rec Limits 70 - 130 70 - 130 70 - 130 Sample ID Prep T Prep	ype: To Batch 2 1 : Matrix ype: To	otal/N/ : 23780 RPI Limi 20 20 20
1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-23 Matrix: Solid Analysis Batch: 23761 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 880-13850-A- Matrix: Solid Analysis Batch: 23761	92 108 780/3-A <i>LCSD</i> %Recovery 100 116 21-B MS Sample Result	LCSE Quali Samp Quali	) fier	70 - 130 70 - 130 <b>Spike</b> Added 1000 1000 <i>Limits</i> 70 - 130 70 - 130 70 - 130	Result           1010           840.2           MS           Result	Qualifier	Unit mg/Kg mg/Kg	D		%Rec 101 84 Client \$	Prep T Prep %Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130 70 - 130 70 - 130	ype: To Batch 2 1 : Matrix ype: To	x Spike otal/N/ 23780 Limi 2 2 2

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5

Released to Imaging: 7/15/2024 1:22:14 PM

## **QC Sample Results**

Job ID: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

**Client Sample ID: Matrix Spike Duplicate** 

**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA

Prep Batch: 23780

Client: Ensolum Project/Site: PLU 30 BS

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

## Lab Sample ID: 880-13850-A-21-B MS Matrix: Solid

## Analysis Batch: 23761

	MS	MS MS						
Surrogate	%Recovery	Qualifier	Limits					
1-Chlorooctane	82		70 - 130					
o-Terphenyl	90		70 - 130					

## Lab Sample ID: 880-13850-A-21-C MSD Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography

Matrix: Solid Analysis Batch: 23761										Type: To Batch:	
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	802.0		mg/Kg		78	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	745.7		mg/Kg		73	70 - 130	9	20
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	77		70 - 130								
o-Terphenyl	81		70 - 130								

Lab Sample ID: MB 880-23782/1-A Matrix: Solid Analysis Batch: 23971										(	Client S	ample ID:   Prep		d Blank Soluble
-		МВ	МВ											
Analyte	R	esult	Qualifier		RL		Unit		D	Pr	epared	Analyz	ed	Dil Fac
Chloride	<	<5.00	U		5.00		mg/K	g				04/21/22	23:59	1
Lab Sample ID: LCS 880-23782/2-A									Clie	ent	Sample	D: Lab Co	ontrol	Sample
Matrix: Solid												Prep	Type: \$	Soluble
Analysis Batch: 23971														
				Spike		LCS	LCS					%Rec		
Analyte				Added		Result	Qualifier	Unit	I	D	%Rec	Limits		
Chloride				250		233.1		mg/Kg			93	90 - 110		
Lab Sample ID: LCSD 880-23782/3-	A							CI	ient Sa	amı	ple ID:	Lab Contro	l Samp	ole Dup
Matrix: Solid												Prep	Type: \$	Soluble
Analysis Batch: 23971														
				Spike		LCSD	LCSD					%Rec		RPD
Analyte				Added		Result	Qualifier	Unit	I	D	%Rec	Limits	RPD	Limit
Chloride				250		247.0		mg/Kg			99	90 - 110	6	20
Lab Sample ID: 880-13850-A-21-E	<b>N</b> S										Client	Sample ID	: Matrix	x Spike
Matrix: Solid														Soluble
Analysis Batch: 23971													-	
-	Sample	Sam	ple	Spike		MS	MS					%Rec		
Analyte	Result	Qual	lifier	Added		Result	Qualifier	Unit	I	D	%Rec	Limits		

113

90 - 110

5

7

476 F1

Chloride

252

759.6 F1

mg/Kg

Client: Ensolum

Project/Site: PLU 30 BS

## **QC Sample Results**

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Job ID: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-13850-A-2 Matrix: Solid	I-F MSD					CI	lient Sa	ample IC	): Matrix Sj Prep	oike Dup Type: So	
Analysis Batch: 23971											
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	476	F1	252	714.8		mg/Kg		95	90 - 110	6	20
Lab Sample ID: 890-2196-A-1-E	MS							Client	Sample ID	: Matrix	Spike
Matrix: Solid									Prep	Type: So	oluble
Analysis Batch: 23971											
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	7110	F1	2480	10210	F1	mg/Kg		125	90 _ 110		
Lab Sample ID: 890-2196-A-1-E	MSD					CI	lient Sa	ample IC	): Matrix S	pike Dup	licate
Matrix: Solid									Prep	Type: So	oluble
Analysis Batch: 23971											
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	7110	F1	2480	9834		mg/Kg		110	90 - 110	4	20

## **QC** Association Summary

Client: Ensolum Project/Site: PLU 30 BS Job ID: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

## GC VOA

Analysis	Batch: 23768
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Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batc
890-2195-1	SS01	Total/NA	Solid	8021B	2378
890-2195-2	SS02	Total/NA	Solid	8021B	2378
MB 880-23779/5-A	Method Blank	Total/NA	Solid	8021B	2377
MB 880-23784/5-A	Method Blank	Total/NA	Solid	8021B	2378
LCS 880-23784/1-A	Lab Control Sample	Total/NA	Solid	8021B	2378
LCSD 880-23784/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	2378
890-2195-1 MS	SS01	Total/NA	Solid	8021B	2378
890-2195-1 MSD	SS01	Total/NA	Solid	8021B	2378
Prep Batch: 23779					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batcl
MB 880-23779/5-A	Method Blank	Total/NA	Solid	5035	
rep Batch: 23784					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batcl
890-2195-1	SS01	Total/NA	Solid	5035	
890-2195-2	SS02	Total/NA	Solid	5035	
MB 880-23784/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-23784/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-23784/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2195-1 MS	SS01	Total/NA	Solid	5035	
890-2195-1 MSD	SS01	Total/NA	Solid	5035	
Analysis Batch: 23822					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
890-2195-2	SS02	Total/NA	Solid	8021B	23824
MB 880-23824/5-A	Method Blank	Total/NA	Solid	8021B	23824
LCS 880-23824/1-A	Lab Control Sample	Total/NA	Solid	8021B	23824
LCSD 880-23824/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	23824
880-13843-A-3-F MS	Matrix Spike	Total/NA	Solid	8021B	23824
880-13843-A-3-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	23824
Prep Batch: 23824					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
890-2195-2	SS02	Total/NA	Solid	5035	
MB 880-23824/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-23824/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-23824/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-13843-A-3-F MS	Matrix Spike	Total/NA	Solid	5035	
880-13843-A-3-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	
Analysis Batch: 23834					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
890-2195-1 890-2195-2	SS01 SS02	Total/NA Total/NA	Solid Solid	Total BTEX Total BTEX	
	3302	τοται/ΙΝΑ	DING	ισιαι ΒΤΕΛ	
Analysis Batch: 23883					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
890-2195-1	SS01	Total/NA	Solid	8021B	23898
890-2195-2	SS02	Total/NA	Solid	8021B	23898
MB 880-23898/5-A	Method Blank	Total/NA	Solid	8021B	23898

Analysis Batch: 23883 (Continued)

Client Sample ID

Matrix Spike

Lab Control Sample

Lab Control Sample Dup

Matrix Spike Duplicate

**Client Sample ID** 

Method Blank

Matrix Spike

Lab Control Sample

Lab Control Sample Dup

Matrix Spike Duplicate

SS01

SS02

Client: Ensolum

Lab Sample ID

LCS 880-23898/1-A

LCSD 880-23898/2-A

880-13935-A-1-G MS

880-13935-A-1-H MSD

Prep Batch: 23898 Lab Sample ID

MB 880-23898/5-A

LCS 880-23898/1-A

LCSD 880-23898/2-A

880-13935-A-1-G MS

880-13935-A-1-H MSD

890-2195-1

890-2195-2

Project/Site: PLU 30 BS

**GC VOA (Continued)** 

## **QC** Association Summary

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Matrix

Solid

Solid

Solid

Solid

Matrix

Solid

Solid

Solid

Solid

Solid

Solid

Solid

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Prep Batch

23898

23898

23898

23898

Prep Batch

Job ID: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

Method

8021B

8021B

8021B

8021B

Method

5035

5035

5035

5035

5035

5035

5035

# 5 8

## GC Semi VOA

## Analysis Batch: 23761

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-2195-1	SS01	Total/NA	Solid	8015B NM	23780
890-2195-2	SS02	Total/NA	Solid	8015B NM	23780
MB 880-23780/1-A	Method Blank	Total/NA	Solid	8015B NM	23780
LCS 880-23780/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	23780
LCSD 880-23780/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	23780
880-13850-A-21-B MS	Matrix Spike	Total/NA	Solid	8015B NM	23780
880-13850-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	23780

## Prep Batch: 23780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2195-1	SS01	Total/NA	Solid	8015NM Prep	
890-2195-2	SS02	Total/NA	Solid	8015NM Prep	
MB 880-23780/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
_CS 880-23780/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-23780/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
380-13850-A-21-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-13850-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 23854

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-2195-1	SS01	Total/NA	Solid	8015 NM	
890-2195-2	SS02	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 23782

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-2195-1	SS01	Soluble	Solid	DI Leach	
890-2195-2	SS02	Soluble	Solid	DI Leach	
MB 880-23782/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-23782/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-23782/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-13850-A-21-E MS	Matrix Spike	Soluble	Solid	DI Leach	

## **QC** Association Summary

Client: Ensolum Project/Site: PLU 30 BS

HPLC/IC (Continued)

## Leach Batch: 23782 (Continued)

Lab Sample ID 880-13850-A-21-F MSD	Client Sample ID Matrix Spike Duplicate	Prep Type Soluble	Matrix Solid	Method DI Leach	Prep Batch
890-2196-A-1-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2196-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 23971

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-2195-1	SS01	Soluble	Solid	300.0	23782
890-2195-2	SS02	Soluble	Solid	300.0	23782
MB 880-23782/1-A	Method Blank	Soluble	Solid	300.0	23782
LCS 880-23782/2-A	Lab Control Sample	Soluble	Solid	300.0	23782
LCSD 880-23782/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	23782
880-13850-A-21-E MS	Matrix Spike	Soluble	Solid	300.0	23782
880-13850-A-21-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	23782
890-2196-A-1-D MS	Matrix Spike	Soluble	Solid	300.0	23782
890-2196-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	23782

Initial

Amount

5.03 g

5.04 g

10.02 g

5 g

Final

Amount

5 mL

5 mL

10 mL

50 mL

Batch

23784

23768

23898

23883

23834

23854

23780

23761

23782

23971

Number

Dil

20

500

1

1

5

1

Factor

Run

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Soluble

Soluble

## **Client Sample ID: SS01** Date Collected: 04/15/22 11:00

Date Received: 04/15/22 15:41

**Client Sample ID: SS02** 

Date Collected: 04/15/22 11:05

Date Received: 04/15/22 15:41

Batch

Туре

Prep

Prep

Analysis

Analysis

Analysis

Analysis

Analysis

Analysis

Leach

Prep

Batch

Method

5035

8021B

5035

8021B

Total BTEX

8015NM Prep

8015B NM

DI Leach

300.0

8015 NM

Job ID: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

Prepared

or Analyzed

04/19/22 13:14

04/20/22 01:04

04/21/22 09:32

04/21/22 14:46

04/20/22 11:37

04/20/22 15:20

04/19/22 10:31

04/20/22 07:29

04/19/22 11:57

04/22/22 01:41

## Lab Sample ID: 890-2195-1 Matrix: Solid

Analyst

MR

MR

MR

MR

AJ

AJ

DM

AJ

СН

СН

Lab

XEN MID

9

## Lab Sample ID: 890-2195-2

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	23784	04/19/22 13:14	MR	XEN MID
Total/NA	Analysis	8021B		20			23768	04/20/22 01:24	MR	XEN MID
Total/NA	Prep	5035			5.03 g	5 mL	23824	04/20/22 10:15	MR	XEN MID
Total/NA	Analysis	8021B		100			23822	04/20/22 19:14	AJ	XEN MID
Total/NA	Prep	5035			5.05 g	5 mL	23898	04/21/22 09:32	MR	XEN MID
Total/NA	Analysis	8021B		500			23883	04/21/22 15:07	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			23834	04/20/22 11:37	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			23854	04/20/22 15:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	23780	04/19/22 10:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			23761	04/20/22 03:40	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	23782	04/19/22 11:57	СН	XEN MID
Soluble	Analysis	300.0		1			23971	04/22/22 02:06	СН	XEN MID

## Laboratory References:

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

**Accreditation/Certification Summary** 

Client: Ensolum Job ID: 890-2195-1 Project/Site: PLU 30 BS SDG: 03E1558019 03E1558020 03E1558022 Laboratory: Eurofins Midland Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below. Authority Identification Number Expiration Date Program T104704400-21-22 06-30-22 Texas NELAP The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification. Analysis Method Analyte Prep Method Matrix 8015 NM Solid Total TPH Total BTEX Solid Total BTEX

Eurofins Carlsbad

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12 13

## **Method Summary**

Client: Ensolum Project/Site: PLU 30 BS Job ID: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

lethod	Method Description	Protocol	Laboratory
021B	Volatile Organic Compounds (GC)	SW846	XEN MID
otal BTEX	Total BTEX Calculation	TAL SOP	XEN MID
015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
00.0	Anions, Ion Chromatography	MCAWW	XEN MID
035	Closed System Purge and Trap	SW846	XEN MID
015NM Prep	Microextraction	SW846	XEN MID
I Leach	Deionized Water Leaching Procedure	ASTM	XEN 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:

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

## **Sample Summary**

Client: Ensolum Project/Site: PLU 30 BS Job ID: 890-2195-1 SDG: 03E1558019 03E1558020 03E1558022

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2195-1	SS01	Solid	04/15/22 11:00	04/15/22 15:41	0.5
890-2195-2	SS02	Solid	04/15/22 11:05	04/15/22 15:41	0.5

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Project Manager: Tac Company Name: Ens Address: City, State ZIP: City, State ZIP: 337	Tacoma Morrissey Ensolum LLC 337.257.8307	7 rissey	Email:	Bill to: (if different) Company Name: Address: City, State ZIP: bbelill@ensolum.com	ne:	(915) 585-3443 575) 392-7550, 575) 392-7550, 575) 392-7550, 575) 392-7550, 575) 585-344, Adrian Baker XTO Energy, 3104 E. Gree Carisbad, NA	1915) 585-3443, Lubboc 1975) 392-7550, Carlsbad Adrian Baker XTO Energy, Inc. 3104 E. Green Street Carlsbad, NM 88220	t		www.xenco.com       Page       1       1         Program:       UST/PST       Properting       Rec       Superfund         State of Project:       Reporting:       Level III       PST/UST       TRRP       Level IV         Deliverables:       EDD       ADaPT       Other:       Other:
	7.257.8307			bbefill@enso	lum.cor	B				Deliverables: EDD
Project Name:	PLU 30 BS	S	Turn	Turn Around				AN	ANALYSIS REQUEST	IEST
ň	03E1558016, 03E1558020, 03E1558022	0, 03E1558022	I Routine	Rush	Code					
	API: 30-015-46934	6934	Due Date:				_			
Sampler's Name:	Conner Shore	ore	TAT starts the	TAT starts the day received by	~				-	-
PO#	CC: 2037891001	001	the lab, if rece	the lab, if received by 4:30pm			-			
SAMPLE RECEIPT	Temp Blank:	No feel	Wet lce:	Yes No	nete	.0)	-			
Samples Received Intact:		Thermometer ID:	1	FOO-WIN	iran	300				
Cooler Custody Seals:					Pa	PA:				
Sample Custody Seals:	Yes NO NIA		e Reading:	4.5		3 (E	_		DU. a were at a brown	2182 Chain of Chainny
Total Containers:		Corrected Temperature:	emperature:	3.2	-				10-212-018	-
Sample Identification	ation Matrix	, Date Sampled	Time Sampled	Depth Grab/ Comp		IDES	23	-		
SS01	s	4/15/2022	1100	_	p Cont	CHLORIDES	TPH (8015) BTEX (8021			
SS02	s	4/15/2022	1105	6 0.0		× CHLORIDES	- <u>- 6</u>		800-2180 Cite	
est is						× × CHLORIDES				
						× × CHLORIDES				
				++++		× × CHLORIDES				
						× × CHLORIDES				
Total 200.7 / 6010 200.8 / 6020: Circle Method(s) and Metal(s) to be analyzed	200.8 / 6020: Vietal(s) to be analy					× × CHLORIDES				
Notce: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subc of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expense incurred by the client if suc of Eurofine Xenco. A minimum charge of \$55.00 will be applied to each project and a charge of \$5 for each samples submitted to Eurofine Xenco, but not analyzed. T	ment and relinquishment II be liable only for the co		BRCRA 13PPM TCLP / SPLP	Texa			SB S	Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni Se Ag	Cu Fe Pb N	Fe Pb Mg Mn Mo Ni K Se Ag SiO <sub>2</sub> Na Sr In Mo Ni Se Ag Ti U Hg: 1631/245.
Relinquished by: (Signature)	m charge of \$85.00 will be	A of samples con to of samples con	IRCRA 13P TCLP / SP sthutes a valid p sthutes a valid p	0.5' g 0.5' g PM Texas 1 PLP 6010: 8 PLP 6010: 8	Cont P Cont P Cont I # of P Cont I # of I #	submittee	a c c m B B B B B B B B B B B B B B B B B	Cd Ca Cr Co		Fe Pb Mg Mn Mo Ni K Se Ag SiO <sub>2</sub> An Mo Ni Se Ag Ti U Hg: 163 ontractors. It assigns standard terms and conditions th loses are due to dircumstances beyond the control hass terms will be enforced unlass previously negotiat
- 1. of an international	n charge of \$85.00 will b	X of samples con out of samples con e applied to each Receive	RCRA 13P TCLP / SP sthutes a valid p project and a sh	0.5' g 0.5' g PM Texas 1 PLP 6010: 8 PLP 6010: 8 PLP 6010: 8	P Cont P Cont 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0	SS As x CHLORIDES	d o o nurodina X X TPH (8015)	Cd Ca Cr Co Cd Ca Cr Co Cd Cr Co Cu Incurred by the citer Xenco, but not analy Xenco, but not analy		Fe Pb Mg Mn Mo Ni K Se Ag SiO <sub>2</sub> N nn Mo Ni Se Ag TI U Hg: 1631 hises tems will be inforced unless previously negotited test tems will be inforced unless previously negotited
(	h charge of \$85.00 will b	VZed 8 eapplied to each eapplied to each Receive	BRCRA 13PPM TCLP / SPLP TCLP / SPLP amples constitutes a valid purcha samples and shall not assume an lad to each project and a seume and lad to each project and a seume and a seume and lad to each project and lad to each project and a seume and lad to each project and a seume and a seum	0.5' g 0.5' g 9 PM Texas 1 PLP 6010: 8 1 PLP 6010: 8 1 1 PLP 6010: 8 1 1 PLP 6010: 8	Cont p Cont p Cont 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sb As Ba any longeny to Europhile automation of Europhile automatication of Eu	ー me Ba Ba Ba X X TPH (8015)	Cd Ca Cr Co Cu Cd Ca Cr Co Cu Cd Cr Co Cu Pb A Anco, but not analyzed to Anco, but not analyzed to Anco, but not analyzed to		e) Received by: (Signature)

## Received by OCD: 6/28/2024 6:18:11 PM

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12 13 14

Chain of Custody

Job Number: 890-2195-1

List Source: Eurofins Carlsbad

SDG Number: 03E1558019 03E1558020 03E1558022

## Login Sample Receipt Checklist

Client: Ensolum

Login Number: 2195 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.	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").

14

## Login Sample Receipt Checklist

Client: Ensolum

Login Number: 2195

Job Number: 890-2195-1

SDG Number: 03E1558019 03E1558020 03E1558022

## List Source: Eurofins Midland List Creation: 04/19/22 11:38 AM

4
5
6
8
9
13
14

List Number: 2			List Creation: 04/19/22
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		

N/A

<6mm (1/4").

Containers requiring zero headspace have no headspace or bubble is

.

Received by OCD: 6/28/2024 6:18:11 PM

# 🔅 eurofins

# Environment Testing America

# **ANALYTICAL REPORT**

Eurofins Carlsbad 1089 N Canal St. Carlsbad, NM 88220 Tel: (575)988-3199

## Laboratory Job ID: 890-2267-1

Laboratory Sample Delivery Group: 03E1558016 Client Project/Site: PLU 30 Big Sinks CTB

## For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Kalei Jennings

RAMER

Authorized for release by: 5/13/2022 9:43:20 AM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

LINKS **Review your project** results through Total Access Have a Question? Ask-The Expert Visit us at: www.eurofinsus.com/Env

Released to Imaging: 7/15/2024 1:22 14 PM

Laboratory Job ID: 890-2267-1 SDG: 03E1558016

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2

## **Definitions/Glossary**

Client: Ensolum
Project/Site: PLU 30 Big Sinks CTB

Job ID: 890-2267-1 SDG: 03E1558016

Qualifiers		3
GC VOA		
Qualifier	Qualifier Description	4
F1	MS and/or MSD recovery exceeds control limits.	
U	Indicates the analyte was analyzed for but not detected.	5
GC Semi VOA		
Qualifier	Qualifier Description	6
*+	LCS and/or LCSD is outside acceptance limits, high biased.	
*1	LCS/LCSD RPD exceeds control limits.	
U	Indicates the analyte was analyzed for but not detected.	
HPLC/IC		8
Qualifier	Qualifier Description	
U	Indicates the analyte was analyzed for but not detected.	9
Glossary		10
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	12 13 14
DER	Duplicate Error Ratio (normalized absolute difference)	15
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	

Presumptive

Quality Control

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

PRES

QC

RER

RPD

TEF

TEQ

TNTC

RL

## Job ID: 890-2267-1 SDG: 03E1558016

## Job ID: 890-2267-1

Client: Ensolum

## Laboratory: Eurofins Carlsbad

Project/Site: PLU 30 Big Sinks CTB

## Narrative

Job Narrative 890-2267-1

## Receipt

The samples were received on 5/3/2022 8:13 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 2.0°C

## **Receipt Exceptions**

One or more containers for the following samples were received broken or leaking: PH01 (890-2267-1), PH01A (890-2267-2), PH02 (890-2267-3), PH02A (890-2267-4), PH03 (890-2267-5), PH03A (890-2267-6), BH01 (890-2267-7), BH01A (890-2267-8), BH02 (890-2267-9) and BH02 (890-2267-10).

Sample jars #3 & #6 became broken while transporting into the cooler- we were able to save the samples and put in new jars

### GC VOA

Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-25279 and analytical batch 880-25476 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery 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 laboratory control sample (LCS) associated with preparation batch 880-24835 and analytical batch 880-24860 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8015MOD\_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-24835 and analytical batch 880-24860 recovered outside control limits for the following analytes: <AffectedAnalytes>.

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.

Client: Ensolum Project/Site: PLU 30 Big Sinks CTB

### **Client Sample ID: PH01**

Date Collected: 05/02/22 10:40 Date Received: 05/03/22 08:13

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00199	U	0.00199	mg/Kg		05/10/22 13:49	05/12/22 21:57	
Toluene	<0.00199	U	0.00199	mg/Kg		05/10/22 13:49	05/12/22 21:57	
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/10/22 13:49	05/12/22 21:57	
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		05/10/22 13:49	05/12/22 21:57	
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/10/22 13:49	05/12/22 21:57	
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/10/22 13:49	05/12/22 21:57	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	103		70 - 130			05/10/22 13:49	05/12/22 21:57	
1,4-Difluorobenzene (Surr)	108		70 - 130			05/10/22 13:49	05/12/22 21:57	
Method: Total BTEX - Total BTEX	(Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00398	U	0.00398	mg/Kg			05/13/22 10:27	
Method: 8015 NM - Diesel Range								
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 11:48	
Method: 8015B NM - Diesel Rang	ge Organics (D	RO) (GC)						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+ *1	50.0	mg/Kg		05/04/22 15:21	05/05/22 12:01	
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0	mg/Kg		05/04/22 15:21	05/05/22 12:01	
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/04/22 15:21	05/05/22 12:01	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	106		70 - 130			05/04/22 15:21	05/05/22 12:01	
o-Terphenyl	104		70 - 130			05/04/22 15:21	05/05/22 12:01	
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	85.9		5.00	mg/Kg			05/05/22 23:10	
lient Sample ID: PH01A						Lab San	nple ID: 890-	2267-
ate Collected: 05/02/22 13:40							Matri	x: Soli
ate Received: 05/03/22 08:13								
ample Depth: 2'								
Method: 8021B - Volatile Organic	: Compounds (	GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	< 0.00200	U	0.00200	malla		05/10/22 13:49	05/10/00 00:10	
Delizerie	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/12/22 22:18	

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/12/22 22:18	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/12/22 22:18	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/12/22 22:18	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		05/10/22 13:49	05/12/22 22:18	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/12/22 22:18	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/10/22 13:49	05/12/22 22:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130			05/10/22 13:49	05/12/22 22:18	1

Eurofins Carlsbad

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Job ID: 890-2267-1 SDG: 03E1558016

# Lab Sample ID: 890-2267-1

Matrix: Solid

5

**Released to Imaging:** 7/15/2024 1:22:14 PM

### **Client Sample Results**

Job ID: 890-2267-1 SDG: 03E1558016

# Lab Sample ID: 890-2267-2

Matrix: Solid

**Client Sample ID: PH01A** Date Collected: 05/02/22 13:40 Date Received: 05/03/22 08:13

Sample Depth: 2'

Client: Ensolum

urrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Difluorobenzene (Surr)	106		70 - 130			05/10/22 13:49	05/12/22 22:18	Ĩ
lethod: Total BTEX - Total BT	EX Calculation							
nalyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
otal BTEX	<0.00399	U	0.00399	mg/Kg			05/13/22 10:27	1
lethod: 8015 NM - Diesel Ran	ge Organics (DR	0) (GC)						
nalyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
otal TPH	<49.9	U	49.9	mg/Kg			05/09/22 11:48	1
lethod: 8015B NM - Diesel Ra	inge Organics (D	RO) (GC)						
nalyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
asoline Range Organics GRO)-C6-C10	<49.9	U *+ *1	49.9	mg/Kg		05/04/22 15:21	05/05/22 13:02	1
iesel Range Organics (Over 10-C28)	<49.9	U *1	49.9	mg/Kg		05/04/22 15:21	05/05/22 13:02	1
II Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/04/22 15:21	05/05/22 13:02	
urrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
-Chlorooctane	107		70 - 130			05/04/22 15:21	05/05/22 13:02	1
Terphenyl	109		70 - 130			05/04/22 15:21	05/05/22 13:02	1
lethod: 300.0 - Anions, Ion Cl	hromatography -	Soluble						
nalyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
hloride	17.0		5.02	mg/Kg			05/05/22 23:38	1

Date Received: 05/03/22 08:13 Sample Depth: 1'

Amaluta	Desult	Qualifian	ы	l lució		Duenened	A maily maid	
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/10/22 13:49	05/12/22 22:39	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/10/22 13:49	05/12/22 22:39	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/10/22 13:49	05/12/22 22:39	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		05/10/22 13:49	05/12/22 22:39	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/10/22 13:49	05/12/22 22:39	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/10/22 13:49	05/12/22 22:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130			05/10/22 13:49	05/12/22 22:39	1
1,4-Difluorobenzene (Surr)	102		70 - 130			05/10/22 13:49	05/12/22 22:39	1
Method: Total BTEX - Total B	EX Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			05/13/22 10:27	1
Method: 8015 NM - Diesel Rar	ige Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Job ID: 890-2267-1 SDG: 03E1558016

Lab Sample ID: 890-2267-4

Matrix: Solid

### **Client Sample ID: PH02**

Project/Site: PLU 30 Big Sinks CTB

Date Collected: 05/02/22 13:35 Date Received: 05/03/22 08:13

Sample Depth: 1'

Client: Ensolum

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U *+ *1	50.0	mg/Kg		05/04/22 15:21	05/05/22 13:23	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U *1	50.0	mg/Kg		05/04/22 15:21	05/05/22 13:23	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/04/22 15:21	05/05/22 13:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130			05/04/22 15:21	05/05/22 13:23	1
o-Terphenyl	102		70 - 130			05/04/22 15:21	05/05/22 13:23	1

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	76.4	4.99	mg/Kg			05/05/22 23:47	1

### **Client Sample ID: PH02A**

### Date Collected: 05/02/22 13:40 Date Received: 05/03/22 08:13

Sample Depth: 2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/12/22 22:59	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/12/22 22:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/12/22 22:59	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		05/10/22 13:49	05/12/22 22:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/12/22 22:59	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/10/22 13:49	05/12/22 22:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130			05/10/22 13:49	05/12/22 22:59	1
1,4-Difluorobenzene (Surr)	107		70 - 130			05/10/22 13:49	05/12/22 22:59	1
Method: Total BTEX - Total BTEX	(Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			05/13/22 10:27	1
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			05/09/22 11:48	1
Method: 8015B NM - Diesel Rang	je Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *+ *1	49.9	mg/Kg		05/04/22 15:21	05/05/22 13:43	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		05/04/22 15:21	05/05/22 13:43	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/04/22 15:21	05/05/22 13:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130			05/04/22 15:21	05/05/22 13:43	1
							05/05/22 13:43	

Lab Sample ID: 890-2267-3 Matrix: Solid

12 13

		Clien	it Sample Re	sults				
Client: Ensolum							Job ID: 890	)-2267-1
Project/Site: PLU 30 Big Sinks CT	В						SDG: 03E1	1558016
Client Sample ID: PH02A						Lab Sar	nple ID: 890-	2267-4
Date Collected: 05/02/22 13:40							Matri	ix: Solid
Date Received: 05/03/22 08:13								
Sample Depth: 2'								
Method: 300.0 - Anions, Ion Chi	romatography -	Soluble						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	52.1		4.96	mg/Kg			05/05/22 23:56	1
Client Sample ID: PH03						Lab Sar	nple ID: 890-	2267-5
Date Collected: 05/02/22 10:30							Matri	ix: Solid
Date Received: 05/03/22 08:13								
Sample Depth: 0.5'								
Mothed: 9024P Valatile Organ								
Method: 8021B - Volatile Organ Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198		0.00198	mg/Kg		05/10/22 13:49	05/13/22 00:23	1
Toluene	< 0.00198		0.00198	mg/Kg		05/10/22 13:49	05/13/22 00:23	1
Ethylbenzene	< 0.00198		0.00198	mg/Kg		05/10/22 13:49	05/13/22 00:23	1
m-Xylene & p-Xylene	< 0.00396		0.00396	mg/Kg		05/10/22 13:49	05/13/22 00:23	1
o-Xylene	<0.00198		0.00198	mg/Kg		05/10/22 13:49	05/13/22 00:23	1
Xylenes, Total	<0.00396		0.00396	mg/Kg		05/10/22 13:49	05/13/22 00:23	1
Currente	% Decovery	Qualifiar	Limits			Dramawad	Analyzed	Dil Fac
Surrogate 4-Bromofluorobenzene (Surr)	90	Quaimer	70 - 130			Prepared 05/10/22 13:49	Analyzed 05/13/22 00:23	Dii Fac
1,4-Difluorobenzene (Surr)	103		70 - 130 70 - 130			05/10/22 13:49	05/13/22 00:23	1
	100		10 - 150			03/10/22 13.43	00/10/22 00.20	1
Method: Total BTEX - Total BTE	X Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			05/13/22 10:27	1
Method: 8015 NM - Diesel Rang	e Organics (DR	O) (GC)						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 11:48	1
Mothod: 9015P NM Diocol Pan	an Organice (D							
Method: 8015B NM - Diesel Ran Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics		U *+ *1	50.0	mg/Kg		05/04/22 15:21	05/05/22 14:04	1
(GRO)-C6-C10				5.5				
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0	mg/Kg		05/04/22 15:21	05/05/22 14:04	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/04/22 15:21	05/05/22 14:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130			05/04/22 15:21	05/05/22 14:04	1
o-Terphenyl	102		70 - 130			05/04/22 15:21	05/05/22 14:04	1
Method: 300.0 Anione Jon Ch	romatography	Solublo						
Method: 300.0 - Anions, Ion Chi Analyte		Soluble Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Client: Ensolum Project/Site: PLU 30 Big Sinks CTB

### **Client Sample ID: PH03A**

Date Collected: 05/02/22 14:35 Date Received: 05/03/22 08:13

Sample Depth: 2'

Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/13/22 00:44	
Toluene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/13/22 00:44	
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/13/22 00:44	
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		05/10/22 13:49	05/13/22 00:44	
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/13/22 00:44	
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		05/10/22 13:49	05/13/22 00:44	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	98		70 - 130			05/10/22 13:49	05/13/22 00:44	
1,4-Difluorobenzene (Surr)	105		70 - 130			05/10/22 13:49	05/13/22 00:44	
Method: Total BTEX - Total BTEX	(Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00401	U	0.00401	mg/Kg			05/13/22 10:27	
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Analyte	- · ·	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	<49.9	U	49.9	mg/Kg			05/09/22 11:48	
Method: 8015B NM - Diesel Rang	e Organics (DI	RO) (GC)						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *+ *1	49.9	mg/Kg		05/04/22 15:21	05/05/22 14:26	
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		05/04/22 15:21	05/05/22 14:26	
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/04/22 15:21	05/05/22 14:26	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	111		70 - 130			05/04/22 15:21	05/05/22 14:26	
o-Terphenyl	113		70 - 130			05/04/22 15:21	05/05/22 14:26	
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	36.3		4.99	mg/Kg			05/06/22 11:47	
lient Sample ID: BH01						Lab San	nple ID: 890-2	2267-
ate Collected: 05/02/22 10:35 ate Received: 05/03/22 08:13								ix: Soli
ample Depth: 0.5'								
Method: 8021B - Volatile Organic		• •						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00201	U	0.00201	mg/Kg		05/10/22 13:49	05/13/22 01:05	

Job ID: 890-2267-1 SDG: 03E1558016

# Lab Sample ID: 890-2267-6

Matrix: Solid

5

11 12 13

**Eurofins Carlsbad** 

05/13/22 01:05

05/13/22 01:05

05/13/22 01:05

05/13/22 01:05

05/13/22 01:05

Analyzed

05/13/22 01:05

### Released to Imaging: 7/15/2024 1:22:14 PM

Toluene

o-Xylene

Surrogate

Ethylbenzene

Xylenes, Total

m-Xylene & p-Xylene

4-Bromofluorobenzene (Surr)

0.00201

0.00201

0.00402

0.00201

0.00402

Limits

70 - 130

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

05/10/22 13:49

05/10/22 13:49

05/10/22 13:49

05/10/22 13:49

05/10/22 13:49

Prepared

05/10/22 13:49

<0.00201 U

<0.00201 U

<0.00402 U

<0.00201 U

<0.00402 U

%Recovery Qualifier

108

1

1

1

1

1

1

Dil Fac

### **Client Sample Results**

Job ID: 890-2267-1 SDG: 03E1558016

# Lab Sample ID: 890-2267-7

Matrix: Solid

**Client Sample ID: BH01** Date Collected: 05/02/22 10:35 Date Received: 05/03/22 08:13

Sample Depth: 0.5'

Client: Ensolum

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1,4-Difluorobenzene (Surr)	105		70 - 130			05/10/22 13:49	05/13/22 01:05	
Method: Total BTEX - Total BTEX	(Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00402	U	0.00402	mg/Kg			05/13/22 10:27	
Method: 8015 NM - Diesel Range	Organics (DR	0) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	<49.9	U	49.9	mg/Kg			05/09/22 11:48	
Method: 8015B NM - Diesel Rang	ge Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *+ *1	49.9	mg/Kg		05/04/22 15:21	05/05/22 14:47	
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		05/04/22 15:21	05/05/22 14:47	
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/04/22 15:21	05/05/22 14:47	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	92		70 - 130			05/04/22 15:21	05/05/22 14:47	
o-Terphenyl	93		70 - 130			05/04/22 15:21	05/05/22 14:47	
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	46.1		5.02	mg/Kg			05/06/22 00:42	
lient Sample ID: BH01A						l ah San	nple ID: 890-	2267-5

Date Received: 05/03/22 08:13 Sample Depth: 1'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/13/22 01:26	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/13/22 01:26	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/13/22 01:26	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		05/10/22 13:49	05/13/22 01:26	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/13/22 01:26	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/10/22 13:49	05/13/22 01:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130			05/10/22 13:49	05/13/22 01:26	1
1,4-Difluorobenzene (Surr)	100		70 - 130			05/10/22 13:49	05/13/22 01:26	1
Method: Total BTEX - Total B	<b>FEX Calculation</b>							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			05/13/22 10:27	1
Method: 8015 NM - Diesel Rar	nge Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
			49.9					

Job ID: 890-2267-1 SDG: 03E1558016

### Client Sample ID: BH01A

Project/Site: PLU 30 Big Sinks CTB

Date Collected: 05/02/22 14:40 Date Received: 05/03/22 08:13

Sample Depth: 1'

Client: Ensolum

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U *+ *1	49.9	mg/Kg		05/04/22 15:21	05/05/22 15:08	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U *1	49.9	mg/Kg		05/04/22 15:21	05/05/22 15:08	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/04/22 15:21	05/05/22 15:08	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130			05/04/22 15:21	05/05/22 15:08	1
o-Terphenyl	96		70 - 130			05/04/22 15:21	05/05/22 15:08	1

Analyte	Result	Qualifier RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14.6	4.99	mg/Kg			05/06/22 00:51	1

### Client Sample ID: BH02

### Date Collected: 05/02/22 13:17 Date Received: 05/03/22 08:13

Sample Depth: 1'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/10/22 13:49	05/13/22 01:46	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/10/22 13:49	05/13/22 01:46	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/10/22 13:49	05/13/22 01:46	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		05/10/22 13:49	05/13/22 01:46	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/10/22 13:49	05/13/22 01:46	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/10/22 13:49	05/13/22 01:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130			05/10/22 13:49	05/13/22 01:46	1
1,4-Difluorobenzene (Surr)	106		70 - 130			05/10/22 13:49	05/13/22 01:46	1
Method: Total BTEX - Total BTEX	Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			05/13/22 10:27	1
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	110		50.0	mg/Kg			05/09/22 11:48	1
Method: 8015B NM - Diesel Rang	e Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+ *1	50.0	mg/Kg		05/04/22 15:21	05/05/22 15:29	1
Diesel Range Organics (Over C10-C28)	110	*1	50.0	mg/Kg		05/04/22 15:21	05/05/22 15:29	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/04/22 15:21	05/05/22 15:29	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130			05/04/22 15:21	05/05/22 15:29	1
o-Terphenyl	121		70 - 130			05/04/22 15:21	05/05/22 15:29	1

	Clier	nt Sample Re	sults									
Client: Ensolum Project/Site: PLU 30 Big Sinks CTB						Job ID: 890 SDG: 03E						
Client Sample ID: BH02Lab Sample ID: 890-220Date Collected: 05/02/22 13:17Matrix: 5Date Received: 05/03/22 08:13Sample Depth: 1'												
Method: 300.0 - Anions, Ion Chromatography Analyte Resul	- <mark>Soluble</mark> t Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac					
Chloride 15.	4	4.95	mg/Kg			05/06/22 01:00	1					
Client Sample ID: BH02 Date Collected: 05/02/22 14:00 Date Received: 05/03/22 08:13 Sample Depth: 1.5'					Lab Sam	ple ID: 890-2 Matri	267-10 ix: Solid					
Method: 8021B - Volatile Organic Compounds			11 14	_	Descende	Awalawad						
	t Qualifier	0.00200	Unit	D	Prepared 05/10/22 13:49	Analyzed 05/13/22 02:07	Dil Fac					
			mg/Kg				1					
Toluene <0.0020		0.00200	mg/Kg		05/10/22 13:49	05/13/22 02:07	-					
Ethylbenzene <0.0020 m-Xvlene & p-Xvlene <0.0039		0.00200 0.00399	mg/Kg		05/10/22 13:49 05/10/22 13:49	05/13/22 02:07 05/13/22 02:07	1					
m-Xylene & p-Xylene <0.0039 o-Xylene <0.0020		0.00200	mg/Kg mg/Kg		05/10/22 13:49	05/13/22 02:07	1					
Xylenes, Total <0.0039		0.00399	mg/Kg		05/10/22 13:49	05/13/22 02:07	1					
	• •••				_ /							
	Qualifier	Limits			Prepared	Analyzed	Dil Fac					
4-Bromofluorobenzene (Surr) 10 1.4-Difluorobenzene (Surr) 10		70 - 130 70 - 130			05/10/22 13:49 05/10/22 13:49	05/13/22 02:07	1					
1,4-Difluorobenzene (Surr) 10	D	70 - 130			05/10/22 13.49	05/13/22 02:07	1					
Method: Total BTEX - Total BTEX Calculation												
Analyte Resu	t Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac					
Total BTEX <0.0039	9 U	0.00399	mg/Kg			05/13/22 10:27	1					
Method: 8015 NM - Diesel Range Organics (DI	RO) (GC)											
Analyte Resul	t Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac					
Total TPH 48	9	49.9	mg/Kg			05/09/22 11:48	1					
Method: 8015B NM - Diesel Range Organics (I	DRO) (GC)											
Analyte Resul	t Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac					
Gasoline Range Organics <49. (GRO)-C6-C10	9 U *+ *1	49.9	mg/Kg		05/04/22 15:21	05/05/22 15:50	1					
	3 *1	49.9	mg/Kg		05/04/22 15:21	05/05/22 15:50	1					
Oll Range Organics (Over 60. C28-C36)	)	49.9	mg/Kg		05/04/22 15:21	05/05/22 15:50	1					
Surrogate %Recover	y Qualifier	Limits			Prepared	Analyzed	Dil Fac					
1-Chlorooctane 10	3	70 - 130			05/04/22 15:21	05/05/22 15:50	1					
o-Terphenyl 10	4	70 - 130			05/04/22 15:21	05/05/22 15:50	1					
Method: 300.0 - Anions, Ion Chromatography	- Soluble											
	t Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac					
Chloride 26.		5.03	mg/Kg			05/06/22 01:10	1					

Client: Ensolum Project/Site: PLU 30 Big Sinks CTB

### 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)		
880-14390-A-4-E MS	Matrix Spike	114	98		
880-14390-A-4-F MSD	Matrix Spike Duplicate	92	106		
390-2267-1	PH01	103	108		
390-2267-2	PH01A	99	106		
390-2267-3	PH02	97	102		
390-2267-4	PH02A	96	107		
390-2267-5	PH03	90	103		
90-2267-6	PH03A	98	105		
390-2267-7	BH01	108	105		
90-2267-8	BH01A	110	100		
90-2267-9	BH02	107	106		
390-2267-10	BH02	101	106		
.CS 880-25279/1-A	Lab Control Sample	105	104		
.CSD 880-25279/2-A	Lab Control Sample Dup	105	102		
/IB 880-25279/5-A	Method Blank	93	98		
Surrogate Legend					-
BFB = 4-Bromofluorober	nzene (Surr)				
DFBZ = 1,4-Difluorobenz	zene (Surr)				

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

### Matrix: Solid

Percent Surrogate Recovery (Acceptance Limits) 1CO1 OTPH1 (70-130) (70-130) **Client Sample ID** Lab Sample ID 890-2267-1 PH01 106 104 890-2267-1 MS PH01 82 73 890-2267-1 MSD PH01 83 74 890-2267-2 PH01A 107 109 PH02 98 890-2267-3 102 890-2267-4 PH02A 99 102 890-2267-5 PH03 97 102 890-2267-6 PH03A 111 113 890-2267-7 BH01 93 92 890-2267-8 BH01A 94 96 BH02 890-2267-9 118 121 BH02 890-2267-10 103 104 LCS 880-24835/2-A 119 Lab Control Sample 121 LCSD 880-24835/3-A Lab Control Sample Dup 106 99 MB 880-24835/1-A Method Blank 116 126

OTPH = o-Terphenyl

**Eurofins Carlsbad** 

Job ID: 890-2267-1 SDG: 03E1558016

Prep Type: Total/NA

Prep Type: Total/NA

Surrogate Legend 1CO = 1-Chlorooctane

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 25279

**Client Sample ID: Method Blank** 

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Client: Ensolum Project/Site: PLU 30 Big Sinks CTB

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

Lab Sample ID: MB 880-25279/5-A
Madeline O all'al

Matrix: Solid Analysis Batch: 25476

Analysis Batch: 25476							Prep Batch	n: <b>25279</b>
	MB	МВ						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/12/22 19:31	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/12/22 19:31	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/12/22 19:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/10/22 13:49	05/12/22 19:31	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/10/22 13:49	05/12/22 19:31	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/10/22 13:49	05/12/22 19:31	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130			05/10/22 13:49	05/12/22 19:31	1
1,4-Difluorobenzene (Surr)	98		70 - 130			05/10/22 13:49	05/12/22 19:31	1

### Lab Sample ID: LCS 880-25279/1-A Matrix: Solid

### Analysis Batch: 25476

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.09308		mg/Kg		93	70 - 130	
Toluene	0.100	0.09346		mg/Kg		93	70 - 130	
Ethylbenzene	0.100	0.1022		mg/Kg		102	70 - 130	
m-Xylene & p-Xylene	0.200	0.2154		mg/Kg		108	70 - 130	
o-Xylene	0.100	0.1053		mg/Kg		105	70 - 130	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

### Lab Sample ID: LCSD 880-25279/2-A

### Matrix: Solid

Analysis Batch: 25476							Prep	Batch:	25279
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.08522		mg/Kg		85	70 - 130	9	35
Toluene	0.100	0.08397		mg/Kg		84	70 - 130	11	35
Ethylbenzene	0.100	0.08828		mg/Kg		88	70 - 130	15	35
m-Xylene & p-Xylene	0.200	0.1875		mg/Kg		94	70 - 130	14	35
o-Xylene	0.100	0.09295		mg/Kg		93	70 - 130	12	35
I CSD	LCSD								

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

### Lab Sample ID: 880-14390-A-4-E MS Matrix: Solid

### Analysis Potoby 25476

Analysis Batch: 25476									Prep Batch: 25279
	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	<0.00200	U F1	0.0998	0.06525	F1	mg/Kg		65	70 - 130
Toluene	<0.00200	U	0.0998	0.07114		mg/Kg		71	70 - 130

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Prep Type: Total/NA

**Client Sample ID: Matrix Spike** 

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### Released to Imaging: 7/15/2024 1:22:14 PM

### **QC Sample Results**

Client: Ensolum Project/Site: PLU 30 Big Sinks CTB

m-Xylene & p-Xylene

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

											<b>.</b>	
Lab Sample ID: 880-14390-A	-4-E MS							Client	Sample ID:			
Matrix: Solid										Type: To		4
Analysis Batch: 25476	0	0	0							Batch:	252/9	
·	•	Sample	Spike		MS		_		%Rec			
Analyte		Qualifier	Added		Qualifier	Unit	D	%Rec	Limits			
Ethylbenzene	<0.00200	U	0.0998	0.07910		mg/Kg		79	70 _ 130			
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1707		mg/Kg		86	70 - 130			
o-Xylene	<0.00200	U	0.0998	0.08545		mg/Kg		86	70 - 130			
	MS	MS										
Surrogate	%Recovery	Qualifier	Limits									
4-Bromofluorobenzene (Surr)	114		70 - 130									
1,4-Difluorobenzene (Surr)	98		70 - 130									
Lab Sample ID: 880-14390-A	-4-F MSD					CI	ient Sa	ample IC	): Matrix Sp	oike Dur	olicate	i
Matrix: Solid									Prep T	Type: Tot	tal/NA	
Analysis Batch: 25476									Prep	Batch:	25279	
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	<0.00200	U F1	0.0994	0.08395		mg/Kg		84	70 - 130	25	35	
Toluene	< 0.00200	U	0.0994	0.07509		mg/Kg		76	70 - 130	5	35	17
Toluono												

0.1499

0.07442

mg/Kg

mg/Kg

o-Xylene	<0.00200	U	0.0994
•	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

<0.00401 U

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

### Lab Sample ID: MB 880-24835/1-A Matrix: Solid Analysis Batch: 24860

-	МВ	MB					-	
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/04/22 15:21	05/05/22 11:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/04/22 15:21	05/05/22 11:00	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/04/22 15:21	05/05/22 11:00	1
	MB	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

0.199

1-Chlorooctane	116	70 - 130
o-Terphenyl	126	70 - 130

### Lab Sample ID: LCS 880-24835/2-A Matrix: Solid Analysis Batch: 24860

Analysis Batch: 24860							Prep Batch: 24	4835
	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	1318	*+	mg/Kg		132	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	1177		mg/Kg		118	70 - 130	
C10-C28)								

Prep Type: Total/NA

35

35

1

1

13

14

Job ID: 890-2267-1 SDG: 03E1558016

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

05/05/22 11:00

05/05/22 11:00

**Client Sample ID: Lab Control Sample** 

70 - 130

70 - 130

75

75

05/04/22 15:21

05/04/22 15:21

Prep Batch: 24835

### **QC Sample Results**

Client: Ensolum Project/Site: PLU 30 Big Sinks CTB

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

Lab Sample ID: LCS 880-24 Matrix: Solid Analysis Batch: 24860	835/2-A						Client	t Sample		ontrol Sa Type: Tot Batch: :	tal/NA
	LCS	LCS									
Surrogate	%Recovery		Limits								
1-Chlorooctane	121		70 - 130								
o-Terphenyl	119		70 - 130								
Lab Sample ID: LCSD 880-2 Matrix: Solid Analysis Batch: 24860	4835/3-A					Clie	ent Sam	nple ID:	Prep	ol Sample Type: Tot Batch: :	tal/NA 24835
			Spike		LCSD				%Rec		RPD
Analyte			Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1039	*1	mg/Kg		104	70 - 130	24	20
Diesel Range Organics (Over C10-C28)			1000	953.4	*1	mg/Kg		95	70 - 130	21	20
	LCSD	LCSD									
Surrogate	%Recovery		Limits								
1-Chlorooctane	106		70 - 130								
o-Terphenyl	99		70 - 130								
Lab Sample ID: 890-2267-1	MS								Client Sa	mple ID:	PH01
Matrix: Solid									Prep 1	Type: Tot	tal/NA
Analysis Batch: 24860									Prep	Batch:	24835
	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 *+ *1	1000	971.4		mg/Kg		93	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U *1	1000	754.1		mg/Kg		73	70 - 130		
0.00010)	Me	MS									
Surrogato	ws %Recovery		Limits								
Surrogate 1-Chlorooctane		Quaimer	70 - 130								
	73		70 - 130 70 - 130								
o-Terphenyl	73		70 - 730								
Lab Sample ID: 890-2267-1	MSD								Client Sa	mple ID:	PH01
Matrix: Solid										Гуре: Tot	
Analysis Batch: 24860										Batch:	
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10		U *+ *1	998	980.9		mg/Kg		94	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U *1	998	767.7		mg/Kg		75	70 - 130	2	20
/	<u>חפ</u> א	MSD									
Surrogate	%Recovery		Limits								
1-Chlorooctane	83	Quantici	70 - 130								
o-Terphenyl	74		70 - 130 70 - 130								
e isipilonyi	/4		10 - 100								

5

Job ID: 890-2267-1 SDG: 03E1558016

Client: Ensolum

5

### **QC Sample Results**

Job ID: 890-2267-1 SDG: 03E1558016

Project/Site: PLU 30 Big Sinks CTB Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-24815/1-A Matrix: Solid	4									C	lient S	ample ID:		
Analysis Batch: 24888												Prep	Type: S	oluble
Allalysis Batch. 24000		мв м	IB											
Analyte	R	esult Q			RL		Uni	t	D	Pre	pared	Analy	zed	Dil Fac
Chloride		<5.00 U			5.00		mg/					05/05/22		1
Lab Sample ID: LCS 880-24815/2-	A								Clie	ent S	Sample	ID: Lab C	ontrol S	ample
Matrix: Solid													Type: S	
Analysis Batch: 24888														
-				Spike		LCS	LCS					%Rec		
Analyte				Added		Result	Qualifier	Unit		D	%Rec	Limits		
Chloride				250		254.6		mg/Kg			102	90 - 110		
Lab Sample ID: LCSD 880-24815/	3-A							CI	ient S	amp	le ID:	Lab Contro	ol Sampl	le Dup
Matrix: Solid													Type: S	
Analysis Batch: 24888														
				Spike		LCSD	LCSD					%Rec		RPD
Analyte				Added		Result	Qualifier	Unit		D	%Rec	Limits	RPD	Limit
Chloride				250		252.2		mg/Kg			101	90 _ 110	1	20
Lab Sample ID: 890-2267-1 MS												Client Sa	mple ID:	: PH01
Matrix: Solid												Prep	Type: S	oluble
Analysis Batch: 24888														
	Sample	Sample	Ð	Spike		MS	MS					%Rec		
Analyte	Result	Qualifi	er	Added		Result	Qualifier	Unit		D	%Rec	Limits		
Chloride	85.9			250		332.8		mg/Kg			99	90 _ 110		
Lab Sample ID: 890-2267-1 MSD												Client Sa	mple ID:	: PH01
Matrix: Solid													Type: S	
Analysis Batch: 24888														
	Sample	Sample	e	Spike		MSD	MSD					%Rec		RPD
Analyte	Result	Qualifi	er	Added		Result	Qualifier	Unit		D	%Rec	Limits	RPD	Limit
Chloride	85.9			250		331.3		mg/Kg			98	90 - 110	0	20

### **QC Association Summary**

Prep Type

Total/NA

Matrix

Solid

Client: Ensolum Project/Site: PLU 30 Big Sinks CTB

**Client Sample ID** 

PH01

PH01A

PH02

PH02A

PH03

PH03A

BH01

BH01A

BH02

BH02

Method Blank

Matrix Spike

Lab Control Sample

Lab Control Sample Dup

### **GC VOA**

### Prep Batch: 25279

Lab Sample ID

890-2267-1

890-2267-2

890-2267-3 890-2267-4

890-2267-5

890-2267-6

890-2267-7

890-2267-8

890-2267-9

890-2267-10

MB 880-25279/5-A

LCS 880-25279/1-A

LCSD 880-25279/2-A

880-14390-A-4-E MS

	SDG: 03E1558016	
Method	Prep Batch	4
5035		E
5035		J
5035		C
5035		6
5035		
5035		
5035		
5035		8
5035		
5035		9
5035		
5035		
5035		
5035		

### 880-14390-A-4-F MSD Analysis Batch: 25476

880-14390-A-4-E MS	Matrix Spike	Total/NA	Solid	5035		44
880-14390-A-4-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035		
Analysis Batch: 25476						12
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	4.9
890-2267-1	PH01	Total/NA	Solid	8021B	25279	13
890-2267-2	PH01A	Total/NA	Solid	8021B	25279	
890-2267-3	PH02	Total/NA	Solid	8021B	25279	14
890-2267-4	PH02A	Total/NA	Solid	8021B	25279	
890-2267-5	PH03	Total/NA	Solid	8021B	25279	
890-2267-6	PH03A	Total/NA	Solid	8021B	25279	
890-2267-7	BH01	Total/NA	Solid	8021B	25279	
890-2267-8	BH01A	Total/NA	Solid	8021B	25279	
890-2267-9	BH02	Total/NA	Solid	8021B	25279	
890-2267-10	BH02	Total/NA	Solid	8021B	25279	
MB 880-25279/5-A	Method Blank	Total/NA	Solid	8021B	25279	
LCS 880-25279/1-A	Lab Control Sample	Total/NA	Solid	8021B	25279	
LCSD 880-25279/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	25279	
880-14390-A-4-E MS	Matrix Spike	Total/NA	Solid	8021B	25279	
880-14390-A-4-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	25279	

### Analysis Batch: 25522

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-2267-1	PH01	Total/NA	Solid	Total BTEX	
890-2267-2	PH01A	Total/NA	Solid	Total BTEX	
890-2267-3	PH02	Total/NA	Solid	Total BTEX	
890-2267-4	PH02A	Total/NA	Solid	Total BTEX	
890-2267-5	PH03	Total/NA	Solid	Total BTEX	
890-2267-6	PH03A	Total/NA	Solid	Total BTEX	
890-2267-7	BH01	Total/NA	Solid	Total BTEX	
890-2267-8	BH01A	Total/NA	Solid	Total BTEX	
890-2267-9	BH02	Total/NA	Solid	Total BTEX	
890-2267-10	BH02	Total/NA	Solid	Total BTEX	

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### **QC Association Summary**

Client: Ensolum Project/Site: PLU 30 Big Sinks CTB

### GC Semi VOA

### Prep Batch: 24835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2267-1	PH01	Total/NA	Solid	8015NM Prep	
890-2267-2	PH01A	Total/NA	Solid	8015NM Prep	
390-2267-3	PH02	Total/NA	Solid	8015NM Prep	
390-2267-4	PH02A	Total/NA	Solid	8015NM Prep	
390-2267-5	PH03	Total/NA	Solid	8015NM Prep	
390-2267-6	PH03A	Total/NA	Solid	8015NM Prep	
390-2267-7	BH01	Total/NA	Solid	8015NM Prep	
890-2267-8	BH01A	Total/NA	Solid	8015NM Prep	
890-2267-9	BH02	Total/NA	Solid	8015NM Prep	
390-2267-10	BH02	Total/NA	Solid	8015NM Prep	
/IB 880-24835/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
.CS 880-24835/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
CSD 880-24835/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
90-2267-1 MS	PH01	Total/NA	Solid	8015NM Prep	
890-2267-1 MSD	PH01	Total/NA	Solid	8015NM Prep	
nalysis Batch: 24860					
_ab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
800-2267-1	PH01	Total/NA	Solid	8015B NM	2/835

Lab Sample ID	Client Sample ID	Prep Type	watrix	wethod	Ргер Батсп
890-2267-1	PH01	Total/NA	Solid	8015B NM	24835
890-2267-2	PH01A	Total/NA	Solid	8015B NM	24835
890-2267-3	PH02	Total/NA	Solid	8015B NM	24835
890-2267-4	PH02A	Total/NA	Solid	8015B NM	24835
890-2267-5	PH03	Total/NA	Solid	8015B NM	24835
890-2267-6	PH03A	Total/NA	Solid	8015B NM	24835
890-2267-7	BH01	Total/NA	Solid	8015B NM	24835
890-2267-8	BH01A	Total/NA	Solid	8015B NM	24835
890-2267-9	BH02	Total/NA	Solid	8015B NM	24835
890-2267-10	BH02	Total/NA	Solid	8015B NM	24835
MB 880-24835/1-A	Method Blank	Total/NA	Solid	8015B NM	24835
LCS 880-24835/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	24835
LCSD 880-24835/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	24835
890-2267-1 MS	PH01	Total/NA	Solid	8015B NM	24835
890-2267-1 MSD	PH01	Total/NA	Solid	8015B NM	24835

### Analysis Batch: 25086

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-2267-1	PH01	Total/NA	Solid	8015 NM	
890-2267-2	PH01A	Total/NA	Solid	8015 NM	
890-2267-3	PH02	Total/NA	Solid	8015 NM	
890-2267-4	PH02A	Total/NA	Solid	8015 NM	
890-2267-5	PH03	Total/NA	Solid	8015 NM	
890-2267-6	PH03A	Total/NA	Solid	8015 NM	
890-2267-7	BH01	Total/NA	Solid	8015 NM	
890-2267-8	BH01A	Total/NA	Solid	8015 NM	
890-2267-9	BH02	Total/NA	Solid	8015 NM	
890-2267-10	BH02	Total/NA	Solid	8015 NM	

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### Job ID: 890-2267-1 SDG: 03E1558016

### **QC** Association Summary

Client: Ensolum Project/Site: PLU 30 Big Sinks CTB

### HPLC/IC

### Leach Batch: 24815

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-2267-1	PH01	Soluble	Solid	DI Leach	
890-2267-2	PH01A	Soluble	Solid	DI Leach	
890-2267-3	PH02	Soluble	Solid	DI Leach	
890-2267-4	PH02A	Soluble	Solid	DI Leach	
890-2267-5	PH03	Soluble	Solid	DI Leach	
890-2267-6	PH03A	Soluble	Solid	DI Leach	
890-2267-7	BH01	Soluble	Solid	DI Leach	
890-2267-8	BH01A	Soluble	Solid	DI Leach	
890-2267-9	BH02	Soluble	Solid	DI Leach	_
890-2267-10	BH02	Soluble	Solid	DI Leach	
MB 880-24815/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-24815/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-24815/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2267-1 MS	PH01	Soluble	Solid	DI Leach	
890-2267-1 MSD	PH01	Soluble	Solid	DI Leach	
Analysis Batch: 24888	i -				
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-2267-1	PH01	Soluble	Solid	300.0	24815
890-2267-2	PH01A	Soluble	Solid	300.0	24815
890-2267-3	PH02	Soluble	Solid	300.0	24815

890-2267-2	PH01A	Soluble	Solid	300.0	24815
890-2267-3	PH02	Soluble	Solid	300.0	24815
890-2267-4	PH02A	Soluble	Solid	300.0	24815
890-2267-5	PH03	Soluble	Solid	300.0	24815
890-2267-6	PH03A	Soluble	Solid	300.0	24815
890-2267-7	BH01	Soluble	Solid	300.0	24815
890-2267-8	BH01A	Soluble	Solid	300.0	24815
890-2267-9	BH02	Soluble	Solid	300.0	24815
890-2267-10	BH02	Soluble	Solid	300.0	24815
MB 880-24815/1-A	Method Blank	Soluble	Solid	300.0	24815
LCS 880-24815/2-A	Lab Control Sample	Soluble	Solid	300.0	24815
LCSD 880-24815/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	24815
890-2267-1 MS	PH01	Soluble	Solid	300.0	24815
890-2267-1 MSD	PH01	Soluble	Solid	300.0	24815

### Job ID: 890-2267-1 SDG: 03E1558016

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Job ID: 890-2267-1 SDG: 03E1558016

### Lab Sample ID: 890-2267-1 Matrix: Solid

**Client Sample ID: PH01** Date Collected: 05/02/22 10:40 Date Received: 05/03/22 08:13

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	25279	05/10/22 13:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25476	05/12/22 21:57	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25522	05/13/22 10:27	SM	XEN MID
Total/NA	Analysis	8015 NM		1			25086	05/09/22 11:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	24835	05/04/22 15:21	DM	XEN MID
Total/NA	Analysis	8015B NM		1			24860	05/05/22 12:01	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	24815	05/04/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			24888	05/05/22 23:10	СН	XEN MID

### Lab Sample ID: 890-2267-2

Lab Sample ID: 890-2267-3

Lab Sample ID: 890-2267-4

Matrix: Solid

Matrix: Solid

Date Collected: 05/02/22 13:40 Date Received: 05/03/22 08:13

**Client Sample ID: PH01A** 

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	25279	05/10/22 13:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25476	05/12/22 22:18	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25522	05/13/22 10:27	SM	XEN MID
Total/NA	Analysis	8015 NM		1			25086	05/09/22 11:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	24835	05/04/22 15:21	DM	XEN MID
Total/NA	Analysis	8015B NM		1			24860	05/05/22 13:02	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	24815	05/04/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			24888	05/05/22 23:38	СН	XEN MID

### **Client Sample ID: PH02**

### Date Collected: 05/02/22 13:35

Date Received: 05/03/22 08:13

	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	25279	05/10/22 13:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25476	05/12/22 22:39	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25522	05/13/22 10:27	SM	XEN MID
Total/NA	Analysis	8015 NM		1			25086	05/09/22 11:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	24835	05/04/22 15:21	DM	XEN MID
Total/NA	Analysis	8015B NM		1			24860	05/05/22 13:23	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	24815	05/04/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			24888	05/05/22 23:47	СН	XEN MID

### **Client Sample ID: PH02A** Date Collected: 05/02/22 13:40 Date Received: 05/03/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	25279	05/10/22 13:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25476	05/12/22 22:59	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25522	05/13/22 10:27	SM	XEN MID

**Eurofins Carlsbad** 

Matrix: Solid

Job ID: 890-2267-1 SDG: 03E1558016

### Lab Sample ID: 890-2267-4 Matrix: Solid

Lab Sample ID: 890-2267-6

Lab Sample ID: 890-2267-7

Date Collected: 05/02/22 13:40 Date Received: 05/03/22 08:13

**Client Sample ID: PH02A** 

Client: Ensolum

Prep Type     Type       Total/NA     Analys	8015 NM	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
· · · · · · · · · · · · · · · · · · ·	8015 NM		1						
			1			25086	05/09/22 11:48	AJ	XEN MID
Total/NA Prep	8015NM Prep			10.03 g	10 mL	24835	05/04/22 15:21	DM	XEN MID
Total/NA Analys	8015B NM		1			24860	05/05/22 13:43	AJ	XEN MID
Soluble Leach	DI Leach			5.04 g	50 mL	24815	05/04/22 12:10	SC	XEN MID
Soluble Analys	300.0		1			24888	05/05/22 23:56	СН	XEN MID

### **Client Sample ID: PH03** Date Collected: 05/02/22 10:30 Date Received: 05/03/22 08:13

	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	25279	05/10/22 13:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25476	05/13/22 00:23	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25522	05/13/22 10:27	SM	XEN MID
Total/NA	Analysis	8015 NM		1			25086	05/09/22 11:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	24835	05/04/22 15:21	DM	XEN MID
Total/NA	Analysis	8015B NM		1			24860	05/05/22 14:04	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	24815	05/04/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			24888	05/06/22 11:38	СН	XEN MID

### **Client Sample ID: PH03A**

Date Collected: 05/02/22 14:35 Date Received: 05/03/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	25279	05/10/22 13:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25476	05/13/22 00:44	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25522	05/13/22 10:27	SM	XEN MID
Total/NA	Analysis	8015 NM		1			25086	05/09/22 11:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	24835	05/04/22 15:21	DM	XEN MID
Total/NA	Analysis	8015B NM		1			24860	05/05/22 14:26	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	24815	05/04/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			24888	05/06/22 11:47	СН	XEN MID

### **Client Sample ID: BH01**

### Date Collected: 05/02/22 10:35 Date Received: 05/03/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	25279	05/10/22 13:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25476	05/13/22 01:05	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25522	05/13/22 10:27	SM	XEN MID
Total/NA	Analysis	8015 NM		1			25086	05/09/22 11:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	24835	05/04/22 15:21	DM	XEN MID
Total/NA	Analysis	8015B NM		1			24860	05/05/22 14:47	AJ	XEN MID

**Eurofins Carlsbad** 

5 6

Matrix: Solid

Matrix: Solid

Matrix: Solid

### Lab Chronicle

Job ID: 890-2267-1 SDG: 03E1558016

### Lab Sample ID: 890-2267-7 Matrix: Solid

Lab Sample ID: 890-2267-8

Lab Sample ID: 890-2267-9

Date Collected: 05/02/22 10:35 Date Received: 05/03/22 08:13

**Client Sample ID: BH01** 

Client: Ensolum

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	24815	05/04/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			24888	05/06/22 00:42	СН	XEN MID

### **Client Sample ID: BH01A**

Date Collected: 05/02/22 14:40 Date Received: 05/03/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	25279	05/10/22 13:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25476	05/13/22 01:26	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25522	05/13/22 10:27	SM	XEN MID
Total/NA	Analysis	8015 NM		1			25086	05/09/22 11:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	24835	05/04/22 15:21	DM	XEN MID
Total/NA	Analysis	8015B NM		1			24860	05/05/22 15:08	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	24815	05/04/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			24888	05/06/22 00:51	СН	XEN MID

### Client Sample ID: BH02 Date Collected: 05/02/22 13:17

### Date Received: 05/03/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	25279	05/10/22 13:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25476	05/13/22 01:46	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25522	05/13/22 10:27	SM	XEN MID
Total/NA	Analysis	8015 NM		1			25086	05/09/22 11:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	24835	05/04/22 15:21	DM	XEN MID
Total/NA	Analysis	8015B NM		1			24860	05/05/22 15:29	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	24815	05/04/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			24888	05/06/22 01:00	СН	XEN MID

### **Client Sample ID: BH02** Date Collected: 05/02/22 14:00

Date Received: 05/03/22 08:13

# Lab Sample ID: 890-2267-10

Matrix: Solid

	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	25279	05/10/22 13:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25476	05/13/22 02:07	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25522	05/13/22 10:27	SM	XEN MID
Total/NA	Analysis	8015 NM		1			25086	05/09/22 11:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	24835	05/04/22 15:21	DM	XEN MID
Total/NA	Analysis	8015B NM		1			24860	05/05/22 15:50	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	24815	05/04/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			24888	05/06/22 01:10	СН	XEN MID

**Eurofins Carlsbad** 

Matrix: Solid

Matrix: Solid

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### Lab Chronicle

Client: Ensolum Project/Site: PLU 30 Big Sinks CTB

Laboratory References:

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

Job ID: 890-2267-1 SDG: 03E1558016

Accreditation/Certification Summary

Client: Ensolum Project/Site: PLU 30 Big Sinks CTB

Laboratory: Eurofins Midland

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

Ithority	F	rogram	Identification Number	Expiration Date
xas	N	IELAP	T104704400-21-22	06-30-22
The fall states are shown	are included in this report k	ut the leberatory is not cortif	ied by the governing authority. This list ma	u include enclutes for wh
the agency does not of	fer certification.		, , , , , ,	ly include analytes for wr
the agency does not of Analysis Method	· · · · ·	Matrix	Analyte	
the agency does not of	fer certification.		, , , , , ,	

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Job ID: 890-2267-1

SDG: 03E1558016

### **Method Summary**

Client: Ensolum Project/Site: PLU 30 Big Sinks CTB Job ID: 890-2267-1

Nethod	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
otal BTEX	Total BTEX Calculation	TAL SOP	XEN MID
3015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
00.0	Anions, Ion Chromatography	MCAWW	XEN MID
035	Closed System Purge and Trap	SW846	XEN MID
015NM Prep	Microextraction	SW846	XEN MID
01 Leach	Deionized Water Leaching Procedure	ASTM	XEN 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:

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

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### **Sample Summary**

Client: Ensolum Project/Site: PLU 30 Big Sinks CTB

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	5 4
•	· · · · · · · · · · · · · · · · · · ·	Watrix			Depth
890-2267-1	PH01	Solid	05/02/22 10:40	05/03/22 08:13	0.5'
390-2267-2	PH01A	Solid	05/02/22 13:40	05/03/22 08:13	2'
390-2267-3	PH02	Solid	05/02/22 13:35	05/03/22 08:13	1'
90-2267-4	PH02A	Solid	05/02/22 13:40	05/03/22 08:13	2'
90-2267-5	PH03	Solid	05/02/22 10:30	05/03/22 08:13	0.5'
0-2267-6	PH03A	Solid	05/02/22 14:35	05/03/22 08:13	2'
0-2267-7	BH01	Solid	05/02/22 10:35	05/03/22 08:13	0.5'
90-2267-8	BH01A	Solid	05/02/22 14:40	05/03/22 08:13	1'
90-2267-9	BH02	Solid	05/02/22 13:17	05/03/22 08:13	1'
0-2267-10	BH02	Solid	05/02/22 14:00	05/03/22 08:13	1.5'

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40 curonns	Sec. 7	nco	Environment Testing Xenco	ting		Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199	32) 704-54 915) 585-3- 975) 392-7	eQ, San Arit (43, Lubbo 550, Carlsb	onio, TX (2 ck, TX (806 sd, NM (57)	Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334 EL Pato, 1X (915) 585-3443, Lubbock, TX (806) 794-1296 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199		1		Work	Work Order No:	m Page	~	of 1
Project Manager:	TALOMA M	Momeissey	SS .		Bill to: If differenti	erenti	Ad	Adrian	Baker	1				×	lork Order	3		
	2				Company Name:	ame	*TO	g	ENERUI			Programo				Brownfields		Superfund
	1001 N. Mar	Mar . LoHld	SI	SUINCHOD	Address		2104	5	INKEN .	51.		State	State of Project:	1				
e ZIP:		at bt	27		City, State ZIP:	P	Carls	2		088330		Repo	rting: Le	velill	Reporting: Level II 🗌 Level III 🗌	PST/UST[	] THRP [	PST/UST TRRP Level N
	337.257.		t062	Email:	t morr issen	ISSEN	@ C1	ensolum com	1.9			Deliv	Deliverables:	EDO	6	ADaPT -	Other:	
Project Name	PLU 30	BIGSIN	BIG SINKS (TB	Turn	Turn Around	-				ANA	ANALYSIS REQ	EQUEST				Pre	Preservative Codes	Codes
Xen	65	2016		Routine	Rush	Pitt.								-	-	None: NO		DI Water: H <sub>2</sub> O
1				Due Date:				-				-		-	_	Cool: Cool		MeOH: Me
er's Name:	Conner Shore	c		TAT starts the day received by the lab if received by 4 30mm	TAT starts the day received by the lab all received by	14		-		-					2	HCL:HC		HNO 3: HN
CAMPI E DECEIDT	Tama Dia	_	DND	Wattras	D In	1		+								H.PO. HP		and south and
Samples Received Intact:	ct: Ye No		Thermometer ID:	1	c)	+	s	-								NaHSO at NABIS	AL NABIS	
Cooler Custody Seals:	Yes No	ANA O	Correction Factor:		5.0		le	-		INNI	WHIM DIAN	A of Cust	ody	100	2	Na 25 20	Na 2S 2O 31 NaSO 3	
Sample Custody Seals:	Yes No VALLA	2	Temperature Reading:	e Reading:	6.6			X		-068	890-2207 Utionition 2022-068			1		Zn Acet	Zn Acetate+NaOH: Zn	Zn
Total Containers:			Corrected Temperature:	imperature:	1.0-1	1		-		÷				-	_	NaOH+J	NaOH+Ascorbic Acid: SAPC	Id: SAPC
Sample Identification		Matrix	Date Sampled	Time Sampled	Depth G	Grab/ # of Comp Cont	Ch	BT	1 F							Sa	Sample Comments	nments
PH03		5		1040	0.51 6	2	×	×										
PHOS		5	20/03	enu	16	6 2	-											
PHON		-	-	1335	1-	-	-			1		10			1			
PITON				1340	3.		E							-				
PHOS				evel	15,0	E		1				$\vdash$		-	F			
PHPS				1485	3.							+		+				
BHOW				(035	0.5					C.		t		-				
POHOLO				1440	4							-			1			
6402				4141	1.		E					+		+				
BHID		Z	4	1400	1.51	E +	t	* *	-	-		F			L			
Total 200.7 / 6010 200.8 / 6020: Circle Method(s) and Metal(s) to be analyzed	nd Metal(s) to be a	20: De analy		BRCRA 13PPM TCLP / SPLP	A 13PPM Texas 11 AI Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb TCLP/SPLP6010 : BRCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo	1 AI SI BRCRA	Al Sb As Ba Be B CRA Sb As Ba Be (	Be B C	d Ca C	Cd Ca Cr Co Cu Fe d Cr Co Cu Pb Mn /		Mg Mn Mo N Ni Se Ag Ti U		Se Ag Hg:	Mg Mn Mo Ni K Se Ag SiO <sub>2</sub> Na Sr Ni Se Ag Ti U Hg: 1631/245.1	Ag SiO <sub>2</sub> Na Sr TI Sn U V Zn Hg: 1631/245.1/7470/7471	U V Zn / 7471	
Notice: Signature of this documant and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco. Its affaites and subcontractors. It assigns standard or of survives. Eurofins Xenco will be table 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 circumstance of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample salamitted to Eurofins Xenco. Due not analyzed. These terms will be enforced of the cost of samples cand a charge of \$5 for each sample salamitted to Eurofins Xenco. Due not analyzed. These terms will be enforced	ument and relinquishment of sar #1 be liable only for the cost of sa an charge of \$85.00 will be applic	t of samples rt of sample applied to	sand shall not a sach project an	rples constitutes a valid purchase order from clien mples and shall not assume any responsibility for a rol to each project and a charge of \$3 for each sam rol to each project and a charge of \$3 for each sam	tr from client con nsibility for any lo or each sample s	repany to Europe vises or expe- ubmitted to	ofins Xanco, nses incurres Eurofins Xen	Its affiliates a 1 by the clien co, but not a	nd subcontr t If such loss nalyzed. The	company to Eurofins Xenco, its affiliates and subcontractors. It assigns standary rosees or expenses incurred by the client if such losses are due to circumstanc e submitted to Eurofins Xenco, but not analyzed. These terms will be enforced		I terms and conditions es beyond the control unlesi previously negotiated	ditions ontrol y negotiated					
S 11	Signature)		Reverved by: (Signa	y: (Sjgna)ure)	2	-	Date/Time	ime	Rel	Relinquished by: (Sig	- <b>T</b>	nature)	R	eceived I	Received by: (Signature)	ire)	Date	Date/Time
N			Tur			7	10.00	20 66	UU									
				1					-								T	

5/13/2022

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Chain of Custody

14

Job Number: 890-2267-1 SDG Number: 03E1558016

List Source: Eurofins Carlsbad

### Login Sample Receipt Checklist

Client: Ensolum

<6mm (1/4").

Login Number: 2267 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.	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	

Job Number: 890-2267-1 SDG Number: 03E1558016

List Source: Eurofins Midland

List Creation: 05/04/22 10:56 AM

### Login Sample Receipt Checklist

Client: Ensolum

Login Number: 2267 List Number: 2 Creator: Teel, Brianna

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.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	True	

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

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Received by OCD: 6/28/2024 6:18:11 PM

# 🛟 eurofins

# Environment Testing America

# **ANALYTICAL REPORT**

Eurofins Carlsbad 1089 N Canal St. Carlsbad, NM 88220 Tel: (575)988-3199

### Laboratory Job ID: 890-2274-1

Laboratory Sample Delivery Group: 03E1558016 Client Project/Site: PLU 30 BIG SINKS CTB

### For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Kalei Jennings

RAMER

Authorized for release by: 5/11/2022 7:12:57 AM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Visit us at: www.eurofinsus.com/Env Released to Imaging: 7/15/2024 1:22-14 PM

LINKS

Review your project results through

Total Access

Have a Question?

Ask-

The

Expert

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Sample Summary	27
Chain of Custody	28
Receipt Checklists	30

	Definitions/Glossary	
Client: Ensolum	······································	
-	LU 30 BIG SINKS CTB SDG: 03E15580	J16 Z
Qualifiers		_ 3
GC VOA Qualifier	Qualifier Description	4
F1	MS and/or MSD recovery exceeds control limits.	
S1+	Surrogate recovery exceeds control limits, high biased.	5
U	Indicates the analyte was analyzed for but not detected.	
GC Semi VOA		6
Qualifier	Qualifier Description	
S1+	Surrogate recovery exceeds control limits, high biased.	
U	Indicates the analyte was analyzed for but not detected.	
HPLC/IC		8
Qualifier	Qualifier Description	
U	Indicates the analyte was analyzed for but not detected.	9
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	44
DER	Duplicate Error Ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	
DL	Detection Limit (DoD/DOE)	
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
DLC	Decision Level Concentration (Radiochemistry)	
EDL	Estimated Detection Limit (Dioxin)	
LOD	Limit of Detection (DoD/DOE)	

Limit of Quantitation (DoD/DOE)

Method Detection Limit

Minimum Level (Dioxin)

Most Probable Number

Not Calculated

Negative / Absent

Positive / Present

Presumptive

Quality Control

Method Quantitation Limit

Practical Quantitation Limit

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

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)

LOQ

MCL

MDA

MDC

MDL

MPN

MQL

NC

ND NEG

POS

PQL

PRES

QC

RER

RPD

TEF

TEQ TNTC

RL

ML

4

5

### Job ID: 890-2274-1 SDG: 03E1558016

### Job ID: 890-2274-1

Client: Ensolum

### Laboratory: Eurofins Carlsbad

### Narrative

Job Narrative 890-2274-1

### Receipt

The samples were received on 5/3/2022 4:45 PM. 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 2.8°C

### GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-24964 and analytical batch 880-25052 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery 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: Surrogate recovery for the following samples were outside control limits: FS01 (890-2274-1), FS02 (890-2274-2), FS03 (890-2274-3) and FS04 (890-2274-4). 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.

Method: 8021B - Volatile Organic Compounds (GC)

Result Qualifier

RL

Unit

D

Prepared

Job ID: 890-2274-1 SDG: 03E1558016

### **Client Sample ID: FS01**

Date Collected: 05/03/22 11:00 Date Received: 05/03/22 16:45

Sample Depth: 0.5'

Analyte

Client: Ensolum

## Lab Sample ID: 890-2274-

Analyzed

Matrix: Sol

274-1 Solid	
	4
	5
Dil Fac 1	6
1	
1 1	8
Dil Fac	9
1 1	
Dil 5	
Dil Fac 1	
Dil Fac	13
1	

Benzene								
	<0.00201	U	0.00201	mg/Kg		05/06/22 11:22	05/09/22 01:57	1
Toluene	0.00868		0.00201	mg/Kg		05/06/22 11:22	05/09/22 01:57	1
Ethylbenzene	0.0141		0.00201	mg/Kg		05/06/22 11:22	05/09/22 01:57	1
m-Xylene & p-Xylene	0.197		0.00402	mg/Kg		05/06/22 11:22	05/09/22 01:57	1
o-Xylene	0.0796		0.00201	mg/Kg		05/06/22 11:22	05/09/22 01:57	1
Xylenes, Total	0.277		0.00402	mg/Kg		05/06/22 11:22	05/09/22 01:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130			05/06/22 11:22	05/09/22 01:57	1
1,4-Difluorobenzene (Surr)	88		70 - 130			05/06/22 11:22	05/09/22 01:57	1
Method: Total BTEX - Total BTEX	(Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.299		0.00402	mg/Kg			05/09/22 15:24	1
Method: 8015 NM - Diesel Range	Organics (DR	0) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	13300		250	mg/Kg			05/09/22 11:58	1
Method: 8015B NM - Diesel Rang	je Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	1290		250	mg/Kg		05/05/22 14:19	05/07/22 08:09	5
			250	mg/Kg		05/05/22 14:19	05/07/22 08:09	5
Diesel Range Organics (Over	10400							
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over	10400 1640		250	mg/Kg		05/05/22 14:19	05/07/22 08:09	5
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)		Qualifier	250 Limits	mg/Kg		05/05/22 14:19 Prepared		5 <b>Dil Fac</b>
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	1640 %Recovery	<b>Qualifier</b> S1+		mg/Kg			05/07/22 08:09 Analyzed 05/07/22 08:09	
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	1640 %Recovery		Limits	mg/Kg		Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl	<b>1640</b> %Recovery 134 121	S1+	Limits 70 - 130	mg/Kg		Prepared 05/05/22 14:19	<b>Analyzed</b> 05/07/22 08:09	Dil Fac
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl Method: 300.0 - Anions, Ion Chro	1640 %Recovery 134 121 Domatography -	S1+	Limits 70 - 130	mg/Kg Unit	D	Prepared 05/05/22 14:19	<b>Analyzed</b> 05/07/22 08:09	Dil Fac
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl Method: 300.0 - Anions, Ion Chro Analyte	1640 %Recovery 134 121 Domatography -	S1+ Soluble	Limits 70 - 130 70 - 130		D	<b>Prepared</b> 05/05/22 14:19 05/05/22 14:19	<b>Analyzed</b> 05/07/22 08:09 05/07/22 08:09	Dil Fac 5 5
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl Method: 300.0 - Anions, Ion Chro Analyte Chloride	1640 %Recovery 134 121 Domatography - Result	S1+ Soluble	Limits 70 - 130 70 - 130 RL	Unit	<u>D</u>	Prepared 05/05/22 14:19 05/05/22 14:19 Prepared	Analyzed 05/07/22 08:09 05/07/22 08:09 Analyzed	Dil Fac 5 5 Dil Fac 1
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl Method: 300.0 - Anions, Ion Chro Analyte Chloride Client Sample ID: FS02 pate Collected: 05/03/22 11:05 pate Received: 05/03/22 16:45	1640 %Recovery 134 121 Domatography - Result	S1+ Soluble	Limits 70 - 130 70 - 130 RL	Unit	D	Prepared 05/05/22 14:19 05/05/22 14:19 Prepared	Analyzed 05/07/22 08:09 05/07/22 08:09 Analyzed 05/08/22 17:23 nple ID: 890-	Dil Fac 5 Dil Fac 1

Method: 8021B - Volatile Orga	anic Compounds (	GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/06/22 11:22	05/09/22 02:17	1
Toluene	0.112		0.00200	mg/Kg		05/06/22 11:22	05/09/22 02:17	1
Ethylbenzene	0.0451		0.00200	mg/Kg		05/06/22 11:22	05/09/22 02:17	1
m-Xylene & p-Xylene	0.523		0.00400	mg/Kg		05/06/22 11:22	05/09/22 02:17	1
o-Xylene	0.164		0.00200	mg/Kg		05/06/22 11:22	05/09/22 02:17	1
Xylenes, Total	0.687		0.00400	mg/Kg		05/06/22 11:22	05/09/22 02:17	1

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5/11/2022

### **Client Sample Results**

Job ID: 890-2274-1 SDG: 03E1558016

### **Client Sample ID: FS02**

Date Collected: 05/03/22 11:05 Date Received: 05/03/22 16:45

Sample Depth: 0.5'

Client: Ensolum

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130			05/06/22 11:22	05/09/22 02:17	1
1,4-Difluorobenzene (Surr)	89		70 - 130			05/06/22 11:22	05/09/22 02:17	1
Method: Total BTEX - Total BTE	X Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.844		0.00400	mg/Kg			05/09/22 15:24	1
Method: 8015 NM - Diesel Rang	e Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	10400		49.9	mg/Kg			05/09/22 11:58	1
Method: 8015B NM - Diesel Ran	ge Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	1180		49.9	mg/Kg		05/05/22 14:19	05/07/22 02:19	1
Diesel Range Organics (Over C10-C28)	7810		49.9	mg/Kg		05/05/22 14:19	05/07/22 02:19	1
Oll Range Organics (Over C28-C36)	1380		49.9	mg/Kg		05/05/22 14:19	05/07/22 02:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	142	S1+	70 - 130			05/05/22 14:19	05/07/22 02:19	1
o-Terphenyl	126		70 - 130			05/05/22 14:19	05/07/22 02:19	1
Method: 300.0 - Anions, Ion Chi	romatography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	141		5.00	mg/Kg			05/08/22 17:32	1
Client Sample ID: FS03						Lab San	nple ID: 890-	2274-3
Date Collected: 05/03/22 11:10							Matri	x: Solid
Date Received: 05/03/22 16:45 Sample Depth: 0.5'								
Method: 8021B - Volatile Organ	ic Compounds (	GC)						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/06/22 11:22	05/09/22 02:38	1
Toluene	0.107		0.00199	mg/Kg		05/06/22 11:22	05/09/22 02:38	1
Ethylbenzene	0.192		0.00199	mg/Kg		05/06/22 11:22	05/09/22 02:38	1
m-Xylene & p-Xylene	35.7		0.200	mg/Kg		05/09/22 11:01	05/10/22 02:23	50
o-Xylene	9.13		0.0998	mg/Kg		05/09/22 11:01	05/10/22 02:23	50
Xylenes, Total	44.8		0.200	mg/Kg		05/09/22 11:01	05/10/22 02:23	50
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	473	S1+	70 - 130			05/06/22 11:22	05/09/22 02:38	1
1,4-Difluorobenzene (Surr)	78		70 - 130			05/06/22 11:22	05/09/22 02:38	1

Method: Total BTEX - Total BTEX	Calculation						
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	45.1	0.200	mg/Kg			05/09/22 15:24	1

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### **Client Sample Results**

Job ID: 890-2274-1 SDG: 03E1558016

Lab Sample ID: 890-2274-3

### **Client Sample ID: FS03**

Date Collected: 05/03/22 11:10 Date Received: 05/03/22 16:45

Client: Ensolum

Sample Depth: 0.5'								
Method: 8015 NM - Diesel Range					_			
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	15500		249	mg/Kg			05/09/22 11:58	1
Method: 8015B NM - Diesel Rang	je Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	2140		249	mg/Kg		05/05/22 14:19	05/07/22 08:29	5
Diesel Range Organics (Over C10-C28)	11500		249	mg/Kg		05/05/22 14:19	05/07/22 08:29	5
Oll Range Organics (Over C28-C36)	1880		249	mg/Kg		05/05/22 14:19	05/07/22 08:29	5
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	148	S1+	70 - 130			05/05/22 14:19	05/07/22 08:29	Ę
o-Terphenyl	114		70 - 130			05/05/22 14:19	05/07/22 08:29	5
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	723		4.97	mg/Kg			05/08/22 17:41	1
Client Sample ID: FS04						Lab Sar	nple ID: 890-	2274-4
Date Collected: 05/03/22 11:15							Matri	x: Solid
Date Received: 05/03/22 16:45								
Sample Depth: 0.5'								

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/06/22 11:22	05/09/22 02:58	1
Toluene	0.0917		0.00200	mg/Kg		05/06/22 11:22	05/09/22 02:58	1
Ethylbenzene	0.0562		0.00200	mg/Kg		05/06/22 11:22	05/09/22 02:58	1
m-Xylene & p-Xylene	0.688		0.00401	mg/Kg		05/06/22 11:22	05/09/22 02:58	1
o-Xylene	0.251		0.00200	mg/Kg		05/06/22 11:22	05/09/22 02:58	1
Xylenes, Total	0.939		0.00401	mg/Kg		05/06/22 11:22	05/09/22 02:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	166	S1+	70 - 130			05/06/22 11:22	05/09/22 02:58	1
1,4-Difluorobenzene (Surr)	86		70 - 130			05/06/22 11:22	05/09/22 02:58	1
		Qualifier	RL		D	Prepared	Analyzed	Dil Fac
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	1.09		0.00401	mg/Kg			05/09/22 15:24	1
		0) (GC)	0.00401	mg/Kg			05/09/22 15:24	1
Total BTEX 	e Organics (DR	<mark>O) (GC)</mark> Qualifier	0.00401 RL	mg/Kg Unit	D	Prepared	05/09/22 15:24 Analyzed	1 Dil Fac
Method: 8015 NM - Diesel Range	e Organics (DR				D	Prepared		1 Dil Fac 1
Method: 8015 NM - Diesel Range Analyte	e Organics (DR Result 18800	Qualifier	RL	Unit	D	Prepared	Analyzed	
Method: 8015 NM - Diesel Range Analyte Total TPH	e Organics (DR Result 18800 ge Organics (D	Qualifier	RL	Unit	D	Prepared	Analyzed	
Method: 8015 NM - Diesel Range Analyte Total TPH Method: 8015B NM - Diesel Ran	e Organics (DR Result 18800 ge Organics (D	Qualifier RO) (GC)	<b>RL</b> 250	Unit mg/Kg			Analyzed 05/09/22 11:58	1

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Matrix: Solid

5

Job ID: 890-2274-1 SDG: 03E1558016

Matrix: Solid

Lab Sample ID: 890-2274-4

### Client Sample ID: FS04

Date Collected: 05/03/22 11:15 Date Received: 05/03/22 16:45

Sample Depth: 0.5'

Client: Ensolum

Method: 8015B NM - Diesel Rang								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Oll Range Organics (Over C28-C36)	2330		250	mg/Kg		05/05/22 14:19	05/07/22 08:49	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	151	S1+	70 - 130			05/05/22 14:19	05/07/22 08:49	
o-Terphenyl	248	S1+	70 - 130			05/05/22 14:19	05/07/22 08:49	
Method: 300.0 - Anions, Ion Chro	matography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	790		4.95	mg/Kg			05/08/22 17:50	
lient Sample ID: FS05						Lab Sar	nple ID: 890-	2274-
ate Collected: 05/03/22 11:10 ate Received: 05/03/22 16:45 ample Depth: 0.5'							Matri	x: Soli
Method: 8021B - Volatile Organic	Compounds (	(GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	0.00362		0.00202	mg/Kg		05/06/22 11:22	05/09/22 03:19	
Toluene	0.200		0.00202	mg/Kg		05/06/22 11:22	05/09/22 03:19	
Ethylbenzene	0.0657		0.00202	mg/Kg		05/06/22 11:22	05/09/22 03:19	
m-Xylene & p-Xylene	0.800		0.00403	mg/Kg		05/06/22 11:22	05/09/22 03:19	
o-Xylene	0.277		0.00202	mg/Kg		05/06/22 11:22	05/09/22 03:19	
Xylenes, Total	1.08		0.00403	mg/Kg		05/06/22 11:22	05/09/22 03:19	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	125		70 - 130			05/06/22 11:22	05/09/22 03:19	
1,4-Difluorobenzene (Surr)	88		70 - 130			05/06/22 11:22	05/09/22 03:19	
Method: Total BTEX - Total BTEX	Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	1.35		0.00403	mg/Kg			05/09/22 15:24	
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	12900		250	mg/Kg			05/09/22 11:58	
Method: 8015B NM - Diesel Rang								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	496		250	mg/Kg		05/05/22 14:19	05/07/22 08:29	
Diesel Range Organics (Over C10-C28)	12400		250	mg/Kg		05/05/22 14:19	05/07/22 08:29	
Oll Range Organics (Over C28-C36)	<250	U	250	mg/Kg		05/05/22 14:19	05/07/22 08:29	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	138	S1+	70 - 130			05/05/22 14:19	05/07/22 08:29	
o-Terphenyl	122		70 - 130			05/05/22 14:19	05/07/22 08:29	
Method: 300.0 - Anions, Ion Chro	matography -	Soluble						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chlorido	E20		5.04	malka			05/08/22 17:50	

05/0	08/22	17:59	)	
	_	~	~	

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Chloride

5.04

mg/Kg

**528** 

1

Method: 8021B - Volatile Organic Compounds (GC)

Result Qualifier

<0.400 U

<0.400 U

1.28 7.60

1.78

9.38

%Recovery Qualifier

RL

0.400

0.400

0.400

0.800

0.400

0.800

Limits

Unit

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

D

Prepared

05/10/22 10:17

05/10/22 10:17

05/10/22 10:17

05/10/22 10:17

05/10/22 10:17

05/10/22 10:17

Prepared

Job ID: 890-2274-1 SDG: 03E1558016

### **Client Sample ID: FS06**

Date Collected: 05/03/22 11:05 Date Received: 05/03/22 16:45

Sample Depth: 0.5'

Client: Ensolum

Analyte

Benzene

Toluene

o-Xylene

Surrogate

Ethylbenzene

Xylenes, Total

m-Xylene & p-Xylene

### Lab Sample ID: 890-2274-6 Matrix: Solid

Analyzed

05/11/22 01:40

05/11/22 01:40

05/11/22 01:40

05/11/22 01:40

05/11/22 01:40

05/11/22 01:40

Analyzed

Method: 300.0 - Anions, Ion Chro	matography -	Soluble						
o-Terphenyl	121		70 - 130			05/05/22 14:19	05/07/22 08:49	5
1-Chlorooctane	131	S1+	70 - 130			05/05/22 14:19	05/07/22 08:49	5
Surrogate	%Recovery		Limits			Prepared	Analyzed	Dil Fac
Oll Range Organics (Over C28-C36)	<250	U	250	mg/Kg		05/05/22 14:19	05/07/22 08:49	5
Diesel Range Organics (Over C10-C28)	16000		250	mg/Kg		05/05/22 14:19	05/07/22 08:49	5
Gasoline Range Organics (GRO)-C6-C10	617		250	mg/Kg		05/05/22 14:19	05/07/22 08:49	5
Method: 8015B NM - Diesel Rang Analyte	· • ·	RO) (GC) Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	16600		250	mg/Kg			05/09/22 11:58	1
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Total BTEX	0.177		0.00199	mg/Kg			05/09/22 15:24	1
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Method: Total BTEX - Total BTEX	Calculation							
1,4-Difluorobenzene (Surr)	76		70 - 130			05/10/22 10:17	05/11/22 01:40	200
4-Bromofluorobenzene (Surr)	138	S1+	70 - 130			05/10/22 10:17	05/11/22 01:40	200

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### 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)		
880-14398-A-1-C MS	Matrix Spike	103	101		
880-14398-A-1-D MSD	Matrix Spike Duplicate	101	104		
880-14479-A-6-D MS	Matrix Spike	108	95		- 5
880-14479-A-6-E MSD	Matrix Spike Duplicate	117	90		
890-2252-A-5-D MS	Matrix Spike	122	90		
890-2252-A-5-E MSD	Matrix Spike Duplicate	126	86		
890-2274-1	FS01	114	88		
890-2274-2	FS02	103	89		
890-2274-3	FS03	473 S1+	78		
890-2274-4	FS04	166 S1+	86		
890-2274-5	FS05	125	88		
890-2274-6	FS06	138 S1+	76		
LCS 880-24964/1-A	Lab Control Sample	107	100		
LCS 880-25072/1-A	Lab Control Sample	124	89		
LCS 880-25242/1-A	Lab Control Sample	107	95		
LCSD 880-24964/2-A	Lab Control Sample Dup	108	100		- 5
LCSD 880-25072/2-A	Lab Control Sample Dup	118	91		
LCSD 880-25242/2-A	Lab Control Sample Dup	112	93		
MB 880-24964/5-A	Method Blank	98	95		
MB 880-25055/8	Method Blank	104	89		
MB 880-25072/5-A	Method Blank	103	89		
MB 880-25078/5-A	Method Blank	100	91		
MB 880-25242/5-A	Method Blank	100	91		
Surrogate Legend					

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
		1CO1	OTPH1	
o Sample ID	Client Sample ID	(70-130)	(70-130)	
)-2271-A-61-E MS	Matrix Spike	104	92	
2271-A-61-F MSD	Matrix Spike Duplicate	89	78	
-2274-1	FS01	134 S1+	121	
2274-2	FS02	142 S1+	126	
274-3	FS03	148 S1+	114	
2274-4	FS04	151 S1+	248 S1+	
274-5	FS05	138 S1+	122	
2274-6	FS06	131 S1+	121	
880-24911/2-A	Lab Control Sample	101	95	
0 880-24911/3-A	Lab Control Sample Dup	111	105	
880-24911/1-A	Method Blank	98	102	

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Prep Type: Total/NA

Job ID: 890-2274-1 SDG: 03E1558016

Prep Type: Total/NA

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

Lab Sample ID: MB 880-24964/5-A	
Matrix: Solid	

Analysis Batch: 25052

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/06/22 11:22	05/08/22 19:12	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/06/22 11:22	05/08/22 19:12	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/06/22 11:22	05/08/22 19:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/06/22 11:22	05/08/22 19:12	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/06/22 11:22	05/08/22 19:12	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/06/22 11:22	05/08/22 19:12	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130			05/06/22 11:22	05/08/22 19:12	1
1,4-Difluorobenzene (Surr)	95		70 - 130			05/06/22 11:22	05/08/22 19:12	1

#### Lab Sample ID: LCS 880-24964/1-A Matrix: Solid

#### Analysis Batch: 25052

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.08587		mg/Kg		86	70 - 130	
Toluene	0.100	0.09093		mg/Kg		91	70 - 130	
Ethylbenzene	0.100	0.09444		mg/Kg		94	70 - 130	
m-Xylene & p-Xylene	0.200	0.1946		mg/Kg		97	70 - 130	
o-Xylene	0.100	0.1086		mg/Kg		109	70 _ 130	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

### Lab Sample ID: LCSD 880-24964/2-A

## Matrix: Solid

Analysis Batch: 25052							Prep	Batch:	24964
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.08878		mg/Kg		89	70 - 130	3	35
Toluene	0.100	0.08583		mg/Kg		86	70 - 130	6	35
Ethylbenzene	0.100	0.08732		mg/Kg		87	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.1780		mg/Kg		89	70 - 130	9	35
o-Xylene	0.100	0.09949		mg/Kg		99	70 - 130	9	35
LCSD LCS	n								

	LCSD I	LCSD	
Surrogate	%Recovery (	Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

#### Lab Sample ID: 880-14398-A-1-C MS Matrix: Solid

#### Analysis Batch: 25052

Analysis Batch: 25052									Prep Batch: 24964
	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	<0.00200	U F1	0.0996	0.04611	F1	mg/Kg		46	70 - 130
Toluene	<0.00200	U F1	0.0996	0.03905	F1	mg/Kg		38	70 - 130

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Prep Type: Total/NA

**Client Sample ID: Matrix Spike** 

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Job ID: 890-2274-1 SDG: 03E1558016

Prep Type: Total/NA

Prep Batch: 24964

**Client Sample ID: Method Blank** 

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# **Client Sample ID: Lab Control Sample**

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 24964

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Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

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

Lab Sample ID: 880-14398-4	A-1-C MS							Client	Sample ID: Matrix Spike
Matrix: Solid									Prep Type: Total/NA
Analysis Batch: 25052									Prep Batch: 24964
	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Ethylbenzene	<0.00200	U F1	0.0996	0.03452	F1	mg/Kg		34	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.199	0.06823	F1	mg/Kg		34	70 - 130
o-Xylene	<0.00200	U F1	0.0996	0.03400	F1	mg/Kg		34	70 - 130
	MS	MS							
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene (Surr)	103		70 - 130						
1,4-Difluorobenzene (Surr)	101		70 _ 130						

### Lab Sample ID: 880-14398-A-1-D MSD Matrix: Solid

#### Analysis Batch: 25052 Prep Batch: 24964 Sample Sample Spike MSD MSD %Rec RPD Result Qualifier Added Result Qualifier RPD Limit Analyte Unit %Rec Limits D Benzene <0.00200 UF1 0.0998 0.04463 F1 mg/Kg 45 70 - 130 3 35 0.0998 0.03916 F1 70 - 130 35 Toluene <0.00200 UF1 mg/Kg 38 0 Ethylbenzene <0.00200 UF1 0.0998 0.03504 F1 35 70 - 130 35 mg/Kg 1 <0.00401 UF1 0.200 0.07036 F1 35 70 - 130 35 m-Xylene & p-Xylene mg/Kg 3 0.0998 <0.00200 UF1 0.03610 F1 36 70 - 130 35 o-Xylene mg/Kg 6

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

#### Lab Sample ID: MB 880-25055/8 Matrix: Solid Analysis Batch: 25055

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg			05/09/22 11:01	1
Toluene	<0.00200	U	0.00200	mg/Kg			05/09/22 11:01	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg			05/09/22 11:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg			05/09/22 11:01	1
o-Xylene	<0.00200	U	0.00200	mg/Kg			05/09/22 11:01	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg			05/09/22 11:01	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130				05/09/22 11:01	1
1,4-Difluorobenzene (Surr)	89		70 - 130				05/09/22 11:01	1

#### Lab Sample ID: MB 8 Matrix: Solid Analysis Batch: 250

#### Prep Batch: 25072 Analyte Analyzed Dil Fac 05/09/22 23:59 Benzene 01 05/09/22 23:59 Toluene 01 Ethylbenzene 5/09/22 11:01 05/09/22 23:59 :0.00200 U 0.00200 mg/Kg 05/09/22 23:59 m-Xylene & p-Xylene <0.00400 U 0.00400 mg/Kg 05/09/22 11:01

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Job ID: 890-2274-1 SDG: 03E1558016

Prep Type: Total/NA

**Client Sample ID: Matrix Spike Duplicate** 

**Client Sample ID: Method Blank** 

Prep Type: Total/NA

	MB	MB						
	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Surr)	104		70 - 130				05/09/22 11:01	1
rr)	89		70 - 130				05/09/22 11:01	1
8 880-25072/5-A						Client Sa	mple ID: Metho	d Blank
055							Prep Type: 1 Prep Batch	
	МВ	MB					Trop Dater	
	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	<0.00200	U	0.00200	mg/Kg		05/09/22 11:01	05/09/22 23:59	1
	<0.00200	U	0.00200	mg/Kg		05/09/22 11:01	05/09/22 23:59	1
	<0.00200	U	0.00200	ma/Ka		05/09/22 11:01	05/09/22 23:59	1

# Released to Imaging: 7/15/2024 1:22:14 PM

Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

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

Lab Sample ID: MB 880-25072/5-A									<b>Client Sa</b>	mple ID: Metho	od Blank
Matrix: Solid										Prep Type:	Total/N/
Analysis Batch: 25055										Prep Batc	h: 25072
	ME	B MB									
Analyte	Resul	t Qualifier	RL		Unit	:	D	P	repared	Analyzed	Dil Fa
o-Xylene	<0.00200	) U	0.00200		mg/	Kg		05/0	9/22 11:01	05/09/22 23:59	
Kylenes, Total	<0.00400	) U	0.00400		mg/	Kg		05/0	9/22 11:01	05/09/22 23:59	
	МЕ	B MB									
Surrogate	%Recovery	Qualifier	Limits					P	repared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	10:	3	70 - 130					05/0	9/22 11:01	05/09/22 23:59	
1,4-Difluorobenzene (Surr)	8	9	70 - 130					05/0	9/22 11:01	05/09/22 23:59	
Aatrix: Solid								ment	Cumpic	D: Lab Control Prep Type: Prep Batc	Total/N
Matrix: Solid								ment	Cumpic	Prep Type:	Total/N/
Matrix: Solid			Spike	LCS	LCS		Ŭ	inerit	Cumpic	Prep Type:	Total/N/
Matrix: Solid Analysis Batch: 25055			Spike Added		LCS Qualifier	Unit		D	%Rec	Prep Type: Prep Batc	Total/N/
Matrix: Solid Analysis Batch: 25055 <sup>Analyte</sup>			•			Unit mg/Kg				Prep Type: Prep Batc %Rec	Total/N/
Matrix: Solid Analysis Batch: 25055 Analyte Benzene			Added	Result					%Rec	Prep Type: Prep Batc %Rec Limits	Total/N/
Matrix: Solid Analysis Batch: 25055 Analyte Benzene Toluene			<b>Added</b> 0.100	<b>Result</b> 0.07686		mg/Kg			%Rec 77	Prep Type: Prep Batc %Rec Limits 70 - 130	Total/N/
Matrix: Solid Analysis Batch: 25055 Analyte Benzene Foluene Ethylbenzene			Added 0.100 0.100	<b>Result</b> 0.07686 0.09570		mg/Kg mg/Kg			<b>%Rec</b> 77 96	Prep Type:           Prep Batc           %Rec           Limits           70 - 130           70 - 130	Total/N/
Matrix: Solid Analysis Batch: 25055 Analyte Benzene Toluene Ethylbenzene n-Xylene & p-Xylene			Added 0.100 0.100 0.100	<b>Result</b> 0.07686 0.09570 0.1080		mg/Kg mg/Kg mg/Kg			%Rec 77 96 108	Prep Type:           Prep Batc           %Rec           Limits           70 - 130           70 - 130           70 - 130	Total/N/
Matrix: Solid Analysis Batch: 25055 Analyte Benzene Toluene Ethylbenzene n-Xylene & p-Xylene	LCS LC	s	Added 0.100 0.100 0.100 0.200	Result 0.07686 0.09570 0.1080 0.2251		mg/Kg mg/Kg mg/Kg mg/Kg			%Rec 77 96 108 113	Prep Type:           Prep Batc           %Rec           Limits           70 - 130           70 - 130           70 - 130           70 - 130           70 - 130	Total/N/
Matrix: Solid Analysis Batch: 25055 Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene p-Xylene	LCS LC Recovery Qu		Added 0.100 0.100 0.100 0.200	Result 0.07686 0.09570 0.1080 0.2251		mg/Kg mg/Kg mg/Kg mg/Kg			%Rec 77 96 108 113	Prep Type:           Prep Batc           %Rec           Limits           70 - 130           70 - 130           70 - 130           70 - 130           70 - 130	Total/N/
Lab Sample ID: LCS 880-25072/1-A Matrix: Solid Analysis Batch: 25055 Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene o-Xylene Surrogate %R 4-Bromofluorobenzene (Surr)			Added 0.100 0.100 0.100 0.200 0.100	Result 0.07686 0.09570 0.1080 0.2251		mg/Kg mg/Kg mg/Kg mg/Kg			%Rec 77 96 108 113	Prep Type:           Prep Batc           %Rec           Limits           70 - 130           70 - 130           70 - 130           70 - 130           70 - 130	Total/N/

# Matrix: Solid

#### Analysis Batch: 25055

#### Prep Batch: 25072 LCSD LCSD Spike RPD %Rec Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit Benzene 0.100 0.07208 mg/Kg 72 70 - 130 6 35 Toluene 0.100 0.08611 mg/Kg 86 70 - 130 11 35 mg/Kg Ethylbenzene 0.100 0.09489 95 70 - 130 13 35 m-Xylene & p-Xylene 0.200 0.1962 mg/Kg 98 70 - 130 14 35 o-Xylene 0.100 0.1005 mg/Kg 100 70 - 130 14 35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	118		70 - 130
1,4-Difluorobenzene (Surr)	91		70 - 130

#### Lab Sample ID: 890-2252-A-5-D MS Matrix: Solid

Analysis Batch: 25055									Prep E	Batch: 25072
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U F1	0.0996	0.06588	F1	mg/Kg		66	70 - 130	
Toluene	<0.00200	U	0.0996	0.08075		mg/Kg		81	70 - 130	
Ethylbenzene	<0.00200	U	0.0996	0.09087		mg/Kg		91	70 - 130	
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1902		mg/Kg		95	70 - 130	
o-Xylene	<0.00200	U	0.0996	0.09879		mg/Kg		99	70 - 130	

#### **Eurofins Carlsbad**

Prep Type: Total/NA

**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA

# Job ID: 890-2274-1 SDG: 03E1558016

Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

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

# Lab Sample ID: 890-2252-A-5-D MS

#### Matrix: Solid Analysis Batch: 25055

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 _ 130
1,4-Difluorobenzene (Surr)	90		70 - 130

# Lab Sample ID: 890-2252-A-5-E MSD Matrix: Solid

Analysis Batch: 25055									Prep	Batch:	25072
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00200	U F1	0.0994	0.07535		mg/Kg		76	70 - 130	13	35
Toluene	<0.00200	U	0.0994	0.09914		mg/Kg		100	70 - 130	20	35
Ethylbenzene	<0.00200	U	0.0994	0.1134		mg/Kg		114	70 - 130	22	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.2395		mg/Kg		120	70 - 130	23	35
o-Xylene	<0.00200	U	0.0994	0.1232		mg/Kg		124	70 - 130	22	35
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								

70 <sub>-</sub> 130 70 <u>-</u> 130

Surrogate	%Recovery	Quaime	
4-Bromofluorobenzene (Surr)	126		
1,4-Difluorobenzene (Surr)	86		

#### Lab Sample ID: MB 880-25078/5-A Matrix: Solid Analysis Batch: 25225

-							•	
	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/09/22 11:34	05/10/22 11:39	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/09/22 11:34	05/10/22 11:39	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/09/22 11:34	05/10/22 11:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/09/22 11:34	05/10/22 11:39	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/09/22 11:34	05/10/22 11:39	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/09/22 11:34	05/10/22 11:39	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130			05/09/22 11:34	05/10/22 11:39	1
1,4-Difluorobenzene (Surr)	91		70 - 130			05/09/22 11:34	05/10/22 11:39	1

### Lab Sample ID: MB 880-25242/5-A Matrix: Solid

Analysis Batch: 25225	Ana	lysis	Batch:	25225
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	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/10/22 10:17	05/10/22 22:34	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/10/22 10:17	05/10/22 22:34	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/10/22 10:17	05/10/22 22:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/10/22 10:17	05/10/22 22:34	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/10/22 10:17	05/10/22 22:34	1
Xylenes, Total	< 0.00400	U	0.00400	mg/Kg		05/10/22 10:17	05/10/22 22:34	1

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### Job ID: 890-2274-1 SDG: 03E1558016

Prep Type: Total/NA

**Client Sample ID: Matrix Spike Duplicate** 

#### Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 25078

**Client Sample ID: Method Blank** 

Prep Type: Total/NA Prep Batch: 25242

Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

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

#### Lab Sample ID: MB 880-25242/5-A Matrix: Solid

Analysis Batch: 25225

	MB MB				
Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100	70 - 130	05/10/22 10:17	05/10/22 22:34	1
1,4-Difluorobenzene (Surr)	91	70 - 130	05/10/22 10:17	05/10/22 22:34	1

### Lab Sample ID: LCS 880-25242/1-A Matrix: Solid

#### Analysis Batch: 25225

Analysis Batch: 25225								Prep B	atch: 25242
		Spike	LCS	LCS				%Rec	
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene		0.100	0.09934		mg/Kg		99	70 - 130	
Toluene		0.100	0.1085		mg/Kg		109	70 - 130	
Ethylbenzene		0.100	0.1135		mg/Kg		114	70 - 130	
m-Xylene & p-Xylene		0.200	0.2280		mg/Kg		114	70 - 130	
o-Xylene		0.100	0.1170		mg/Kg		117	70 - 130	
	LCS LCS								

	200	200	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

#### Lab Sample ID: LCSD 880-25242/2-A Matrix: Solid Analysis Batch: 25225

Analysis Batch: 25225							Prep	Batch:	25242
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.08092		mg/Kg		81	70 - 130	20	35
Toluene	0.100	0.09358		mg/Kg		94	70 - 130	15	35
Ethylbenzene	0.100	0.09993		mg/Kg		100	70 - 130	13	35
m-Xylene & p-Xylene	0.200	0.2043		mg/Kg		102	70 - 130	11	35
o-Xylene	0.100	0.1052		mg/Kg		105	70 - 130	11	35
105									

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

# Lab Sample ID: 880-14479-A-6-D MS

#### Matrix: Solid Analysis Batch: 25225

Analysis Batch: 25225									Prep Ba	tch: 25242
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00202	U	0.0998	0.09344		mg/Kg		94	70 - 130	
Toluene	<0.00202	U	0.0998	0.1023		mg/Kg		103	70 - 130	
Ethylbenzene	<0.00202	U	0.0998	0.1059		mg/Kg		106	70 - 130	
m-Xylene & p-Xylene	< 0.00403	U	0.200	0.2174		mg/Kg		109	70 - 130	
o-Xylene	<0.00202	U	0.0998	0.1094		mg/Kg		110	70 _ 130	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene (Surr)	108		70 - 130							
1,4-Difluorobenzene (Surr)	95		70 - 130							

Job ID: 890-2274-1 SDG: 03E1558016

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA

Prep Batch: 25242

**Client Sample ID: Method Blank** 

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Lab Control Sample Dup

Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

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

Lab Sample ID: 880-14479-A-6 Matrix: Solid								Chel	11 36		Matrix Sp Prep 1	лке Du Туре: То	-
Analysis Batch: 25225												Batch	
	Sample	Sam	ple	Spike	MSD	MSD					%Rec		RP
Analyte	Result	Qual	lifier	Added	Result	Qualifier	Unit		D	%Rec	Limits	RPD	Lim
Benzene	<0.00202	U		0.0996	0.08899		mg/Kg			89	70 - 130	5	3
Toluene	<0.00202	U		0.0996	0.1075		mg/Kg			108	70 - 130	5	3
Ethylbenzene	<0.00202	U		0.0996	0.1151		mg/Kg			116	70 - 130	8	:
m-Xylene & p-Xylene	< 0.00403	U		0.199	0.2406		mg/Kg			121	70 - 130	10	;
p-Xylene	<0.00202	U		0.0996	0.1216		mg/Kg			122	70 - 130	11	
	MSD	MSD	)										
Surrogate	%Recovery	Qua	lifier	Limits									
4-Bromofluorobenzene (Surr)	117			70 - 130									
1,4-Difluorobenzene (Surr)	90			70 - 130									
ethod: 8015B NM - Diese	I Range Oi	gar	nics (DR	O) (GC)									
Lab Sample ID: MB 880-24911/	'1-A									Client Sa	ample ID:	Method	l Blar
Matrix: Solid											Prep 1	ype: To	otal/N
Analysis Batch: 24947											Prep	Batch	: <b>249</b> ′
		MB	MB										
Analyte			Qualifier	F	RL	Un	it	D	Ρ	repared	Analyz	ed	Dil F
Gasoline Range Organics GRO)-C6-C10	<	50.0	U	50	0.0	mg	/Kg		05/0	5/22 14:19	05/06/22	20:46	
Diesel Range Organics (Over C10-C28)	<	50.0	U	50	0.0	mg	/Kg		05/0	5/22 14:19	05/06/22	20:46	
Oll Range Organics (Over C28-C36)	<	50.0	U	50	0.0	mg	/Kg		05/0	5/22 14:19	05/06/22	20:46	
Surrogate	%Pace		MB Qualifier	Limits					D	repared	Analyz	vod	Dil Fa
1-Chlorooctane	///////	98	Quanner	70 - 130	)					5/22 14:19	05/06/22		
o-Terphenyl		102		70 - 130						05/22 14:19	05/06/22		
Lab Sample ID: LCS 880-24911	1/2-4							CI	liont	Sample	ID: Lab Co	ontrol S	Samn
Matrix: Solid												ype: To	
Analysis Batch: 24947												Batch	
				Spike	LCS	LCS					%Rec		
Analyte				Added	Result	Qualifier	Unit		D	%Rec	Limits		
Gasoline Range Organics				1000	1096		mg/Kg		_	110	70 - 130		
GRO)-C6-C10							5. 5						
Diesel Range Organics (Over				1000	901.0		mg/Kg			90	70 - 130		
C10-C28)													
	LCS	LCS											
Surrogate	%Recovery			Limits									
1-Chlorooctane	101			70 - 130									
o-Terphenyl	95			70 - 130									
Lab Sample ID: LCSD 880-249 <sup>.</sup>	11/3-A						CI	ient \$	Sam	ple ID: L	ab Contro	I Samp	ole Du
Matrix: Solid										-		ype: To	
Analysis Batch: 24947												Batch	
,				Spike	LCSD	LCSD					%Rec		RI
Analyte				Added		Qualifier	Unit		D	%Rec	Limits	RPD	Lin
				Augu	Result	quanner			_	/01100			

5

Job ID: 890-2274-1 SDG: 03E1558016

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2

20

Released to Imaging: 7/15/2024 1:22:14 PM

Gasoline Range Organics

(GRO)-C6-C10

1119

mg/Kg

112

70 - 130

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

Lab Sample ID: LCSD 880-2	4911/3-A					CI	ient Sa	mple ID:	Lab Contro	ol Samp	le Dup
Matrix: Solid									Prep 1	Type: To	tal/NA
Analysis Batch: 24947									Prep	Batch:	24911
			Spike	LCSD	LCSD				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Diesel Range Organics (Over			1000	924.3		mg/Kg		92	70 - 130	3	20
C10-C28)											
	LCSD	1050									
Surrogate	%Recovery		Limits								
1-Chlorooctane		Quanner	70 - 130								
o-Terphenyl	105		70 - 130 70 - 130								
	105		10-150								
Lab Sample ID: 890-2271-A-	61-E MS							Client	Sample ID	: Matrix	Spike
Matrix: Solid										Гуре: То	-
Analysis Batch: 24947										Batch:	
·	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	•	Qualifier	Added		Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics	<50.0		1000	1195		mg/Kg		119	70 - 130		
(GRO)-C6-C10		-									
Diesel Range Organics (Over	<50.0	U	1000	940.9		mg/Kg		92	70 - 130		
C10-C28)											
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane		Quanner	70 - 130								
o-Terphenyl	92		70 - 130 70 - 130								
Lab Sample ID: 890-2271-A-	61-F MSD						Client S	Sample IE	D: Matrix S	pike Du	plicate
Matrix: Solid									Prep 1	Гуре: То	tal/NA
Analysis Batch: 24947									Prep	Batch:	24911
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	<50.0	U	998	1029		mg/Kg		103	70 - 130	15	20
(GRO)-C6-C10											
Diesel Range Organics (Over	<50.0	U	998	813.9		mg/Kg		80	70 - 130	14	20
C10-C28)											
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	89		70 - 130								
o-Terphenyl	78		70 - 130								
Method: 300.0 - Anions,	Ion Chromat	ography									
		ography									
Lab Sample ID: MB 880-249	03/1-A							Client S	Sample ID:	Method	Blank
Matrix: Solid										Type: S	
Analysis Batch: 25042											
-		MB MB									
Analyte	R	esult Qualifier		RL	Unit		D	Prepared	Analyz	zed	Dil Fac
Chloride	<	5.00 U		5.00	mg/K	ίg			05/08/22	13:23	1
Lab Sample ID: LCS 880-249	903/2-A						Clier	nt Sample	D: Lab C		
Matrix: Solid									Prep	Type: S	oluble
Analysis Batch: 25042											
			Spike	LCS	LCS				%Rec		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		

Chloride

249.4

mg/Kg

100

90 - 110

Client: Ensolum

5

# **QC Sample Results**

Job ID: 890-2274-1 SDG: 03E1558016

Project/Site: PLU 30 BIG SINKS CTB Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 880-249 Matrix: Solid	7U3/3-A					UI	ent San		Lab Contro Pren	Type: Sampi	
Analysis Batch: 25042									Пер	Type. O	orubit
····,···			Spike	LCSD	LCSD				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limi
Chloride			250	243.6		mg/Kg		97	90 - 110	2	20
Lab Sample ID: 890-2271-A-5 <sup>4</sup>	1-B MS							Client	Sample ID	: Matrix	Spike
Matrix: Solid									Prep	Type: S	oluble
Analysis Batch: 25042											
	Sample	•	Spike		MS		_	~-	%Rec		
Analyte Chloride	346	Qualifier	Added 253	595.8	Qualifier	Unit mg/Kg	D	%Rec 99	Limits		
Shionde	340		200	555.0		iiig/itg		55	30 - 110		
Lab Sample ID: 890-2271-A-57	1-C MSD					C	Client S	ample ID	): Matrix Sp		
Matrix: Solid									Prep	Type: S	oluble
Analysis Batch: 25042											
Awalista	Sample	-	Spike		MSD	11. 14	-	a/ <del>-</del>	%Rec		RPD
Chlorido	Result 346	Qualifier	Added 253		Qualifier	Unit	D	%Rec	Limits	<b>RPD</b>	Limi
Chloride	340		253	597.3		mg/Kg		100	90 - 110	0	20
Lab Sample ID: MB 880-25241	I/1 <b>-A</b>							Client S	Sample ID:	Method	Blank
Matrix: Solid									Prep	Type: S	oluble
Analysis Batch: 25278											
		MB MB									
	Po	sult Qualifier		RL	Unit		D F	repared	Analyz	zed	Dil Fac
-								•	05/10/22	16.07	-
		5.00 U		5.00	mg/Kg	9		•	05/10/22	16:07	1
Chloride	<					9		•			
Chloride Lab Sample ID: LCS 880-2524	<					]		•	ID: Lab Co	ontrol Sa	ample
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid	<					9		•	ID: Lab Co		ample
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid	<		Spike	5.00		]		•	ID: Lab Co	ontrol Sa	ample
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278	<		Spike Added	5.00 LCS	mg/Kg	Unit		•	e ID: Lab Co Prep	ontrol Sa	ample
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte	<			5.00 LCS	mg/Kg	-	Clien	t Sample	e ID: Lab Co Prep %Rec	ontrol Sa	ample
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride	<br  1/2-A		Added	5.00 LCS Result	mg/Kg	<b>Unit</b> mg/Kg	Clien	t Sample %Rec 103	Rec Limits 90 - 110	ontrol Sa Type: So	ample oluble
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252	<br  1/2-A		Added	5.00 LCS Result	mg/Kg	<b>Unit</b> mg/Kg	Clien	t Sample %Rec 103	B ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro	ontrol Sampl	ample oluble e Dup
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252 Matrix: Solid	<br  1/2-A		Added	5.00 LCS Result	mg/Kg	<b>Unit</b> mg/Kg	Clien	t Sample %Rec 103	B ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro	ontrol Sa Type: So	ample oluble e Dup
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252 Matrix: Solid	<br  1/2-A		Added	5.00 LCS Result 257.0	mg/Kg	<b>Unit</b> mg/Kg	Clien	t Sample %Rec 103	B ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro	ontrol Sampl	ample oluble e Dup oluble
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252 Matrix: Solid Analysis Batch: 25278	<br  1/2-A		Added 250	5.00 LCS Result 257.0	mg/Kg LCS Qualifier	<b>Unit</b> mg/Kg	Clien	t Sample %Rec 103	B ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep	ontrol Sampl	ample oluble e Dup oluble RPD
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252 Matrix: Solid Analysis Batch: 25278 Analyte	<br  1/2-A		Added 250 Spike	5.00 LCS Result 257.0	mg/Kg LCS Qualifier	Unit mg/Kg Cli	Clien D ent San	t Sample %Rec 103 nple ID: I	Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec	ontrol Sa Type: So ol Sampl Type: So	e Dup oluble cluble RPD Limit
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252 Matrix: Solid Analysis Batch: 25278 Analyte Chloride	<br 11/2-A 241/3-A		Added 250 Spike Added	5.00 LCS Result 257.0 LCSD Result	mg/Kg LCS Qualifier	Unit mg/Kg Cli Unit	Clien D ent San	t Sample %Rec 103 nple ID: I %Rec 102	* ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110	ontrol Sa Type: So ol Sampl Type: So <u>RPD</u> 1	e Dup oluble oluble RPC Limit
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: 880-14580-A-4	<br 11/2-A 241/3-A		Added 250 Spike Added	5.00 LCS Result 257.0 LCSD Result	mg/Kg LCS Qualifier	Unit mg/Kg Cli Unit	Clien D ent San	t Sample %Rec 103 nple ID: I %Rec 102	* ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID	ontrol Sampl J Sampl Type: Sampl Type: Sa <u>RPD</u> 1 : Matrix	e Dup oluble cluble cluble RPD Limit 20 Spike
Analyte Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: 880-14580-A-4 Matrix: Solid Analysis Batch: 25278	<br 11/2-A 241/3-A		Added 250 Spike Added	5.00 LCS Result 257.0 LCSD Result	mg/Kg LCS Qualifier	Unit mg/Kg Cli Unit	Clien D ent San	t Sample %Rec 103 nple ID: I %Rec 102	* ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID	ontrol Sa Type: So ol Sampl Type: So <u>RPD</u> 1	e Dup oluble cluble cluble RPD Limit 20 Spike
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: 880-14580-A-4 Matrix: Solid	<br 11/2-A 241/3-A	5.00 U	Added 250 Spike Added	5.00 LCS Result 257.0 LCSD Result 254.6	mg/Kg LCS Qualifier	Unit mg/Kg Cli Unit	Clien D ent San	t Sample %Rec 103 nple ID: I %Rec 102	* ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID	ontrol Sampl J Sampl Type: Sampl Type: Sa <u>RPD</u> 1 : Matrix	e Dup oluble cluble cluble RPD Limit 20 Spike
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: 880-14580-A-4 Matrix: Solid Analysis Batch: 25278	<8 11/2-A 241/3-A 1-B MS Sample	5.00 U	Added 250 Spike Added 250	5.00 LCS Result 257.0 LCSD Result 254.6	mg/Kg LCS Qualifier LCSD Qualifier	Unit mg/Kg Cli Unit	Clien D ent San	t Sample %Rec 103 nple ID: I %Rec 102	* ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep	ontrol Sampl J Sampl Type: Sampl Type: Sa <u>RPD</u> 1 : Matrix	e Dup oluble cluble cluble RPD Limit 20 Spike
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: 880-14580-A Matrix: Solid Analysis Batch: 25278 Analyte Analysis Batch: 25278 Analyte	<8 11/2-A 241/3-A 1-B MS Sample	5.00 U	Added 250 Spike Added 250 Spike	5.00 LCS Result 257.0 LCSD Result 254.6	mg/Kg LCS Qualifier LCSD Qualifier	Unit mg/Kg Cli Unit mg/Kg	Clien D ent San D	t Sample %Rec 103 nple ID: I %Rec 102 Client	e ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec	ontrol Sampl J Sampl Type: Sampl Type: Sa <u>RPD</u> 1 : Matrix	e Dup oluble cluble cluble RPD Limit 20 Spike
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: 880-14580-A Matrix: Solid Analysis Batch: 25278 Analyte Chloride Chloride Chloride	<td< td=""><td>5.00 U</td><td>Added 250 Spike Added 250 Spike Added</td><td>5.00 LCS Result 257.0 LCSD Result 254.6 MS Result</td><td>mg/Kg LCS Qualifier LCSD Qualifier</td><td>Unit mg/Kg Cli Unit mg/Kg</td><td>Clien D ent San D</td><td>t Sample %Rec 103 nple ID: I %Rec 102 Client %Rec 104</td><td>e ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110</td><td>ontrol Sa Type: So ol Sampl Type: So RPD 1 : Matrix Type: So</td><td>e Dup oluble RPD Limit 20 Spike oluble</td></td<>	5.00 U	Added 250 Spike Added 250 Spike Added	5.00 LCS Result 257.0 LCSD Result 254.6 MS Result	mg/Kg LCS Qualifier LCSD Qualifier	Unit mg/Kg Cli Unit mg/Kg	Clien D ent San D	t Sample %Rec 103 nple ID: I %Rec 102 Client %Rec 104	e ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110	ontrol Sa Type: So ol Sampl Type: So RPD 1 : Matrix Type: So	e Dup oluble RPD Limit 20 Spike oluble
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: 880-14580-A-7 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: 880-14580-A-7	<td< td=""><td>5.00 U</td><td>Added 250 Spike Added 250 Spike Added</td><td>5.00 LCS Result 257.0 LCSD Result 254.6 MS Result</td><td>mg/Kg LCS Qualifier LCSD Qualifier</td><td>Unit mg/Kg Cli Unit mg/Kg</td><td>Clien D ent San D</td><td>t Sample %Rec 103 nple ID: I %Rec 102 Client %Rec 104</td><td>e ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110</td><td>ontrol Sa Type: So ol Sampl Type: So <u>RPD</u> 1 : Matrix Type: So oike Dup</td><td>e Dup oluble cluble cluble RPD Limit 20 Spike oluble</td></td<>	5.00 U	Added 250 Spike Added 250 Spike Added	5.00 LCS Result 257.0 LCSD Result 254.6 MS Result	mg/Kg LCS Qualifier LCSD Qualifier	Unit mg/Kg Cli Unit mg/Kg	Clien D ent San D	t Sample %Rec 103 nple ID: I %Rec 102 Client %Rec 104	e ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110	ontrol Sa Type: So ol Sampl Type: So <u>RPD</u> 1 : Matrix Type: So oike Dup	e Dup oluble cluble cluble RPD Limit 20 Spike oluble
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: 880-14580-A-7 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: 880-14580-A-7 Matrix: Solid Analyte Chloride Lab Sample ID: 880-14580-A-7 Matrix: Solid	<td< td=""><td>5.00 U</td><td>Added 250 Spike Added 250 Spike Added</td><td>5.00 LCS Result 257.0 LCSD Result 254.6 MS Result</td><td>mg/Kg LCS Qualifier LCSD Qualifier</td><td>Unit mg/Kg Cli Unit mg/Kg</td><td>Clien D ent San D</td><td>t Sample %Rec 103 nple ID: I %Rec 102 Client %Rec 104</td><td>e ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110</td><td>ontrol Sa Type: So ol Sampl Type: So RPD 1 : Matrix Type: So</td><td>e Dup oluble RPD Limit 20 Spike oluble</td></td<>	5.00 U	Added 250 Spike Added 250 Spike Added	5.00 LCS Result 257.0 LCSD Result 254.6 MS Result	mg/Kg LCS Qualifier LCSD Qualifier	Unit mg/Kg Cli Unit mg/Kg	Clien D ent San D	t Sample %Rec 103 nple ID: I %Rec 102 Client %Rec 104	e ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110	ontrol Sa Type: So ol Sampl Type: So RPD 1 : Matrix Type: So	e Dup oluble RPD Limit 20 Spike oluble
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: 880-14580-A-7 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: 880-14580-A-7 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: 880-14580-A-7 Matrix: Solid	<td< td=""><td>5.00 U Sample Qualifier</td><td>Added 250 Spike Added 250 Spike Added</td><td>5.00 LCS Result 257.0 LCSD Result 254.6 MS Result 14730</td><td>mg/Kg LCS Qualifier LCSD Qualifier</td><td>Unit mg/Kg Cli Unit mg/Kg</td><td>Clien D ent San D</td><td>t Sample %Rec 103 nple ID: I %Rec 102 Client %Rec 104</td><td>e ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110</td><td>ontrol Sa Type: So ol Sampl Type: So <u>RPD</u> 1 : Matrix Type: So oike Dup</td><td>e Dup oluble RPD Limit 20 Spike oluble</td></td<>	5.00 U Sample Qualifier	Added 250 Spike Added 250 Spike Added	5.00 LCS Result 257.0 LCSD Result 254.6 MS Result 14730	mg/Kg LCS Qualifier LCSD Qualifier	Unit mg/Kg Cli Unit mg/Kg	Clien D ent San D	t Sample %Rec 103 nple ID: I %Rec 102 Client %Rec 104	e ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110	ontrol Sa Type: So ol Sampl Type: So <u>RPD</u> 1 : Matrix Type: So oike Dup	e Dup oluble RPD Limit 20 Spike oluble
Chloride Lab Sample ID: LCS 880-2524 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: LCSD 880-252 Matrix: Solid Analysis Batch: 25278 Analyte Chloride Lab Sample ID: 880-14580-A-4	<td< td=""><td>5.00 U Sample Qualifier</td><td>Added 250 Spike Added 250 Spike Added 5040</td><td>5.00 LCS Result 257.0 LCSD Result 254.6 MS Result 14730</td><td>mg/Kg Qualifier LCSD Qualifier MS Qualifier</td><td>Unit mg/Kg Cli Unit mg/Kg</td><td>Clien D ent San D</td><td>t Sample %Rec 103 nple ID: I %Rec 102 Client %Rec 104</td><td>e ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110</td><td>ontrol Sa Type: So ol Sampl Type: So <u>RPD</u> 1 : Matrix Type: So oike Dup</td><td>e Dup oluble RPD Limit 20 Spike oluble</td></td<>	5.00 U Sample Qualifier	Added 250 Spike Added 250 Spike Added 5040	5.00 LCS Result 257.0 LCSD Result 254.6 MS Result 14730	mg/Kg Qualifier LCSD Qualifier MS Qualifier	Unit mg/Kg Cli Unit mg/Kg	Clien D ent San D	t Sample %Rec 103 nple ID: I %Rec 102 Client %Rec 104	e ID: Lab Co Prep %Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110	ontrol Sa Type: So ol Sampl Type: So <u>RPD</u> 1 : Matrix Type: So oike Dup	e Dup oluble RPD Limit 20 Spike oluble

Eurofins Carlsbad

# **QC Association Summary**

Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

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#### Job ID: 890-2274-1 SDG: 03E1558016

# **GC VOA**

### Prep Batch: 24964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2274-1	FS01	Total/NA	Solid	5035	
890-2274-2	FS02	Total/NA	Solid	5035	
890-2274-3	FS03	Total/NA	Solid	5035	
890-2274-4	FS04	Total/NA	Solid	5035	
890-2274-5	FS05	Total/NA	Solid	5035	
MB 880-24964/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-24964/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-24964/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-14398-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-14398-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### Analysis Batch: 25052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2274-1	FS01	Total/NA	Solid	8021B	24964
890-2274-2	FS02	Total/NA	Solid	8021B	24964
890-2274-3	FS03	Total/NA	Solid	8021B	24964
890-2274-4	FS04	Total/NA	Solid	8021B	24964
890-2274-5	FS05	Total/NA	Solid	8021B	24964
MB 880-24964/5-A	Method Blank	Total/NA	Solid	8021B	24964
LCS 880-24964/1-A	Lab Control Sample	Total/NA	Solid	8021B	24964
LCSD 880-24964/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	24964
880-14398-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	24964
880-14398-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	24964

#### Analysis Batch: 25055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2274-3	FS03	Total/NA	Solid	8021B	25072
MB 880-25055/8	Method Blank	Total/NA	Solid	8021B	
MB 880-25072/5-A	Method Blank	Total/NA	Solid	8021B	25072
LCS 880-25072/1-A	Lab Control Sample	Total/NA	Solid	8021B	25072
LCSD 880-25072/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	25072
890-2252-A-5-D MS	Matrix Spike	Total/NA	Solid	8021B	25072
890-2252-A-5-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	25072

#### Prep Batch: 25072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2274-3	FS03	Total/NA	Solid	5035	
MB 880-25072/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-25072/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-25072/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2252-A-5-D MS	Matrix Spike	Total/NA	Solid	5035	
890-2252-A-5-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
MB 880-25078/5-A	Method Blank	Total/NA	Solid	5035	

#### Analysis Batch: 25150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2274-1	FS01	Total/NA	Solid	Total BTEX	
890-2274-2	FS02	Total/NA	Solid	Total BTEX	

Eurofins Carlsbad

# **QC Association Summary**

Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

# GC VOA (Continued)

### Analysis Batch: 25150 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2274-3	FS03	Total/NA	Solid	Total BTEX	
890-2274-4	FS04	Total/NA	Solid	Total BTEX	
890-2274-5	FS05	Total/NA	Solid	Total BTEX	
890-2274-6	FS06	Total/NA	Solid	Total BTEX	
Analysis Batch: 25225					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2274-6	FS06	Total/NA	Solid	8021B	25242
MB 880-25078/5-A	Method Blank	Total/NA	Solid	8021B	25078
MB 880-25242/5-A	Method Blank	Total/NA	Solid	8021B	25242
LCS 880-25242/1-A	Lab Control Sample	Total/NA	Solid	8021B	25242
LCSD 880-25242/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	25242
880-14479-A-6-D MS	Matrix Spike	Total/NA	Solid	8021B	25242
880-14479-A-6-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	25242
Prep Batch: 25242					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2274-6	FS06	Total/NA	Solid	5035	
MB 880-25242/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-25242/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-25242/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-14479-A-6-D MS	Matrix Spike	Total/NA	Solid	5035	
880-14479-A-6-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### GC Semi VOA

#### Prep Batch: 24911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2274-1	FS01	Total/NA	Solid	8015NM Prep	
890-2274-2	FS02	Total/NA	Solid	8015NM Prep	
890-2274-3	FS03	Total/NA	Solid	8015NM Prep	
890-2274-4	FS04	Total/NA	Solid	8015NM Prep	
890-2274-5	FS05	Total/NA	Solid	8015NM Prep	
890-2274-6	FS06	Total/NA	Solid	8015NM Prep	
MB 880-24911/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-24911/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-24911/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2271-A-61-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2271-A-61-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 24947

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-2274-1	FS01	Total/NA	Solid	8015B NM	24911
890-2274-2	FS02	Total/NA	Solid	8015B NM	24911
890-2274-3	FS03	Total/NA	Solid	8015B NM	24911
890-2274-4	FS04	Total/NA	Solid	8015B NM	24911
MB 880-24911/1-A	Method Blank	Total/NA	Solid	8015B NM	24911
LCS 880-24911/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	24911
LCSD 880-24911/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	24911
890-2271-A-61-E MS	Matrix Spike	Total/NA	Solid	8015B NM	24911
890-2271-A-61-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	24911

Eurofins Carlsbad

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#### Job ID: 890-2274-1 SDG: 03E1558016

# **QC Association Summary**

Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB Job ID: 890-2274-1 SDG: 03E1558016

# GC Semi VOA

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2274-5	FS05	Total/NA	Solid	8015B NM	24911
890-2274-6	FS06	Total/NA	Solid	8015B NM	24911
nalysis Batch: 250	90				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2274-1	FS01	Total/NA	Solid	8015 NM	
890-2274-2	FS02	Total/NA	Solid	8015 NM	
890-2274-3	FS03	Total/NA	Solid	8015 NM	
890-2274-4	FS04	Total/NA	Solid	8015 NM	
890-2274-5	FS05	Total/NA	Solid	8015 NM	
890-2274-6	FS06	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 24903

890-2274-2	FS02	Total/NA	Solid	8015 NM	_
890-2274-3	FS03	Total/NA	Solid	8015 NM	8
890-2274-4	FS04	Total/NA	Solid	8015 NM	
890-2274-5	FS05	Total/NA	Solid	8015 NM	9
890-2274-6	FS06	Total/NA	Solid	8015 NM	
HPLC/IC					
Leach Batch: 24903					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2274-1	FS01	Soluble	Solid	DI Leach	
890-2274-2	FS02	Soluble	Solid	DI Leach	
890-2274-3	FS03	Soluble	Solid	DI Leach	
890-2274-4	FS04	Soluble	Solid	DI Leach	
890-2274-5	FS05	Soluble	Solid	DI Leach	
MB 880-24903/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-24903/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-24903/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2271-A-51-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2271-A-51-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 25042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2274-1	FS01	Soluble	Solid	300.0	24903
890-2274-2	FS02	Soluble	Solid	300.0	24903
890-2274-3	FS03	Soluble	Solid	300.0	24903
890-2274-4	FS04	Soluble	Solid	300.0	24903
890-2274-5	FS05	Soluble	Solid	300.0	24903
MB 880-24903/1-A	Method Blank	Soluble	Solid	300.0	24903
LCS 880-24903/2-A	Lab Control Sample	Soluble	Solid	300.0	24903
LCSD 880-24903/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	24903
890-2271-A-51-B MS	Matrix Spike	Soluble	Solid	300.0	24903
890-2271-A-51-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	24903

#### Leach Batch: 25241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2274-6	FS06	Soluble	Solid	DI Leach	
MB 880-25241/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-25241/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-25241/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-14580-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-14580-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

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Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

#### HPLC/IC

### Analysis Batch: 25278

nalysis Batch: 25278					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-2274-6	FS06	Soluble	Solid	300.0	25241
MB 880-25241/1-A	Method Blank	Soluble	Solid	300.0	25241
_CS 880-25241/2-A	Lab Control Sample	Soluble	Solid	300.0	25241
_CSD 880-25241/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	25241
80-14580-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	25241
80-14580-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	25241

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Job ID: 890-2274-1 SDG: 03E1558016 Project/Site: PLU 30 BIG SINKS CTB

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Job ID: 890-2274-1 SDG: 03E1558016

## Lab Sample ID: 890-2274-1 Matrix: Solid

Lab Sample ID: 890-2274-2

Lab Sample ID: 890-2274-3

Matrix: Solid

Matrix: Solid

Client Sample ID: FS01 Date Collected: 05/03/22 11:00 Date Received: 05/03/22 16:45

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			4.98 g	5 mL	24964	05/06/22 11:22	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25052	05/09/22 01:57	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25150	05/09/22 15:24	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25090	05/09/22 11:58	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	24911	05/05/22 14:19	DM	XEN MID
Total/NA	Analysis	8015B NM		5			24947	05/07/22 08:09	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	24903	05/05/22 13:24	SC	XEN MID
Soluble	Analysis	300.0		1			25042	05/08/22 17:23	СН	XEN MID

# Client Sample ID: FS02

# Date Collected: 05/03/22 11:05

Date Received: 05/03/22 16:45

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	24964	05/06/22 11:22	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25052	05/09/22 02:17	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25150	05/09/22 15:24	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25090	05/09/22 11:58	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	24911	05/05/22 14:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1			24947	05/07/22 02:19	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	24903	05/05/22 13:24	SC	XEN MID
Soluble	Analysis	300.0		1			25042	05/08/22 17:32	СН	XEN MID

# Client Sample ID: FS03

# Date Collected: 05/03/22 11:10

#### Date Received: 05/03/22 16:45

#### 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 24964 05/06/22 11:22 MR XEN MID Total/NA Analysis 8021B 1 5 mL 5 mL 25052 05/09/22 02:38 MR XEN MID Total/NA Prep 5035 5.01 g 5 mL 25072 05/09/22 11:01 MR XEN MID Total/NA Analysis 8021B 50 25055 05/10/22 02:23 MR XEN MID Total/NA Analysis Total BTEX 25150 05/09/22 15:24 A.I XEN MID 1 Total/NA Analysis 8015 NM 25090 05/09/22 11:58 XEN MID 1 AJ Total/NA Prep 8015NM Prep 10.04 g 24911 05/05/22 14:19 DM XEN MID 10 mL Total/NA Analysis 8015B NM 5 24947 05/07/22 08:29 AJ XEN MID Soluble Leach DI Leach 5.03 g 50 mL 24903 05/05/22 13:24 SC XEN MID Soluble 300.0 25042 05/08/22 17:41 СН XEN MID Analysis 1

Project/Site: PLU 30 BIG SINKS CTB

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12 13

Job ID: 890-2274-1 SDG: 03E1558016

### Lab Sample ID: 890-2274-4 Matrix: Solid

Lab Sample ID: 890-2274-5

Lab Sample ID: 890-2274-6

Matrix: Solid

Matrix: Solid

Date Collected: 05/03/22 11:15 Date Received: 05/03/22 16:45

**Client Sample ID: FS04** 

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			4.99 g	5 mL	24964	05/06/22 11:22	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25052	05/09/22 02:58	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25150	05/09/22 15:24	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25090	05/09/22 11:58	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	24911	05/05/22 14:19	DM	XEN MID
Total/NA	Analysis	8015B NM		5			24947	05/07/22 08:49	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	24903	05/05/22 13:24	SC	XEN MID
Soluble	Analysis	300.0		1			25042	05/08/22 17:50	СН	XEN MID

# **Client Sample ID: FS05**

# Date Collected: 05/03/22 11:10

Date Received: 05/03/22 16:45

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	24964	05/06/22 11:22	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25052	05/09/22 03:19	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25150	05/09/22 15:24	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25090	05/09/22 11:58	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	24911	05/05/22 14:19	DM	XEN MID
Total/NA	Analysis	8015B NM		5			24949	05/07/22 08:29	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	24903	05/05/22 13:24	SC	XEN MID
Soluble	Analysis	300.0		1			25042	05/08/22 17:59	СН	XEN MID

# **Client Sample ID: FS06**

# Date Collected: 05/03/22 11:05

# Date Received: 05/03/22 16:45

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	25242	05/10/22 10:17	MR	XEN MID
Total/NA	Analysis	8021B		200			25225	05/11/22 01:40	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25150	05/09/22 15:24	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25090	05/09/22 11:58	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	24911	05/05/22 14:19	DM	XEN MID
Total/NA	Analysis	8015B NM		5			24949	05/07/22 08:49	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	25241	05/10/22 10:17	SC	XEN MID
Soluble	Analysis	300.0		1			25278	05/10/22 17:54	СН	XEN MID

#### Laboratory References:

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

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### Laboratory: Eurofins Midland

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

hority		Program	Identification Number	Expiration Date	
as		NELAP	T104704400-21-22	06-30-22	
The following analytes a the agency does not off		, but the laboratory is not certif	fied by the governing authority. This list ma	ay include analytes for which	
Analysis Method	Prep Method	Matrix	Analyte		
8015 NM		Solid	Total TPH		
Total BTEX		Solid	Total BTEX		
					- I

Eurofins Carlsbad

Job ID: 890-2274-1 SDG: 03E1558016 Project/Site: PLU 30 BIG SINKS CTB

#### Job ID: 890-2274-1 SDG: 03E1558016

lethod	Method Description	Protocol	Laboratory
021B	Volatile Organic Compounds (GC)	SW846	XEN MID
otal BTEX	Total BTEX Calculation	TAL SOP	XEN MID
015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
0.00	Anions, Ion Chromatography	MCAWW	XEN MID
035	Closed System Purge and Trap	SW846	XEN MID
015NM Prep	Microextraction	SW846	XEN MID
Leach	Deionized Water Leaching Procedure	ASTM	XEN 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:

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

Eurofins Carlsbad

Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

FS01

FS02

FS03

FS04

FS05

FS06

**Client Sample ID** 

Lab Sample ID

890-2274-1

890-2274-2

890-2274-3

890-2274-4

890-2274-5

890-2274-6

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Matrix	Collected	Received	Depth
Solid	05/03/22 11:00	05/03/22 16:45	0.5'
Solid	05/03/22 11:05	05/03/22 16:45	0.5'
Solid	05/03/22 11:10	05/03/22 16:45	0.5'
Solid	05/03/22 11:15	05/03/22 16:45	0.5'
Solid	05/03/22 11:10	05/03/22 16:45	0.5'
Solid	05/03/22 11:05	05/03/22 16:45	0.5'

				SDG: 03E1558016	2
	Collected	Received	Danith		3
•	05/03/22 11:00	05/03/22 16:45	Depth 0.5'		
	05/03/22 11:05	05/03/22 16:45	0.5'		4
	05/03/22 11:10	05/03/22 16:45	0.5'		
	05/03/22 11:15	05/03/22 16:45	0.5'		5
	05/03/22 11:10	05/03/22 16:45	0.5'		C
	05/03/22 11:05	05/03/22 16:45	0.5'		6
					7
					8
					0
					9
					10
					44
					12
					13
					14

#### Job ID: 890-2274-1 SDG: 03E1558016

	Youro	Yonro	Sting	DIM	and, TX [43	2) 704-5440.	San Antonio	Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334	Work Order No:	No:	1
	VALICO			i X	Paso. TX (9 bbs. NM (5	15) 585-3443 75) 392-7550	Carlsbad, N	EL Pako, TX (915) 585-3443, Lubbock, TX (809) 794-1279 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199	www.xenco.com	o.com Page 1 of	Ţ
TAU	TALOMA MO	MORRISSEY		Bill to: (if different)	rent)	ADRIAN		BALER	Work Or	Work Order Comments	
Ensolum	2			Company Name:	ne:	XTD	ENERUN	A	Program: UST/PST PRP	Brownfields RRC	Superfund
leon w	201 N. Marianfeld St.	A St. Suile	6 400	Address:		3104	E. GRE	WHEEN ST	State of Project:		
Midland	14 TY PI	10664		City, State ZIP:	4	Carlsp	Carlsbod, NM	02899 W	Reporting: Level II Level III		Level N
334.	333. 257. 157. 1307	4	Email:	Email: LMOrNSSEY	200	@ entolum . com	M.CON		Deliverables: EDD	ADaPT C Other:	
PLUX	PLUA 30 BIG SINESCTB	VESCTB	Tum	Turn Around	-			ANALYSIS REQUEST	DUEST	Preservative Codes	odes
0361	0361558016	1.1	Routine	- Bush	Pres. Code					None: NO DI	DI Water: H <sub>2</sub> O
		2012.0	Due Date:					-		Cool: Cool M	MeOH: Me
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nr	Port Marine	C		C	Т					53 57 7 26	
+		Nor No	Ĕ	Ter No	T					Nauso Manic	
ŧ	Ves No	Thermometer ID:		LOO WA	6ara	-	_	890-2274 Chain of Custody	in of Custody	Na.5.0.: NaSo	
Cooler Custody Seals: Y	Yes No N/A	Temperature Reading:	e Reading:	0.0	1	50		1 1		Zn Acetate+NaOH: Zn	
		Corrected Temperature:	emperature:		П	100				NaOH+Ascorbic Acid: SAPC	SAPC
Sample Identification	Matrix	-	Time Sampled	Depth Grab/ Comp	b/ #of	147	HALL			Sample Comments	ents
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			1110		-		-				
			5111				-				
	-		1110								
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	-0008 / 8 00		BRCRA 13DD	13DPM Texas 11	- 4	Sh As Ba Be B	3	Ca Cr Co Cu Fe Pb	Cu Fe Pb Ma Mn Mo Ni K Se Aa SiO, I	Se Ag SiO, Na Sr TI Sn U V Zn	
rcle Method(s) and Met	Circle Method(s) and Metal(s) to be analyzed	alyzed or	TCLP/S	TCLP/SPLP 6010 : 8RCRA	RCRA S	b As Ba	Be Cd C	Sh As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U		Hg: 1631 / 245.1 / 7470 / 7471	
tit document and re moo will be liable or nimmum charge of 1	Motice: Signature of this document and relinquishment of samples contributes a valid purchase order from Gi of service. Eurofins Xenco with be liable only for the cost of samples and thull not assume any responsibility fo of Eurofins Xenco. A minimum charge of \$65.00 will be applied to each project and a charge of \$5 for each s	ples contributes a v ples and shall not i to each project at	alid purchase ord assume any respo ed a charge of \$5	er from client com nsibility for any los for each sample su	pany to Euro ses or expen bmitted to E	Ins Xenco, Its a bes incurred by urolins Xenco,	filiates and so the client if su but not analyo	Notice: Signature of this document and relinquishment of samples constitutes is vaid purchase order from client company to Eurofins Xenco. Its affiliates and subcontractors. It subges standard items and conditions of services. Eurofins Xenco will be lable only for the cost of samples and shall not assume any responsibility for any losses of expenses houried by the client if such losses are due to discumstances byond the control of survives. A minimum charge of \$65.00 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 responsed.	terms and conditions i beyond the control niess previously negotisted.		
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14

Job Number: 890-2274-1 SDG Number: 03E1558016

List Source: Eurofins Carlsbad

# Login Sample Receipt Checklist

Client: Ensolum

Login Number: 2274 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 ampered with.	True	
amples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
OC is present.	True	
OC is filled out in ink and legible.	True	
OC is filled out with all pertinent information.	True	
the Field Sampler's name present on COC?	True	
here are no discrepancies between the containers received and the COC.	True	
mples are received within Holding Time (excluding tests with immediate s)	True	
ample containers have legible labels.	True	
ntainers are not broken or leaking.	True	
mple collection date/times are provided.	True	
ppropriate sample containers are used.	True	
ample bottles are completely filled.	True	
ample Preservation Verified.	N/A	
nere is sufficient vol. for all requested analyses, incl. any requested S/MSDs	True	

N/A

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

14

Job Number: 890-2274-1 SDG Number: 03E1558016

List Source: Eurofins Midland

List Creation: 05/05/22 11:31 AM

# Login Sample Receipt Checklist

Client: Ensolum

Login Number: 2274 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").



# APPENDIX E

# **NMOCD** Notifications

Released to Imaging: 7/15/2024 1:22:14 PM

 
 From:
 Aimee Cole

 To:
 Tacoma Morrissey

 Subject:
 FW: XTO Site Activities for the week of April 21st

 Date:
 Monday, May 2, 2022 12:23:00 PM

 Attachments:
 image001.png image002.png image003.png

image004.png



Aimee Cole Senior Managing Scientist 720-384-7365 Ensolum, LLC in f Y

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Friday, April 29, 2022 10:00 AM
To: ocd.enviro@state.nm.us; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hamlet,
Robert, EMNRD <Robert.Hamlet@state.nm.us>; Nobui, Jennifer, EMNRD
<Jennifer.Nobui@state.nm.us>; Chad.Hensley@state.nm.us
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Baker, Adrian
<adrian.baker@exxonmobil.com>; Aimee Cole <acole@ensolum.com>
Subject: XTO Site Activities for the week of April 21st

# [ \*\*EXTERNAL EMAIL\*\*]

All,

XTO plans to complete final sampling activities at the following sites the week of May 2, 2022.

Monday

- PLU 30 Big Sinks CTB / nAPP2206853301, nAPP2208351954, nAPP2209137379

Tuesday

- PLU 30 Big Sinks CTB / nAPP2206853301, nAPP2208351954, nAPP2209137379

#### Wednesday

- ADU 624 / NAPP2123634554

Thursday

- ADU 624 / NAPP2123634554

Friday

- ADU 624 / NAPP2123634554

Thank you,

### Garrett Green

Environmental Coordinator Delaware Business Unit (575) 200-0729 <u>Garrett.Green@ExxonMobil.com</u>

XTO Energy, Inc. 3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

From:	Hamlet, Robert, EMNRD
To:	<u>Green, Garrett J</u>
Cc:	<u>Tacoma Morrissey; DelawareSpills /SM; Bratcher, Mike, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD</u>
Subject:	RE: [EXTERNAL] XTO 48 Hour Liner Inspection PLU 30 Big Sinks CTB - NAPP2206853301, NAPP2208351954, & NAPP2209137379
Date:	Friday, April 29, 2022 9:31:38 AM

## [ \*\*EXTERNAL EMAIL\*\*]

Garrett,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Robert Hamlet • Environmental Specialist - Advanced Environmental Bureau EMNRD - Oil Conservation Division 811 S. First Street | Artesia, NM 88210 575.909.0302 | robert.hamlet@state.nm.us http://www.emnrd.state.nm.us/OCD/



From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Thursday, April 28, 2022 4:39 PM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Venegas, Victoria, EMNRD
<Victoria.Venegas@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Enviro,
OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; DelawareSpills /SM
<DelawareSpills@exxonmobil.com>

Subject: [EXTERNAL] XTO 48 Hour Liner Inspection PLU 30 Big Sinks CTB - NAPP2206853301, NAPP2208351954, & NAPP2209137379

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

Good afternoon,

This is sent as a 48-hour notification, XTO is scheduled to inspect the lined containment at PLU 30 Big Sinks CTB for three releases that occurred at the facility. Release dates are as follows (2/24/2022, 3/14/2022 and 3/19/2022), on Monday, May 2, 2022, at 10am MST. 24 hour release notifications were sent out on Friday, February 25, 2022 11:09 AM, Monday, March 14, 2022 3:05 PM and Saturday, March 19, 2022 12:47 PM since the releases were greater than 25 barrels in volume. Please call us with any questions or concerns.

GPS Coordinates: (32.10395, -103.82149)

Thank you,

#### **Garrett Green**

Environmental Coordinator Delaware Business Unit (575) 200-0729 <u>Garrett.Green@ExxonMobil.com</u>

XTO Energy, Inc. 3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729 District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources Department

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

)

Incident ID	
District RP	
Facility ID	
Application ID	

# **Release Notification**

# **Responsible Party**

Responsible Party XTO Energy	OGRID 5380	
Contact Name Adrian Baker	Contact Telephone 432-236-3808	
Contact email adrian.baker@exxonmobil.com       Incident # (assigned by OCD)		
Contact mailing address 6401 Holiday Hill Rd Bldg 5, Midland, Texas, 79707		

# **Location of Release Source**

Latitude 32.10407

Longitude	-103.82134
(NAD 83 in decimal degrees to 5 deci	mal places)

Site Name PLU 30 Big Sinks	Site Type CTB
Date Release Discovered 03/19/2022	API# (if applicable)

Unit Letter	Section	Township	Range	County
F	30	25S	31E	Eddy

Surface Owner: State 🗷 Federal 🗌 Tribal 🗌 Private (Name: \_

# Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

▼ Crude Oil	Volume Released (bbls) 145.52	Volume Recovered (bbls) 144.00	
▼ Produced Water	Volume Released (bbls) 97.01	Volume Recovered (bbls) 96.00	
	Is the concentration of total dissolved solids (TDS) 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)	
bounch	hphragm on the water dump of the separator failed, send ng betty and battery ESD into containment and misting tor has been retained for remediation purposes.	l ling fluids to the skim tank. Fluids then released from pad. All free fluids were recovered. A third-party	

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NA

# Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? X Yes No	If YES, for what reason(s) does the responsible party consider this a major release? A release equal to or greater than 25 barrels.
If YES, was immediate ne	otice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Yes, by Garrett Green to P PM via email.	Mike Bratcher; Victoria Venegas; Rob Hamlet; ocd.enviro@state.nm.us on Saturday, March 19, 2022 12:47

# **Initial Response**

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

 $\checkmark$  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 <u>not</u> 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:	Title: SSHE Coordinator
Signature: Mah Jul	Date:
email:	Telephone: 432-236-3808
OCD Only	
Received by:	Date:

Location:	PLU 30 Big Sinks CTB		
Spill Date:	3/19/2022		
	Area 1		-
Approximate A	rea =	1347.50	cu.ft.
	VOLUME OF LEAK		
Total Crude Oil	=	144.00	bbls
Total Produced	Water =	96.00	bbls
	Area 2		
Approximate A	rea =	5696.00	sq. ft.
Average Satura	tion (or depth) of spill =	1.00	inches
Average Porosi	zy Factor =	0.03	

VOLUME OF LEAK	
Total Crude Oil =	1.52 bbls
Total Produced Water =	1.01 bbls

TOTAL VOLUME OF LEAK						
Total Crude Oil =	145.52	bbls				
Total Produced Water =	97.01	bbls				
TOTAL VOLUME RECOVERED						
Total Crude Oil =	144.00	bbls				
Total Produced Water =	96.00	bbls				

Received by OCD: 6/28/2024 6:18:11 PM Form C-141 State of New Mexico

Oil Conservation Division

Page 3

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NAPP2209137379

Incident ID NAPP220913737 District RP Facility ID Application ID

# Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	> 100 (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 <b>not</b> 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
- $\square$  Depth to water determination
- Determination of water sources and significant watercourses within <sup>1</sup>/<sub>2</sub>-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

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

Received by OCD: 6/28/2024 6:18:11 PM Form C-141 State of New Mexico		Page 139 of 324		
	Oil Conservation Division		Incident ID	NAPP2209137379
Page 4			District RP	
			Facility ID	
			Application ID	
regulations all operators are required public health or the environment. Th failed to adequately investigate and re addition, OCD acceptance of a C-141 and/or regulations. Printed Name: <u>Garrett Green</u> Signature: <u>Signature:</u>		and perform co s not relieve the undwater, surfa bility for compl	prrective actions for rele e operator of liability sho ce water, human health liance with any other feo ntal Coordinator	ases which may endanger ould their operations have or the environment. In
OCD Only				
Received by:		Date:		

Received by OCD: 6/28/2024 6:18:11 PM Form C-141 State of New Mexico

Oil Conservation Division

<u>Remediation Plan Checklist</u>: Each of the following items must be included in the plan.

Incident ID	NAPP2209137379
District RP	
Facility ID	
Application ID	

# **Remediation Plan**

Detailed description of proposed remediation technique Scaled sitemap with GPS coordinates showing delineation points Estimated volume of material to be remediated Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required) Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation. Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction. Extents of contamination must be fully delineated. Contamination does not cause an imminent risk to human health, the environment, or groundwater. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. \_\_\_\_\_ Title: Environmental Coordinator Printed Name: Garrett Green Signature: Date: <u>3/6/2023</u> email: garrett.green@exxonmobil.com Telephone: <u>575</u>-200-0729 **OCD Only** Received by: Date: Approved Approved with Attached Conditions of Approval Denied Deferral Approved Signature: Date:

Page 5

# **E** ENSOLUM

March 6, 2022

**New Mexico Oil Conservation Division** New Mexico Energy, Minerals, and Natural Resources Department 1220 South St. Francis Drive Santa Fe, New Mexico 87505

#### Re: Deferral Request Addendum PLU 30 Big Sinks Battery Incident Numbers NAPP2206853301, NAPP2208351954, & NAPP2209137379 Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this *Deferral Request Addendum* (*Addendum*) to document assessment and remediation activities completed at the Poker Lake Unit (PLU) 30 Big Sinks Battery (Site). This *Addendum* details the additional remediation activities completed at the Site in response to the New Mexico Oil Conservation Division (NMOCD) denial of the original *Deferral Request*. In the denial, NMOCD indicated additional depth to water confirmation and excavation of accessible impacted soil was required. Based on the additional remediation activities described below, XTO is submitting this *Addendum* and requesting deferral of final remediation for Incident Numbers NAPP2206853301, NAPP2208351954, and NAPP2209137379 until the Site is reconstructed and/or the well pad is abandoned.

#### BACKGROUND

The Site is located in Unit F, Section 30, Township 25 South, Range 31 East, in Eddy County, New Mexico (32.10395°, -103.82149°) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management (BLM).

#### Incident Number NAPP2206853301

On February 24, 2022, a water dump washed out on a separator, causing the skim tank to overflow and release approximately 99.23 barrels (bbls) of crude oil into lined containment and onto the pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 99 bbls of crude oil were recovered from within the lined containment. XTO reported the release to the NMOCD via email on February 25, 2022, and submitted a Release Notification Form C-141 (Form C-141) on March 9, 2022. The release was assigned Incident Number NAPP2206853301.

#### Incident Number NAPP2208351954

On March 14, 2022, a diaphragm failed on a 6-inch water dump, causing the skim tank to overflow and release approximately 64.2 bbls of crude oil and 16.05 bbls of produced water into lined containment and onto the pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids;

Ensolum, LLC | Environmental, Engineering & Hydrogeologic Consultants 705 W. Wadley, Suite 210 | Midland, TX 78209 | ensolum.com Texas PG Firm No. 50588 | Texas PE Firm No. F-21843 XTO Energy, Inc Deferral Request Addendum PLU 30 Big Sinks Battery

approximately 64 bbls of crude oil and 16 bbls of produced water were recovered from within the lined containment. XTO reported the release to the NMOCD via email on March 14, 2022, and submitted a Form C-141 on March 24, 2022. The release was assigned Incident Number NAPP2208351954.

#### Incident Number NAPP2209137379

On March 19, 2022, a diaphragm on a water dump failed, causing the skim tank to overflow and release approximately 145.52 bbls of crude oil and 97.01 bbls of produced water into lined containment and onto the pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 144 bbls of crude oil and 96 bbls of produced water were recovered from within the lined containment. XTO reported the release to the NMOCD via email on March 19, 2022, and submitted a Form C-141 on April 1, 2022. The release was assigned Incident Number NAPP2209137379.

A *Deferral Request* submitted on May 25, 2022 detailed Site characterization according to Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Results from the Site characterization are presented on page 3 of the Form C-141, Site Assessment/Characterization. Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

A 48-hour advance notice of liner inspection was provided via email to the NMOCD District II. A liner integrity inspection was conducted May 2, 2022. Upon inspection, the liner was determined to be competent. Photographic documentation was completed during the liner inspection and a photographic log is included in Appendix A. The release areas outside of containment overlapped for all three releases and were addressed concurrently.

Between April 2022 and May 2022, XTO conducted assessment, delineation, and excavation activities in response to the releases. An estimated 30 cubic yards of accessible impacted soil was excavated from the Site. To address residual petroleum hydrocarbon impacts left in place, a 5 percent (%) solution of Micro-Blaze<sup>®</sup> with freshwater was applied to the impacted area to promote natural attenuation of the hydrocarbons through biodegradation. Based on the remedial activities and laboratory analytical results from the soil sampling events, XTO submitted a *Deferral Request* on May 25, 2022, requesting to defer impacted soil immediately adjacent to and in between active production equipment until major facility reconstruction or abandonment.

On September 26, 2022, NMOCD denied the *Deferral Request* for Incident Number nAPP2209137379 for the following reasons:

• The deferral request is denied. Depth to groundwater is not adequately identified. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided. If evidence of depth to ground water within a ½ mile radius of the site cannot be provided, impacted soils will need to meet Table 1 Closure Criteria for ground water at a depth of 50 feet or less. As much of the contaminated soil outside the secondary containment area should be removed safely with alternative methods. Delineation up against



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and under the containment needs to occur to define edge of release. The work will need to occur in 90 days after the report has been reviewed.

#### **DEPTH TO WATER CONFIRMATION**

In an effort to confirm the depth to groundwater beneath the Site, Ensolum personnel oversaw installation of a soil boring within 0.5 miles of the Site on June 22, 2022, utilizing a truck-mounted air rotary rig. The soil boring (C-4624) was permitted by the New Mexico Office of the State Engineer (NMOSE) and was advanced to a total depth of 120 feet below ground surface (bgs). An Ensolum geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activities. The lithologic/soil sampling log is included in Appendix B. The location of the borehole is approximately 0.20 miles southeast of the Site and is depicted on Figure 1. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 100 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. Based on the confirmed depth to water greater than 100 feet bgs, the Table I Closure Criteria assigned in the original *Deferral Request* are applicable and appropriate for protection of groundwater at this Site.

#### ADDITIONAL EXCAVATION AND DELINEATION SOIL SAMPLING ACTIVITIES

Between October 19, 2022 and November 4, 2022, excavation activities were completed via hand shoveling to remove accessible impacted soil to the maximum extent practicable (MEP) as indicated by visible staining and field screening activities for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach<sup>®</sup> chloride QuanTab<sup>®</sup> test strips. The excavation depth was limited to an approximate depth of 1-foot bgs due to refusal with hand shovels. The release area was not accessible with mechanical equipment due to the surrounding active production equipment preventing access to the area of the release extent.

Following removal of impacted soil to the MEP, Ensolum personnel collected 5-point composite soil samples at a frequency of every 200 square feet from the floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01A through FS06A were collected from the floor of the excavation at a depth of 1-foot bgs. In addition, boreholes BH03 and BH04 were collected within the release extent, as close to the secondary containment as possible, on the south and east sides respectively, at a depth of 1.5 feet bgs to delineate the current depth of the affected soil.

Both composite excavation and discrete delineation soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analyses of the following constituents of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

The excavation extent and excavation soil sample locations are depicted on Figure 2.

#### LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for excavation floor samples FS01A through FS06A, collected at 1-foot bgs, indicated TPH-GRO/TPH-DRO and TPH concentrations exceeded the Closure Criteria. Impacted soil was excavated to the MEP via hand shoveling. Due to the surrounding active production equipment, the



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release area was not accessible with mechanical equipment, including a hydrovac, skid steer, and/or backhoe. Photographic documentation is included in Appendix A. Laboratory analytical results are summarized in Table 1 and the laboratory analytical reports are included in Appendix C.

Laboratory analytical results from delineation soil samples BH02 through BH04 indicate all COC concentrations were in compliance with the Closure Criteria and effectively confirm residual petroleum hydrocarbon impacts do not exceed 1.5 bgs.

The excavation measured approximately 1,200 square feet in areal extent. An additional 30 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at a permitted disposal facility in Carlsbad, New Mexico.

#### DEFFERAL REQUEST

A total of 60 cubic yards of impacted soil was excavated from the Site via hand shoveling to MEP, which terminated at a depth of 1-foot bgs due to refusal. Residual impacted petroleum hydrocarbon soil was left in place in the floor of the excavation due to the release area being surrounded by active production equipment where it could not be accessed with mechanical equipment and remediation would require a major facility deconstruction. Total TPH concentrations from confirmation samples collected in May 2022 to the October 2022 and December 2022 confirmation sampling events have reduced by an average of 62% with some areas decreasing more than 70%. Lighter end TPH in the GRO range have reduced by an average of 85% with some areas decreasing to 98%, indicating the gross impacts have been effectively removed from the Site through excavation and the application of a bio-amendment that supports natural attenuation, which is protective of human health and the environment.

Residual petroleum hydrocarbon-impacted soil remains in place within and around production equipment; however, the impacted soil is delineated vertically by delineation soil samples BH02/BH03/BH03/BH04 and laterally by delineation soil samples from borehole BH01 and potholes PH01 through PH03. Approximately 30 cubic yards of petroleum hydrocarbon impacted soil remains in place assuming a maximum 1.5-foot depth based on the delineation soil samples listed above. The deferral area and delineation soil samples are depicted on Figure 3.

XTO does not believe deferment will result in imminent risk to human health, the environment, or groundwater. Depth to groundwater was estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the Site. Based on the presence of active production equipment within and around the release area and the complete lateral and vertical delineation of impacted soil remaining in place, XTO requests deferral of final remediation for Incident Numbers NAPP2206853301, NAPP2208351954, and NAPP2209137379 until final reclamation of the well pad or major construction, whichever comes first.



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If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely, Ensolum, LLC

Comer Uhitman

Connor Whitman Field Geologist

Daniel R. Moir, PG Senior Managing Geologist

cc: Garrett Green, XTO Shelby Pennington, XTO Bureau of Land Management

Appendices:

- Figure 1 Site Receptor Map
- Figure 2 Excavation Soil Sample Locations
- Figure 3 Deferral Map
- Table 1
   Soil Sample Analytical Results
- Appendix A Photographic Log
- Appendix B Lithologic / Soil Sampling Logs
- Appendix C Laboratory Analytical Reports & Chain-of-Custody Documentation
- Appendix D NMOCD Notifications
- Appendix E Final C-141 Notification

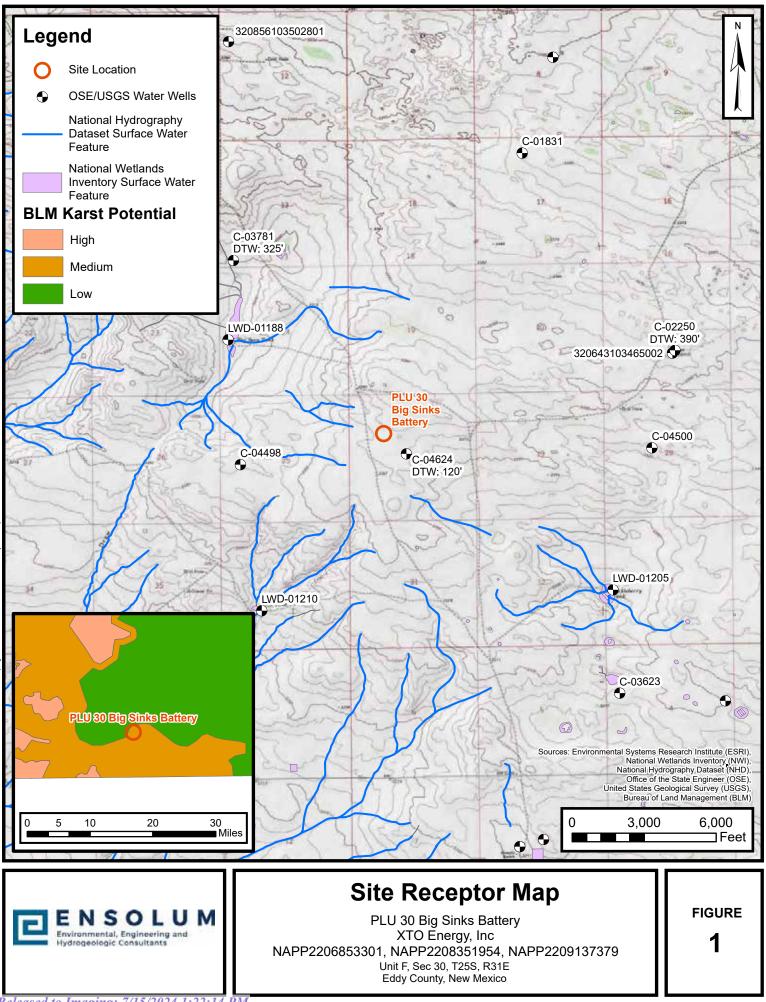


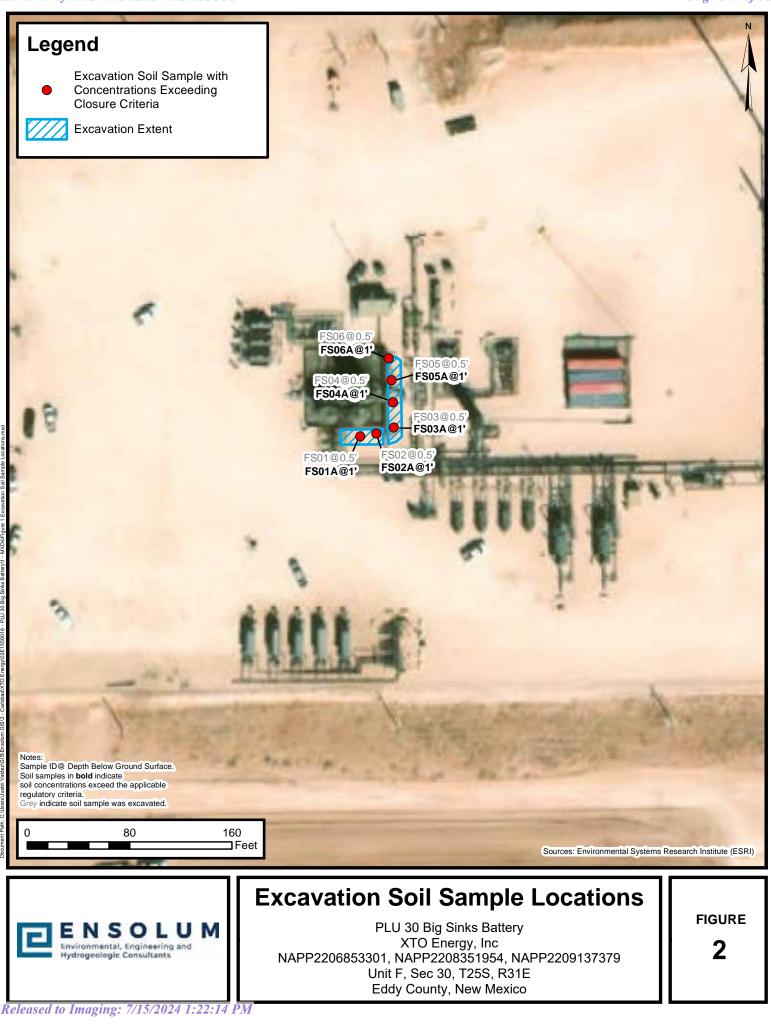


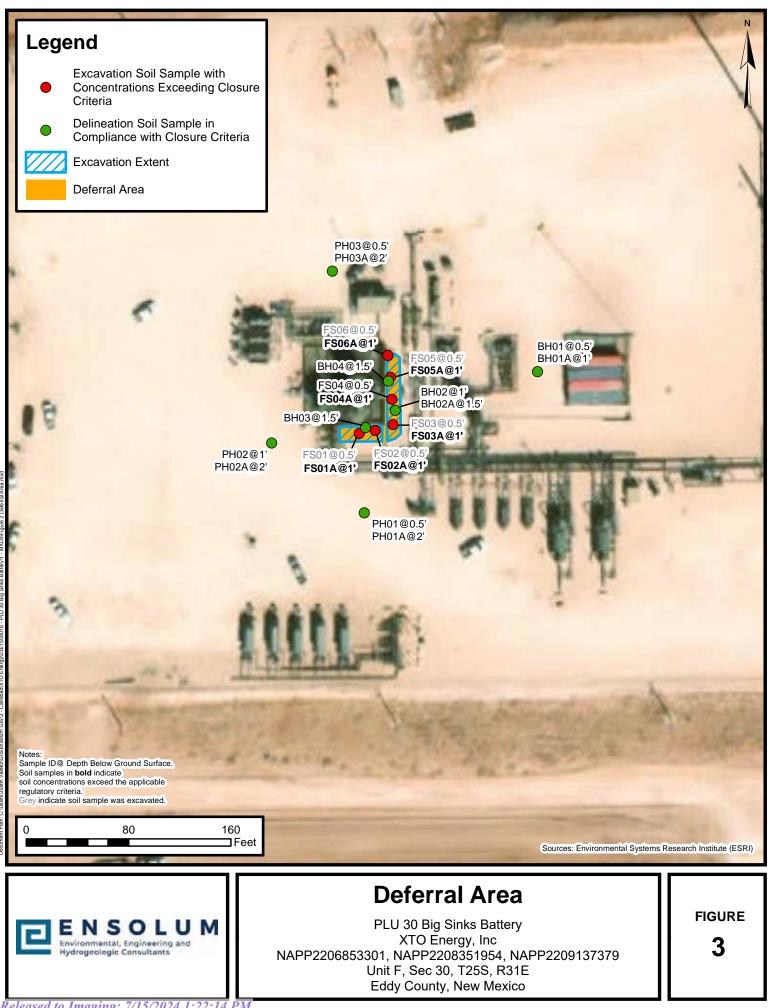
**FIGURES** 

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## TABLES

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## E N S O L U M

				PLU 30 X	TABLE 1 LE ANALYTIC BIG SINKS B TO ENERGY, I COUNTY, NEW						
Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)	
NMOCD Table I C	losure Criteria (l	NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	20,000	
Assessment Soil Samples											
<del>SS01</del>	04/15/2022	0.5	<del>&lt;0.0398</del>	<del>158</del>	4,620	11,200	<250	<del>15,800</del>	<del>15,800</del>	<del>103</del>	
<del>\$\$02</del>	04/15/2022	0.5	<del>&lt;0.0402</del>	<del>157</del>	2,060	7,820	<del>&lt;49.9</del>	<del>9,880</del>	<del>9,880</del>	448	
				Deli	neation Soil Sa	mples					
BH01	05/02/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	46.1	
BH01A	05/02/2022	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	14.6	
BH02	05/02/2022	1	<0.00200	<0.00399	<49.9	428	60.9	428	489	26.2	
BH02	05/02/2022	1.5	<0.00199	<0.00398	<50.0	110	<50.0	110	110	15.4	
BH03	10/19/2022	1.5	<0.00199	<0.00398	<49.9	216	124	216	340	263	
BH04	10/19/2022	1.5	<0.00200	<0.00399	63.3	377	263	440	703	201	
PH01	05/02/2022	0.5	< 0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	85.9	
PH01A	05/02/2022	2	<0.00200	< 0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	17.0	
PH02	05/02/2022	1	<0.00199	< 0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	76.4	
PH02A PH03	05/02/2022	2	<0.00200 <0.00198	<0.00399 <0.00396	<49.9 <50.0	<49.9 <50.0	<49.9 <50.0	<49.9 <50.0	<49.9 <50.0	52.1 36.9	
PH03 PH03A	05/02/2022	0.5	<0.00198	<0.00396	<50.0 <49.9	<50.0 <49.9	<50.0 <49.9	<50.0	<50.0 <49.9	36.9	
PHUSA	05/02/2022	2	<0.00200		<49.9 rmation Soil Sa		<49.9	<49.9	<49.9	30.3	
ES01	05/03/2022	0.5'	<del>&lt;0.00201</del>	0.299	1.290	10.400	1.640	11,700	13,300	394	
FS01A	10/19/2022	1'	<0.00201	0.0449	244	5,310	3,130	5,550	8,680	224	
FS02	05/03/2022	0.5'	<0.00201	0.844	1.180	7.810	1.380	8.990	10.400	141	
FS02A	10/19/2022	1'	<0.00199	0.0327	204	3,150	1,730	3,350	5,080	80.0	
FS03	05/03/2022	0.5'	<0.00199	45.1	2.140	11.500	1.880	13.600	15.500	723	
FS03A	10/24/2022	1'	<0.00200	0.0639	321	5,750	<49.8	6,070	6,070	62.2	
FS04	05/03/2022	0.5'	<0.00200	1.09	2,220	14,200	2,330	16,400	18,800	790	
FS04A	10/24/2022	1'	<0.00199	0.237	<50.0	4,540	488	4,540	5,030	107	
FS05	05/03/2022	0.5'	0.00362	1.35	496	<del>12,400</del>	<250	<del>12,900</del>	12,900	<del>528</del>	
FS05A	12/01/2022	1'	<0.00200	0.0153	84.4	4000	<50.0	4,084	4,084	39.9	
FS06	05/03/2022	0.5'	≪0.400	0.177	617	16,000	<250	16,600	16,600	106	
FS06A	12/01/2022	1'	<0.00199	0.0288	107	3740	<50.0	3,847	3,847	18.6	

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation requirement where applicable. NMAC: New Mexico Administrative Code Gray text indicates soil sample removed during excavation activities

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

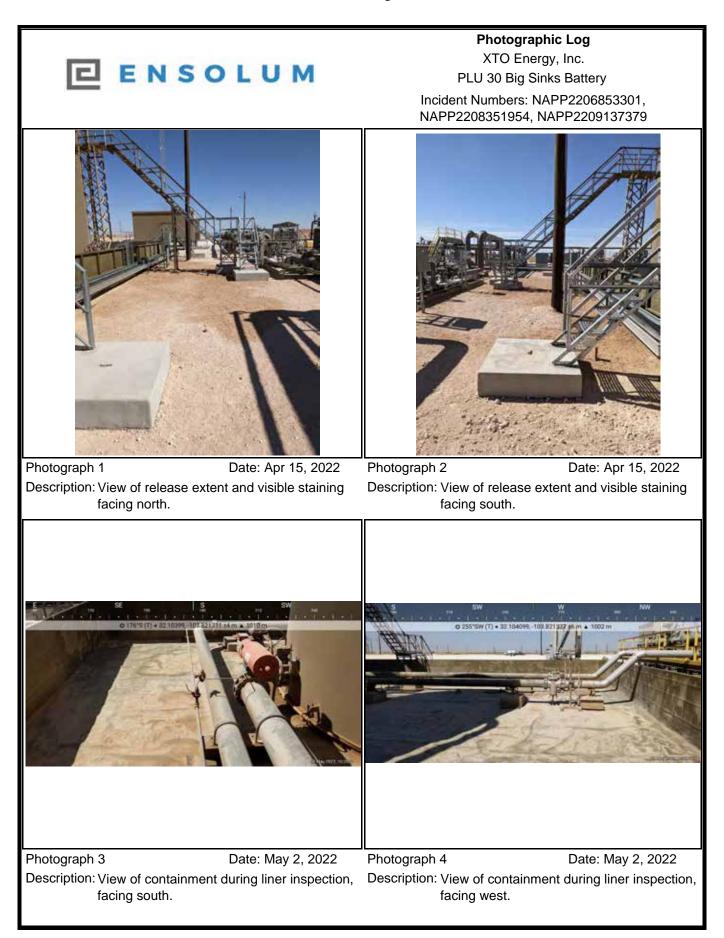
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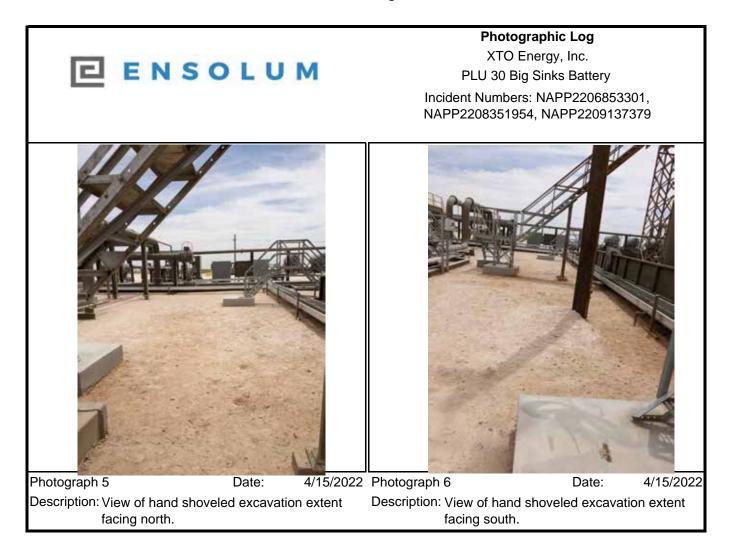
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## APPENDIX A

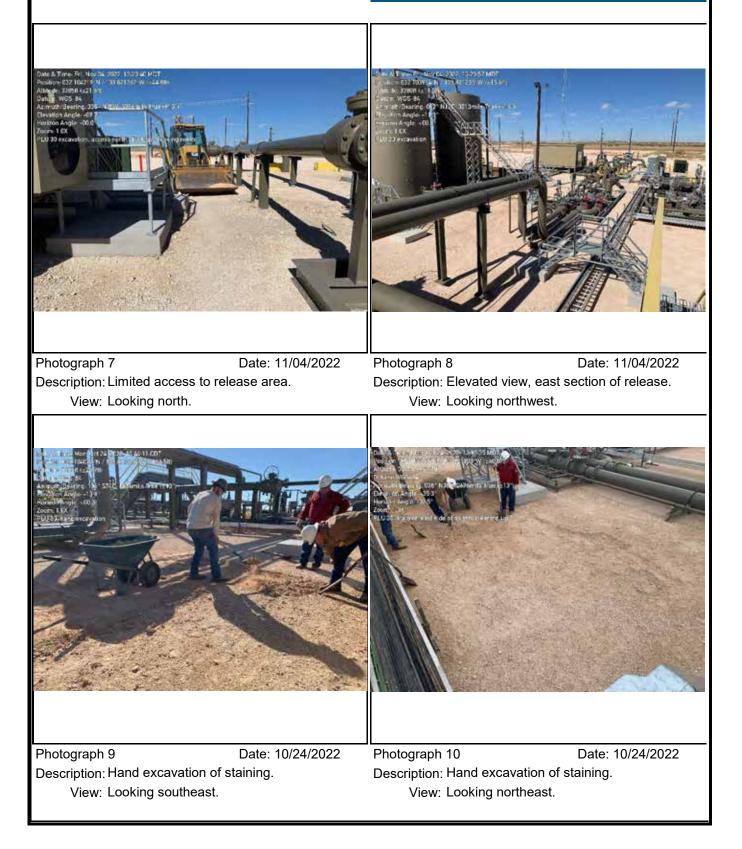
Photographic Log







Photographic Log XTO Energy, Inc PLU 30 Big Sinks Battery nAPP2209137379, nAPP2208351954, nAPP2206853301





APPENDIX B

Lithologic Soil Sampling Logs



# WELL RECORD & LOG

## OFFICE OF THE STATE ENGINEER

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NO	OSE POD NO. (WI C-4624 POD 1		)		WELL TAG ID NO	).		OSE FILE NO(3 C-4624	8).			
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N	COMPLETED WE	LL IS:	ARTESIAN	DRY HOL	E 🗌 SHALLO	OW (UNCON	FINED)		STATIC WATER LE	VEL IN COMPLETED W N/A	ELL (FT)	
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RMA	DRILLING METH	OD:	✓ ROTARY	HAMMER	CABLE	TOOL	OTHE	R - SPECIFY:				
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100		-			-			Sample Name: BH02	Date: 05/02/2022		
		-		S	01			Site Name: PLU 30 Big Sinks Batte			
12		5		9				Incident Number: NAPP22068533 NAPP2209137379	01, NAPP2208351954,		
_								Job Number: 03E1558016			
		LITHOL	OGIC	: / SOIL S	AMPLING	LOG		Logged By: CS	Method: hand auger		
Coord	linates:	32.103984	₽°, -10	3.821327°				Hole Diameter: 4"	Total Depth: 1'		
								PID for chloride and vapor, respection factor is included.	ively. Chloride test		
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D	212.8	3,863	Y	SS02	0.5	0.5	CCHE	caliche			
D	<168	101.2	Y	BH02	1	_ 1	CCHE	caliche			
D	<168	40.2	Ν	BH02	1.5	1.5	CCHE	caliche			
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						Sample Name: BH03	Date: 10/19/2022
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		I S		- 0		Incident Number: nAPP2209137379, nAP	
						Job Number: 03E1558016	
L	ITHOLOG	GIC / SOIL S	SAMPLING	i LOG		Logged By: Connor Whitman	Method: Hand Auger
Coordinates:						Hole Diameter: 4"	Total Depth: 1' bgs
						PID for chloride and vapor, respe- factors included.	ctively. Chloride test
Moisture <u>Content</u> Chloride (ppm)	Vapor (ppm) Ctaining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic De	scriptions
Dry 201.6	8.4 N	N BH03	1'		ССНЕ	CALICHE, Pad material.	
2.1	0.7		<u> </u>		COLL		
						Total depth at 1' bgs.	

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						Sample Name: BH04	Date: 10/19/2022
		16	0			Site Name: PLU 30 Big Sinks Batte	
		CV	01		N	Incident Number: nAPP2209137379, nAF	
						Job Number: 03E1558016	
L	ITHOLOG		SAMPLING	6 LOG		Logged By: Connor Whitman	Method: Hand Auger
– Coordinates:						Hole Diameter: 4"	Total Depth: 1' bgs
Comments: Field						PID for chloride and vapor, respe factors included.	
Moisture Content Chloride (ppm)	Vapor (ppm) Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic De	escriptions
Dry <168	36.7 N	BH02	1 - 1'		SP	SAND, dark brown, fine, wi	th caliche.
k <u> </u>						Total depth at 1' bgs.	



APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation

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5 6 7

Received by OCD: 6/28/2024 6:18:11 PM



**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Tacoma Morrissey Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 12/30/2022 12:04:17 PM Revision 2

## JOB DESCRIPTION

PLU 30 Big Sinks Battery SDG NUMBER 03E1558016

## JOB NUMBER

890-3250-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notos and contact information



Received by OCD: 6/28/2024 6:18:11 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 12/30/2022 12:04:17 PM Revision 2

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

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

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**Client: Ensolum** Project/Site: PLU 30 Big Sinks Battery

**Dilution Factor** 

Detection Limit (DoD/DOE)

Estimated Detection Limit (Dioxin)

Limit of Detection (DoD/DOE)

Method Detection Limit

Minimum Level (Dioxin)

Most Probable Number

Not Calculated

Negative / Absent

Positive / Present

Presumptive

**Quality Control** 

Method Quantitation Limit

Practical Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Limit of Quantitation (DoD/DOE)

Decision Level Concentration (Radiochemistry)

EPA recommended "Maximum Contaminant Level"

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

Reporting Limit or Requested Limit (Radiochemistry)

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

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

## Qualifiare

Dil Fac

DL, RA, RE, IN

DL

DLC

EDL

LOD

LOQ

MCL

MDA

MDC MDL

ML

MPN

MQL

NC

ND

NEG

POS

PQL PRES

QC

RER RL

RPD

TEF

TEQ

TNTC

Qualifiers		3
GC VOA Qualifier	Qualifier Description	4
S1-	Surrogate recovery exceeds control limits, low biased.	
U	Indicates the analyte was analyzed for but not detected.	5
GC Semi VC	Α	
Qualifier	Qualifier Description	6
S1+	Surrogate recovery exceeds control limits, high biased.	
U	Indicates the analyte was analyzed for but not detected.	
HPLC/IC		
Qualifier	Qualifier Description	8
U	Indicates the analyte was analyzed for but not detected.	
Glossary		9
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)	40

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

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Job ID: 890-3250-1

SDG: 03E1558016

#### Job ID: 890-3250-1

#### Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3250-1

#### REVISION

The report being provided is a revision of the original report sent on 10/25/2022. The report (revision 2) is being revised due to Per client email, requesting sample depth to be changed.

Report revision history

The report being provided is a revision of the original report sent on 10/25/2022. The report (revision 2) is being revised due to Per client email, requesting sample depth to be changed.

Revision 1 - 11/29/2022 - Reason - Per client email, requesting sample ID change.

#### Receipt

The sample was received on 10/20/2022 9:38 AM. Unless otherwise noted below, the sample 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 sample was received and analyzed from an unpreserved bulk soil jar: BH04 (890-3250-1).

#### GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: BH04 (890-3250-1). 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.

#### GC Semi VOA

Method 8015MOD NM: The surrogate recovery for the blank associated with preparation batch 880-37503 and analytical batch 880-37444 was outside the upper control limits.

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.

## **Client Sample Results**

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

#### Client Sample ID: BH04 Date Collected: 10/19/22 12:20

Date Received: 10/20/22 09:38 Sample Depth: 1.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/21/22 14:15	10/24/22 15:23	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/21/22 14:15	10/24/22 15:23	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/21/22 14:15	10/24/22 15:23	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/21/22 14:15	10/24/22 15:23	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/21/22 14:15	10/24/22 15:23	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/21/22 14:15	10/24/22 15:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	80		70 - 130			10/21/22 14:15	10/24/22 15:23	1
1,4-Difluorobenzene (Surr)	58	S1-	70 - 130			10/21/22 14:15	10/24/22 15:23	1
Method: TAL SOP Total BTE	X - Total BTE	X Calculat	ion					
		a	RL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	Unit	U	Prepared	Analyzeu	Diriac
	Result <0.00399		0.00399	mg/Kg		Prepared	10/24/22 16:38	1
Analyte Total BTEX	<0.00399	U	0.00399			Prepared		
Analyte	<0.00399 Diesel Range	U	0.00399		D	Prepared		
Analyte Total BTEX Method: SW846 8015 NM - E	<0.00399 Diesel Range	U Organics (	0.00399 DRO) (GC)	mg/Kg		<u>.</u>	10/24/22 16:38	1
Analyte Total BTEX Method: SW846 8015 NM - E Analyte Total TPH	<0.00399 Diesel Range Result 703	U Drganics ( Qualifier	0.00399 DRO) (GC) RL 49.9	mg/Kg Unit		<u>.</u>	10/24/22 16:38 Analyzed	1 Dil Fac
Analyte Total BTEX Method: SW846 8015 NM - E Analyte	<0.00399 Diesel Range Result 703 Diesel Range	U Drganics ( Qualifier	0.00399 DRO) (GC) RL 49.9	mg/Kg Unit		<u>.</u>	10/24/22 16:38 Analyzed	1 Dil Fac
Analyte Total BTEX Method: SW846 8015 NM - E Analyte Total TPH Method: SW846 8015B NM - Analyte Gasoline Range Organics	<0.00399 Diesel Range Result 703 Diesel Range	U Organics ( Qualifier	0.00399 DRO) (GC) RL 49.9 6 (DRO) (GC)	mg/Kg Unit mg/Kg	D	Prepared	10/24/22 16:38 Analyzed 10/24/22 09:48 Analyzed	1 Dil Fac
Analyte Total BTEX Method: SW846 8015 NM - E Analyte Total TPH Method: SW846 8015B NM - Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	<ul> <li>&lt;0.00399</li> <li>Diesel Range</li> <li>Result</li> <li>703</li> <li>Diesel Range</li> <li>Result</li> </ul>	U Organics ( Qualifier	0.00399 DRO) (GC) RL 49.9 (DRO) (GC) RL	mg/Kg Unit mg/Kg Unit	D	Prepared Prepared 10/21/22 13:50	10/24/22 16:38 Analyzed 10/24/22 09:48 Analyzed	Dil Fac Dil Fac
Analyte Total BTEX Method: SW846 8015 NM - E Analyte Total TPH Method: SW846 8015B NM - Analyte Gasoline Range Organics (GRO)-C6-C10	<0.00399 Diesel Range Result 703 Diesel Range Result 63.3	U Organics ( Qualifier	0.00399 DRO) (GC) RL 49.9 6 (DRO) (GC) RL 49.9	Unit mg/Kg mg/Kg Unit mg/Kg	D	Prepared Prepared 10/21/22 13:50 10/21/22 13:50	Analyzed           10/24/22 16:38           Analyzed           10/24/22 09:48           Analyzed           10/22/22 01:41	1 Dil Fac 1 Dil Fac 1
Analyte Total BTEX Method: SW846 8015 NM - E Analyte Total TPH Method: SW846 8015B NM - Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over	<0.00399 Diesel Range Result 703 Diesel Range Result 63.3 377	U Organics ( Qualifier Organics Qualifier	0.00399 DRO) (GC) RL 49.9 6 (DRO) (GC) RL 49.9 49.9 49.9	Unit mg/Kg mg/Kg Unit mg/Kg mg/Kg	D	Prepared Prepared 10/21/22 13:50 10/21/22 13:50	Analyzed           10/24/22 16:38           Analyzed           10/24/22 09:48           Analyzed           10/22/22 01:41           10/22/22 01:41	1 Dil Fac 1 Dil Fac
Analyte Total BTEX Method: SW846 8015 NM - E Analyte Total TPH Method: SW846 8015B NM - Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	<0.00399 Diesel Range Result 703 Diesel Range Result 63.3 377 263	U Organics ( Qualifier Organics Qualifier	0.00399 DRO) (GC) RL 49.9 6 (DRO) (GC) RL 49.9 49.9 49.9 49.9	Unit mg/Kg mg/Kg Unit mg/Kg mg/Kg	D	Prepared Prepared 10/21/22 13:50 10/21/22 13:50 10/21/22 13:50 Prepared	Analyzed           10/24/22 16:38           Analyzed           10/24/22 09:48           Analyzed           10/22/22 01:41           10/22/22 01:41           10/22/22 01:41           10/22/22 01:41	1 Dil Fac 1 Dil Fac 1 1

RL

4.98

**Result Qualifier** 

201

Unit

mg/Kg

D

Prepared

Analyzed

10/24/22 18:40

Dil Fac

1

Job ID: 890-3250-1 SDG: 03E1558016

## Lab Sample ID: 890-3250-1

Matrix: Solid

12/30/2022 (Rev. 2)

Analyte

Chloride

## **Surrogate Summary**

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

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

			Perc	ent Surrogate Recovery (Acceptance Limits)	4
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)		5
890-3250-1	BH04	80	58 S1-		
890-3253-A-1-A MS	Matrix Spike	100	95		6
890-3253-A-1-B MSD	Matrix Spike Duplicate	97	72		
LCS 880-37514/1-A	Lab Control Sample	96	89		
LCSD 880-37514/2-A	Lab Control Sample Dup	95	81		
MB 880-37514/5-A	Method Blank	107	77		8
Surrogate Legend					0

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

		Percent Sur	ogate Recovery (Accept	tance Limits)	
	1CO1	OTPH1			
ient Sample ID	(70-130)	(70-130)			
atrix Spike	82	84			13
atrix Spike Duplicate	79	81			
104	79	87			
b Control Sample	90	100			
b Control Sample Dup	99	110			
ethod Blank	118	133 S1+			
at at d b b	trix Spike trix Spike Duplicate 04 o Control Sample o Control Sample Dup	ent Sample ID(70-130)trix Spike82trix Spike Duplicate79047905 Control Sample9006 Control Sample Dup99	Image: Non-state with the state withe state with the state with the state with the state	Image: sent Sample ID         (70-130)         (70-130)           trix Spike         82         84           trix Spike Duplicate         79         81           04         79         87           o Control Sample Dup         90         100           o Control Sample Dup         99         110	Image: Sample ID         (70-130)         (70-130)           trix Spike         82         84           trix Spike Duplicate         79         81           04         79         87           o Control Sample         90         100           o Control Sample Dup         99         110

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Job ID: 890-3250-1 SDG: 03E1558016

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**Eurofins Carlsbad** 

**Client: Ensolum** Project/Site: PLU 30 Big Sinks Battery

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

#### Lab Sample ID: MB 880-37514/5-A **Matrix: Solid** Analysis Batch: 37615

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/21/22 14:15	10/24/22 10:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/21/22 14:15	10/24/22 10:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/21/22 14:15	10/24/22 10:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/21/22 14:15	10/24/22 10:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/21/22 14:15	10/24/22 10:42	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/21/22 14:15	10/24/22 10:42	1
	MB	MB						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130			10/21/22 14:15	10/24/22 10:42	1
1,4-Difluorobenzene (Surr)	77		70 - 130			10/21/22 14:15	10/24/22 10:42	1

#### Lab Sample ID: LCS 880-37514/1-A Matrix: Solid Analysis Batch: 37615

•	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1046		mg/Kg		105	70 - 130	
Toluene	0.100	0.1066		mg/Kg		107	70 - 130	
Ethylbenzene	0.100	0.09931		mg/Kg		99	70 - 130	
m-Xylene & p-Xylene	0.200	0.2054		mg/Kg		103	70 - 130	
o-Xylene	0.100	0.1034		mg/Kg		103	70 - 130	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

#### Lab Sample ID: LCSD 880-37514/2-A Matrix: Solid Analysis Batch: 37615

Analysis Batch: 37615							Prep E		87514
	Spike	LCSD L	.CSD				%Rec		RPD
Analyte	Added	Result Q	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09576		mg/Kg		96	70 - 130	9	35
Toluene	0.100	0.09860		mg/Kg		99	70 - 130	8	35
Ethylbenzene	0.100	0.1009		mg/Kg		101	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1953		mg/Kg		98	70 - 130	5	35
o-Xylene	0.100	0.09779		mg/Kg		98	70 - 130	6	35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	81		70 - 130

#### Lab Sample ID: 890-3253-A-1-A MS **Matrix: Solid**

Analysis Batch: 37615									Prep Batch: 37514
	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	<0.00201	U	0.100	0.1004		mg/Kg		99	70 - 130
Toluene	<0.00201	U	0.100	0.1142		mg/Kg		114	70 - 130

**Eurofins Carlsbad** 

Prep Type: Total/NA

**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA Prep Batch: 37514

**Client Sample ID: Method Blank** 

#### **Client Sample ID: Lab Control Sample** Pr

rep	Type:	Total/NA					
_							

Prep Batch: 37514

<b>Client Sample ID: Lab</b>	<b>Control Sample Dup</b>
	Prep Type: Total/NA

**Client: Ensolum** Project/Site: PLU 30 Big Sinks Battery

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

Lab Sample ID: 890-3253 Matrix: Solid Analysis Batch: 37615	8-A-1-A MS						CI	ient Sa	mple ID: I Prep Ty Prep E		tal/NA
-	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Ethylbenzene	<0.00201	U	0.100	0.09592		mg/Kg		96	70 - 130		
m-Xylene & p-Xylene	< 0.00402	U	0.200	0.2008		mg/Kg		100	70 - 130		
o-Xylene	<0.00201	U	0.100	0.1000		mg/Kg		100	70 - 130		
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	100		70 - 130								
1,4-Difluorobenzene (Surr)	95		70 - 130								
Matrix: Solid Analysis Batch: 37615									Prep Ty Prep E	pe: Tot Batch: 3	
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00201	U	0.0996	0.09485		mg/Kg		94	70 - 130	6	35
Toluene	<0.00201	U	0.0996	0.09849		mg/Kg		99	70 - 130	15	35
Ethylbenzene	<0.00201	U	0.0996	0.09498		mg/Kg		95	70 - 130	1	35
m-Xylene & p-Xylene	< 0.00402	U	0.199	0.1982		mg/Kg		100	70 - 130	1	35
o-Xylene	<0.00201	U	0.0996	0.1021		mg/Kg		103	70 - 130	2	35
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	97		70 - 130								
1,4-Difluorobenzene (Surr)											

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

#### Lab Sample ID: MB 880-37503/1-A Matrix: Solid Analysis Batch: 37444

	MB	МВ						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/21/22 13:50	10/21/22 19:50	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/21/22 13:50	10/21/22 19:50	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/21/22 13:50	10/21/22 19:50	1
	MB	МВ						

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	118		70 - 130
o-Terphenyl	133	S1+	70 - 130

#### Lab Sample ID: LCS 880-37503/2-A Matrix: Solid Analysis Batch: 37444

Analysis Batch: 37444							Prep Ba	atch: 37503
	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	858.1		mg/Kg		86	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	774.2		mg/Kg		77	70 - 130	
C10-C28)								

**Eurofins Carlsbad** 

**Client Sample ID: Method Blank** 

Prepared

Prep Type: Total/NA

Analyzed

Prep Type: Total/NA

10/21/22 13:50 10/21/22 19:50

10/21/22 13:50 10/21/22 19:50

**Client Sample ID: Lab Control Sample** 

Dil Fac

1

1

Prep Batch: 37503

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#### Job ID: 890-3250-1 SDG: 03E1558016

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

Lab Sample ID: LCS 880-37503/2-A

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

Matrix: Solid	57 505/2-A					Oller	it Gai	inple iD	Prep Ty		-
Analysis Batch: 37444										Batch: 3	
0		LCS									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	90 100		70 - 130 70 - 130								
o-Terphenyl	100		70 - 130								
Lab Sample ID: LCSD 880	D-37503/3-A				C	lient Sa	mnle	ID· I at		Sample	Dun
Matrix: Solid									Prep Ty		
Analysis Batch: 37444										Batch: 3	
· · · · · · · · · · · · · · · · · · ·			Spike	LCSD	LCSD				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1041		mg/Kg		104	70 - 130	19	20
Diesel Range Organics (Over C10-C28)			1000	902.2		mg/Kg		90	70 - 130	15	20
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	99		70 - 130								
o-Terphenyl	110		70 - 130								
Lab Sample ID: 890-3240	-A-2-C MS						C	ient Sa	mple ID: I	Matrix S	Spike
Matrix: Solid									Prep Ty	pe: Tota	al/NA
Analysis Batch: 37444									Prep E	Batch: 3	7503
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1086		mg/Kg		109	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	998	781.6		mg/Kg		76	70 - 130		
	MS	MS									
Surrogate		MS Qualifier	Limits								
Surrogate 1-Chlorooctane	MS %Recovery 82		Limits 70 - 130								
•	%Recovery										
1-Chlorooctane	%Recovery 82		70 - 130								
1-Chlorooctane	% <b>Recovery</b> 82 84		70 - 130			Client S	Samp	le ID: N	latrix Spil		
1-Chlorooctane o-Terphenyl Lab Sample ID: 890-3240 Matrix: Solid	% <b>Recovery</b> 82 84		70 - 130			Client S	Samp	le ID: N	Prep Ty	pe: Tot	al/NA
1-Chlorooctane o-Terphenyl Lab Sample ID: 890-3240	%Recovery 82 84 -A-2-D MSD	Qualifier	70 - 130 70 - 130			Client S	Samp	le ID: N	Prep Ty Prep E		al/NA 87503
1-Chlorooctane o-Terphenyl Lab Sample ID: 890-3240 Matrix: Solid	%Recovery 82 84 -A-2-D MSD Sample	<u>Qualifier</u> Sample	70 - 130 70 - 130 <b>Spike</b>	MSD		Client S	Samp		Prep Ty Prep E %Rec	pe: Tot Batch: 3	al/NA 7503 RPD
1-Chlorooctane o-Terphenyl Lab Sample ID: 890-3240 Matrix: Solid Analysis Batch: 37444 Analyte	%Recovery 82 84 -A-2-D MSD Sample Result	<i>Qualifier</i> Sample Qualifier	70 - 130 70 - 130 Spike Added	Result	MSD Qualifier	Unit	Samp	%Rec	Prep Ty Prep E %Rec Limits	pe: Tota Batch: 3 RPD	al/NA 37503 RPD Limit
1-Chlorooctane o-Terphenyl Lab Sample ID: 890-3240 Matrix: Solid Analysis Batch: 37444 Analyte Gasoline Range Organics (GRO)-C6-C10	%Recovery 82 84 -A-2-D MSD Sample Result <49.9	Qualifier Sample Qualifier U	70 - 130 70 - 130 <b>Spike</b> Added 998	Result 1014		<b>Unit</b> mg/Kg		<b>%Rec</b> 102	Prep Ty Prep E %Rec Limits 70 - 130	pe: Tot Batch: 3 RPD 7	al/NA 37503 RPD Limit 20
1-Chlorooctane o-Terphenyl Lab Sample ID: 890-3240 Matrix: Solid Analysis Batch: 37444 Analyte Gasoline Range Organics	%Recovery 82 84 -A-2-D MSD Sample Result	Qualifier Sample Qualifier U	70 - 130 70 - 130 Spike Added	Result		Unit		%Rec	Prep Ty Prep E %Rec Limits	pe: Tota Batch: 3 RPD	al/NA 37503 RPD Limit
1-Chlorooctane o-Terphenyl Lab Sample ID: 890-3240 Matrix: Solid Analysis Batch: 37444 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	%Recovery 82 84 -A-2-D MSD Sample Result <49.9 <49.9	Qualifier Sample Qualifier U	70 - 130 70 - 130 <b>Spike</b> Added 998	Result 1014		<b>Unit</b> mg/Kg		<b>%Rec</b> 102	Prep Ty Prep E %Rec Limits 70 - 130	pe: Tot Batch: 3 RPD 7	al/NA 37503 RPD Limit 20
1-Chlorooctane o-Terphenyl Lab Sample ID: 890-3240 Matrix: Solid Analysis Batch: 37444 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	%Recovery 82 84 -A-2-D MSD Sample Result <49.9 <49.9	Qualifier Sample Qualifier U U	70 - 130 70 - 130 <b>Spike</b> Added 998	Result 1014		<b>Unit</b> mg/Kg		<b>%Rec</b> 102	Prep Ty Prep E %Rec Limits 70 - 130	pe: Tot Batch: 3 RPD 7	al/NA 37503 RPD Limit 20
1-Chlorooctane o-Terphenyl Lab Sample ID: 890-3240 Matrix: Solid Analysis Batch: 37444 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	%Recovery 82 84 -A-2-D MSD Sample Result <49.9 <49.9 MSD	Qualifier Sample Qualifier U U	70 - 130 70 - 130 <b>Spike</b> Added 998 998	Result 1014		<b>Unit</b> mg/Kg		<b>%Rec</b> 102	Prep Ty Prep E %Rec Limits 70 - 130	pe: Tot Batch: 3 RPD 7	al/NA 37503 RPD Limit 20

Eurofins Carlsbad

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

Method: 300.0 - Anions, Ion Chromatography

		<b>U</b> 1										
Lab Sample ID: MB 880-37513/1-A Matrix: Solid Analysis Batch: 37653	L						CI	lient San	nple ID: Me Prep Ty			
	MB	MB										
Analyte	Result	Qualifier		RL	U	nit	D	Prepared	Analyz	əd	Dil Fac	1
Chloride	<5.00	U		5.00	m	g/Kg			10/24/22	6:26	1	
Lab Sample ID: LCS 880-37513/2-/	Α					С	lient S	ample ID	: Lab Con	trol S	ample	
Matrix: Solid									Prep Ty	pe: S	oluble	
Analysis Batch: 37653												
			Spike	L	CS LCS				%Rec			
Analyte			Added	Res	ult Qualifi	er Unit	[	D %Rec	Limits			
Chloride			250	25	2.2	mg/Kg	9	101	90 - 110			
Lab Sample ID: LCSD 880-37513/3	8-A					Client	Sampl	e ID: Lat	o Control S	ampl	e Dup	
Matrix: Solid									Prep Ty	pe: S	oluble	
Analysis Batch: 37653										-		
			Spike	LC	SD LCSD				%Rec		RPD	
Analyte			Added	Res	ult Qualifi	er Unit	[	D %Rec	Limits	RPD	Limit	
Chloride			250	25	4.8	mg/Kg	9	102	90 - 110	1	20	

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Job ID: 890-3250-1 SDG: 03E1558016

**Eurofins Carlsbad** 

## **QC** Association Summary

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

### **GC VOA**

#### Prep Batch: 37514

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3250-1	BH04	Total/NA	Solid	5035	
MB 880-37514/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37514/1-A	Lab Control Sample	Total/NA	Solid	5035	-
LCSD 880-37514/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3253-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
890-3253-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	
Analysis Batch: 3761	15				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3250-1	BH04	Total/NA	Solid	8021B	37514
MB 880-37514/5-A	Method Blank	Total/NA	Solid	8021B	37514
LCS 880-37514/1-A	Lab Control Sample	Total/NA	Solid	8021B	37514
LCSD 880-37514/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37514
890-3253-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	37514
890-3253-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37514
Analysis Batch: 3772	26				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3250-1	BH04	Total/NA	Solid	Total BTEX	
GC Semi VOA					
Analysis Batch: 3744	44				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3250-1	BH04	Total/NA	Solid	8015B NM	37503

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-3250-1	BH04	Total/NA	Solid	8015B NM	37503
MB 880-37503/1-A	Method Blank	Total/NA	Solid	8015B NM	37503
LCS 880-37503/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37503
LCSD 880-37503/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37503
890-3240-A-2-C MS	Matrix Spike	Total/NA	Solid	8015B NM	37503
890-3240-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37503

### Prep Batch: 37503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3250-1	BH04	Total/NA	Solid	8015NM Prep	
MB 880-37503/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37503/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37503/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3240-A-2-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3240-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

			Prep Batch
890-3250-1 BH04 Total/NA	Solid	8015 NM	

### HPLC/IC

#### Leach Batch: 37513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3250-1	BH04	Soluble	Solid	DI Leach	
MB 880-37513/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37513/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37513/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

## **QC Association Summary**

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

### HPLC/IC

#### Analysis Batch: 37653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3250-1	BH04	Soluble	Solid	300.0	37513
MB 880-37513/1-A	Method Blank	Soluble	Solid	300.0	37513
LCS 880-37513/2-A	Lab Control Sample	Soluble	Solid	300.0	37513
LCSD 880-37513/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37513

12/30/2022 (Rev. 2)

Job ID: 890-3250-1 SDG: 03E1558016 Client: Ensolum

Job ID: 890-3250-1 SDG: 03E1558016

### **Client Sample ID: BH04** Date Collected: 10/19/22 12:20 Date Received: 10/20/22 09:38

Project/Site: PLU 30 Big Sinks Battery

<b>DT</b>	Batch	Batch		Dil	Initial	Final	Batch	Prepared		1
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	37514	10/21/22 14:15	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37615	10/24/22 15:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37726	10/24/22 16:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			37631	10/24/22 09:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	37503	10/21/22 13:50	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37444	10/22/22 01:41	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	37513	10/21/22 18:00	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37653	10/24/22 18:40	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: 890-3250-1 Matrix: Solid

## **Accreditation/Certification Summary**

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Project/Site: PLU 30 Big	SDG: 03E1558016		
Laboratory: Eurofin	<b>IS MICLAND</b> held by this laboratory are listed. Not all ac	creditations/certifications are applicable to	o this report.
Authority	Program	Identification Number	Expiration Date
N/A	N/A	None on record.	
			1
			1

**Eurofins Carlsbad** 

## **Method Summary**

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery Job ID: 890-3250-1 SDG: 03E1558016

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

#### **Protocol References:**

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates. TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

**Eurofins Carlsbad** 

Sample Summary

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Job ID: 890-3250-1

Client: Ensolum	
Project/Site: PLU 30 Big Sinks Battery	

Lab Sample ID

890-3250-1

LU 30 Big Sinks Battery					SDG: 03E1558016
Client Sample ID	Matrix	Collected	Received	Depth	
BH04	Solid	10/19/22 12:20	10/20/22 09:38	1.5'	

3 4 5 6 7 8 9 10 11 11 12 13		
5 6 7 8 9 10		
6 7 8 9 10		4
8 9 10		5
8 9 10		6
9 10		
		8
		9
<b>12</b> 13		
13	1	2
	1	13

Let Tradit. X. Rinj Spackada, Luscold, K. Rinj K. Ring,
Bill to: (if different)     Garrett Green       Company Name:     XTO Energy       Address:     3104 E. Green St.       Address:     3104 E. Green St.       City. State ZiP:     Cartsbad, NM 88220       City. State ZiP:     Cartsbad, NM 88220       Imm Around     Parameters       Parameters     ANALYSIS REQ       Imm Around     Parameters       Parameters     BIEX (6021       Parameters     BIEX (6023       BIEX (6021     B90-3250 Chain of Cus
Company Name:     XTO Energy       Address:     3104 E. Green St.       Address:     3104 E. Green St.       City. State ZIP:     Carrisbad, NM 88220       aali. Garrett Green St.     Carrisbad, NM 88220       ine     Rush     Cond       ine     Rush     Cond       ine     Barex (6021     B90-3250 Chain of Cus       ine     Depth     Cont     Cont       ine     Depth     Cont     Cont
Address:     3104 E. Green St.       City, State 2IP:     Cartisbad, NM 88220       nall. Garrett Graen@ExxonMobil.com     AnALYSIS REQ       nall. Garrett Graen@ExxonMobil.com     AnALYSIS REQ       nall. Garrett Graen@ExxonMobil.com     Parameters       is the day received by 4:30pm     Para       is the day received by
City, State ZIP: Carisbad, NM 88220 Rel: Garrett Green @ExxonMobil.com Imm Around Imm
all     Contract Green@Exacontrobit.com     Deliverables: EDD     ADaPT     Other       Im Around     Preservative     Im Around     Preservative     Im Around       Im Around     Preservative     Preservative     Im Around     None NO       Im Around     Preservative     Preservative     Preservative     Preservative       Im Around     Preservative     Pr
ImmAcund     ANALYSIS REQUEST     Preservatil       Ine     Rush     Dome     None       Ine     Rush     Dome     None       Ine     Rush     Dome     None       Ine     Rush     Dome     None       Inereiwed by 4:0pm     Rinebreat     HipPol, HP       Inereiwed by 4:0pm     None     None       Interfection     Saconon     None       Interfection     None     None       Interfection     Saconon     None       Interfection     None     None       Interfection     None     None       Intended till     None </td
Ine     Ret     None     None       Ine     Ret     None     None       Ine
It received by treating by 4:30pm treating b
state day recreated by firectioned by here No.07 Here, HP Nai-Soci, Nais Second Control Custody Sample Sample Sample Cost Center Cost Center Sample
Paramoters AFPOL HP HyPOL HP HyPO
Microsoft     Markson       Addition     Addition       Addition     A
Na,S,O, Na A. S,O, Na A. S,O, Na A. Acetate+N Bandie Comp Co
3.0     3.0       aligned by a complete the comp
MacHHAGORT
The provide the second
I     I     Incident ID:       Incident ID:
Accession of the second

## Login Sample Receipt Checklist

Client: Ensolum

#### Login Number: 3250 List Number: 1 Creator: Stutzman, Amanda

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: 890-3250-1 SDG Number: 03E1558016 List Source: Eurofins Carlsbad 5 7 8 9 10 11 12 13 14

Job Number: 890-3250-1 SDG Number: 03E1558016

List Source: Eurofins Midland

List Creation: 10/21/22 10:46 AM

## Login Sample Receipt Checklist

Client: Ensolum

<6mm (1/4").

Login Number: 3250 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	
ls 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: 7/15/2024 1:22:14 PM 14

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5 6 7

Received by OCD: 6/28/2024 6:18:11 PM



**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Tacoma Morrissey Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 12/12/2022 3:32:51 PM

## JOB DESCRIPTION

PLU 30 Big Sinks SDG NUMBER 03E1558016

## **JOB NUMBER**

880-22192-1

EOL

Eurofins Midland 1211 W. Florida Ave Midland TX 79701



Received by OCD: 6/28/2024 6:18:11 PM

## **Eurofins Midland**

**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 12/12/2022 3:32:51 PM

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

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

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Sample Summary	17
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## **Definitions/Glossary**

1

	Dominion Chocoally		
Client: Ensolum Project/Site: PL		Job ID: 880-22192-1 SDG: 03E1558016	2
Qualifiers			3
GC VOA Qualifier	Qualifier Description		4
U	Indicates the analyte was analyzed for but not detected.		
GC Semi VOA Qualifier	Qualifier Description		5
S1+	Surrogate recovery exceeds control limits, high biased.		6
U	Indicates the analyte was analyzed for but not detected.		
HPLC/IC Qualifier	Qualifier Description		7
U	Indicates the analyte was analyzed for but not detected.		8
Glossary			9
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		12
DL	Detection Limit (DoD/DOE)		13
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)		

Negative / Absent

Positive / Present

Presumptive

Quality Control

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

NEG

POS

PQL

PRES

QC

RER

RPD TEF

TEQ

TNTC

RL

Eurofins Midland

4

5

Job ID: 880-22192-1 SDG: 03E1558016

#### Job ID: 880-22192-1

Client: Ensolum

#### Laboratory: Eurofins Midland

Project/Site: PLU 30 Big Sinks

#### Narrative

Job Narrative 880-22192-1

#### Receipt

The samples were received on 12/1/2022 2:38 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

#### GC VOA

Method 8021B: The following sample was diluted due to the nature of the sample matrix: (880-22119-A-24-B 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: Surrogate recovery for the following samples were outside control limits: (880-22110-A-1-D) and (880-22110-A-1-E MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: FS06A (880-22192-2). 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.

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

Method: TAL SOP Total BTEX - Total BTEX Calculation

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

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

Result Qualifier

<0.00200 U

<0.00200 U

<0.00200 U

0.0100 0.00532

0.0153

%Recovery Qualifier

116

94

0.0153

4080

84.4

4000

Result Qualifier

Result Qualifier

Result Qualifier

RL

0.00200

0.00200

0.00200 0.00399

0.00200

0.00399

Limits

70 - 130 70 - 130

RL

RL 50.0

RL

50.0

50.0

0.00399

Job ID: 880-22192-1 SDG: 03E1558016

## **Client Sample ID: FS05A**

Date Collected: 12/01/22 13:05 Date Received: 12/01/22 14:38

Project/Site: PLU 30 Big Sinks

Sample Depth: 1'

Analyte

Benzene

Toluene

o-Xylene

Surrogate

Analyte

Analyte

Analyte

(GRO)-C6-C10

**Total TPH** 

Total BTEX

Ethylbenzene

**Xylenes**, Total

m-Xylene & p-Xylene

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

**Gasoline Range Organics** 

**Diesel Range Organics (Over** 

Client: Ensolum

	x: Solid	Matri				
4						
5						
	Dil Fac	Analyzed	Prepared	D	Unit	
6	1	12/10/22 04:48	12/02/22 10:31		mg/Kg	
	1	12/10/22 04:48	12/02/22 10:31		mg/Kg	
	1	12/10/22 04:48	12/02/22 10:31		mg/Kg	
_	1	12/10/22 04:48	12/02/22 10:31		mg/Kg	
8	1	12/10/22 04:48	12/02/22 10:31		mg/Kg	
	1	12/10/22 04:48	12/02/22 10:31		mg/Kg	
9	Dil Fac	Analyzed	Prepared			
	1	12/10/22 04:48	12/02/22 10:31			
	1	12/10/22 04:48	12/02/22 10:31			
	Dil Fac	Analyzed	Prepared	D	Unit	
12	1	12/12/22 15:45			mg/Kg	
13	Dil Fac	Analyzed	Prepared	D	Unit	
	1	12/07/22 09:45			mg/Kg	
	Dil Fac	Analyzed	Prepared	D	Unit	
	1	12/06/22 13:42	12/05/22 11:32		mg/Kg	
	1	12/06/22 13:42	12/05/22 11:32		mg/Kg	
	1	12/06/22 13:42	12/05/22 11:32		mg/Kg	
			0			
	Dil Fac	Analyzed	Prepared			
	Dil Fac	Analyzed 12/06/22 13:42	12/05/22 11:32			

C10-C28) Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/05/22 11:32	12/06/22 13:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	114		70 - 130			12/05/22 11:32	12/06/22 13:42	1
o-Terphenyl	114		70 - 130			12/05/22 11:32	12/06/22 13:42	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	ography - So	oluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

#### Chloride 39.9 5.01 mg/Kg 12/08/22 08:53 **Client Sample ID: FS06A** Lab Sample ID: 880-22192-2 Date Collected: 12/01/22 13:10 Matrix: Solid Date Received: 12/01/22 14:38

Sample Depth: 1'

Method: SW846 8021B - Volati	le Organic Comp	ounds (GC)	)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/02/22 10:31	12/10/22 05:09	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/02/22 10:31	12/10/22 05:09	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/02/22 10:31	12/10/22 05:09	1
m-Xylene & p-Xylene	0.0195		0.00398	mg/Kg		12/02/22 10:31	12/10/22 05:09	1
o-Xylene	0.00925		0.00199	mg/Kg		12/02/22 10:31	12/10/22 05:09	1
Xylenes, Total	0.0288		0.00398	mg/Kg		12/02/22 10:31	12/10/22 05:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130			12/02/22 10:31	12/10/22 05:09	1

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## **Client Sample Results**

Job ID: 880-22192-1 SDG: 03E1558016

## Lab Sample ID: 880-22192-2

Matrix: Solid

Date Collected: 12/01/22 13:10 Date Received: 12/01/22 14:38 Sample Depth: 1'

Project/Site: PLU 30 Big Sinks

**Client Sample ID: FS06A** 

Client: Ensolum

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	97		70 - 130			12/02/22 10:31	12/10/22 05:09	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	ulation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.0288		0.00398	mg/Kg			12/12/22 15:45	1
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	3850		50.0	mg/Kg			12/07/22 09:45	1
Method: SW846 8015B NM - Dies	al Pango Orga							
Analyte	• •	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	107		50.0	mg/Kg		12/05/22 11:32	12/06/22 14:03	1
GRO)-C6-C10								
Diesel Range Organics (Over C10-C28)	3740		50.0	mg/Kg		12/05/22 11:32	12/06/22 14:03	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/05/22 11:32	12/06/22 14:03	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	137	S1+	70 - 130			12/05/22 11:32	12/06/22 14:03	1
· <b>-</b>	133	S1+	70 - 130			12/05/22 11:32	12/06/22 14:03	1
o-Terphenyi								
	s, Ion Chromato	graphy - So	oluble					
o-Terphenyl Method: MCAWW 300.0 - Anions Analyte		<mark>graphy - So</mark> Qualifier	oluble RL	Unit	D	Prepared	Analyzed	Dil Fac

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

ent Surrogate Recovery

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

#### Matrix: Solid

Matrix: Solid				Prep Type: Total/NA	
				Percent Surrogate Recovery (Acceptance Limits)	12
		1CO1	OTPH1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		13
880-22110-A-1-E MS	Matrix Spike	142 S1+	112		
880-22110-A-1-F MSD	Matrix Spike Duplicate	120	99		14
880-22192-1	FS05A	114	114		
880-22192-2	FS06A	137 S1+	133 S1+		
LCS 880-41024/2-A	Lab Control Sample	129	120		
LCSD 880-41024/3-A	Lab Control Sample Dup	129	117		
MB 880-41024/1-A	Method Blank	130	127		

#### Surrogate Legend

1CO = 1-Chlorooctane OTPH = o-Terphenyl Page 190 of 324

Job ID: 880-22192-1 SDG: 03E1558016

Prep Type: Total/NA

Job ID: 880-22192-1 SDG: 03E1558016

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

Lab Sample I	ID: MB 880-40826/5-A

Project/Site: PLU 30 Big Sinks

Matrix: Solid Analysis Batch: 41499

Client: Ensolum

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/01/22 16:02	12/09/22 20:43	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/01/22 16:02	12/09/22 20:43	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/01/22 16:02	12/09/22 20:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/01/22 16:02	12/09/22 20:43	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/01/22 16:02	12/09/22 20:43	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/01/22 16:02	12/09/22 20:43	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		70 - 130			12/01/22 16:02	12/09/22 20:43	1
1,4-Difluorobenzene (Surr)	94		70 - 130			12/01/22 16:02	12/09/22 20:43	1

#### Lab Sample ID: LCS 880-40826/1-A Matrix: Solid

#### Analysis Batch: 41499

	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	0.100	0.1015		mg/Kg		102	70 - 130
Toluene	0.100	0.08806		mg/Kg		88	70 - 130
Ethylbenzene	0.100	0.09021		mg/Kg		90	70 - 130
m-Xylene & p-Xylene	0.200	0.1860		mg/Kg		93	70 - 130
o-Xylene	0.100	0.08888		mg/Kg		89	70 - 130

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

### Lab Sample ID: LCSD 880-40826/2-A

## Matrix: Solid

Analysis Batch: 41499							Prep	Batch:	40826
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.08696		mg/Kg		87	70 - 130	15	35
Toluene	0.100	0.07710		mg/Kg		77	70 - 130	13	35
Ethylbenzene	0.100	0.07744		mg/Kg		77	70 - 130	15	35
m-Xylene & p-Xylene	0.200	0.1595		mg/Kg		80	70 - 130	15	35
o-Xylene	0.100	0.07872		mg/Kg		79	70 - 130	12	35
LCSD L	.CSD								

	LUSD	LUSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

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Prep Type	: Total/NA
Prep Bat	tch: 40826
%Rec	RPD

Client Sample ID: Lab Control Sample Dup

Project/Site: PLU 30 Big Sinks

Client: Ensolum

Job ID: 880-22192-1 SDG: 03E1558016

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

Lab Sample ID: MB 880-41024 Matrix: Solid											ample ID: Me Prep Typ	e: To	otal/N/
Analysis Batch: 41104		MB	мв								Prep Ba	atch:	4102
Analyte	Re		Qualifier	RL		Unit		D	Pi	repared	Analyzed		Dil Fa
Gasoline Range Organics		\$50.0		50.0		mg/K	g			5/22 11:32	12/06/22 08:	55	
(GRO)-C6-C10 Diesel Range Organics (Over	<	:50.0	U	50.0		mg/K	g		12/0	5/22 11:32	12/06/22 08:	55	
C10-C28) Oll Range Organics (Over C28-C36)	<	\$50.0	U	50.0		mg/K	g		12/0	5/22 11:32	12/06/22 08:	55	
		ΜВ	МВ			-	-						
Surrogate	%Reco	very	Qualifier	Limits					PI	repared	Analyzed		Dil Fa
1-Chlorooctane		130		70 - 130					12/0	5/22 11:32	12/06/22 08:	55	
o-Terphenyl		127		70 - 130					12/0	5/22 11:32	12/06/22 08:	55	
Lab Sample ID: LCS 880-4102	24/2-A							CI	ient	Sample	ID: Lab Cont		
Matrix: Solid											Prep Typ		
Analysis Batch: 41104				Spike	1.06	LCS					Prep Ba %Rec	aten:	4102
Analyte				Added		Qualifier	Unit		D	%Rec	%Rec Limits		
Gasoline Range Organics				1000	840.2	Quaimer	mg/Kg		_	84	70 - 130		
(GRO)-C6-C10 Diesel Range Organics (Over				1000	897.2		mg/Kg			90	70 - 130		
	LCS	LCS											
C10-C28)	LCS %Recovery			Limits									
C10-C28)				Limits 70 - 130									
C10-C28) Surrogate 1-Chlorooctane	%Recovery												
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-410	%Recovery 129 120			70 - 130			CI	ient (	Sam	iple ID: L	ab Control S		
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-410 Matrix: Solid	%Recovery 129 120			70 - 130			CI	ient (	Sam	iple ID: L	Prep Typ	e: To	otal/N
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-410 Matrix: Solid	%Recovery 129 120			70 - 130 70 - 130	LCSD	LCSD	CI	ient (	Sam	ıple ID: L	Prep Typ Prep Ba	e: To	otal/N 4102
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-410 Matrix: Solid Analysis Batch: 41104	%Recovery 129 120			70 - 130 70 - 130 <b>Spike</b>		LCSD		ient (		-	Prep Typ Prep Ba %Rec	e: To atch:	otal/N 4102 RP
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-410 Matrix: Solid Analysis Batch: 41104 Analyte	%Recovery 129 120			70 - 130 70 - 130 Spike Added	Result	LCSD Qualifier	Unit	ient S	Sam	%Rec	Prep Typ Prep Ba %Rec Limits	e: To atch: RPD	otal/N 4102 RP Lim
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-410 Matrix: Solid Analysis Batch: 41104 Analyte Gasoline Range Organics	%Recovery 129 120			70 - 130 70 - 130 <b>Spike</b>				ient (		-	Prep Typ Prep Ba %Rec	e: To atch:	otal/N 4102 RP Lim
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-410 Matrix: Solid Analysis Batch: 41104 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	%Recovery 129 120			70 - 130 70 - 130 Spike Added	Result		Unit	ient S		%Rec	Prep Typ Prep Ba %Rec Limits	e: To atch: RPD	otal/N 4102 RP Lim 2
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-410 Matrix: Solid Analysis Batch: 41104 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	%Recovery 129 120	Qua	lifier	70 - 130 70 - 130 Spike Added 1000	Result 836.2		Unit mg/Kg	ient S		<b>%Rec</b> 84	Prep Typ Prep Ba %Rec Limits 70 - 130	e: To atch: RPD 0	otal/N 4102 RP Lim
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-410 Matrix: Solid Analysis Batch: 41104 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	%Recovery 129 120 024/3-A	Qua	lifier	70 - 130 70 - 130 Spike Added 1000	Result 836.2		Unit mg/Kg	ient (		<b>%Rec</b> 84	Prep Typ Prep Ba %Rec Limits 70 - 130	e: To atch: RPD 0	otal/N 4102 RP Lim 2
Surrogate         1-Chlorooctane         o-Terphenyl         Lab Sample ID: LCSD 880-410         Matrix: Solid         Analysis Batch: 41104         Analyte         Gasoline Range Organics         (GRO)-C6-C10         Diesel Range Organics (Over C10-C28)         Surrogate         1-Chlorooctane	%Recovery 129 120 024/3-A	Qua	lifier	70 - 130 70 - 130 Spike Added 1000	Result 836.2		Unit mg/Kg	ient \$		<b>%Rec</b> 84	Prep Typ Prep Ba %Rec Limits 70 - 130	e: To atch: RPD 0	otal/N
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-410 Matrix: Solid Analysis Batch: 41104 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate	%Recovery 129 120 024/3-A	Qua	lifier	70 - 130 70 - 130 Spike Added 1000 1000 Limits	Result 836.2		Unit mg/Kg	ient (		<b>%Rec</b> 84	Prep Typ Prep Ba %Rec Limits 70 - 130	e: To atch: RPD 0	otal/N 4102 RP Lim 2
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-410 Matrix: Solid Analysis Batch: 41104 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl	%Recovery 129 120 024/3-A <i>LCSD</i> %Recovery 129 117	Qua LCS Qua	lifier D lifier	70 - 130 70 - 130 <b>Spike</b> Added 1000 1000 <i>Limits</i> 70 - 130	Result 836.2		Unit mg/Kg	ient (		<b>%Rec</b> 84	Prep Typ Prep Ba %Rec Limits 70 - 130	e: To atch: RPD 0	otal/N 4102 RP Lim
C10-C28)  Surrogate 1-Chlorooctane 0-Terphenyl Lab Sample ID: LCSD 880-410 Matrix: Solid Analysis Batch: 41104  Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)  Surrogate 1-Chlorooctane 0-Terphenyl lethod: 300.0 - Anions, Ic Lab Sample ID: MB 880-40955	%Recovery 129 120 024/3-A <i>LCSD</i> %Recovery 129 117 on Chromate	Qua LCS Qua	lifier D lifier	70 - 130 70 - 130 <b>Spike</b> Added 1000 1000 <i>Limits</i> 70 - 130	Result 836.2		Unit mg/Kg	ient \$	D	%Rec 84 89	Prep Typ Prep Ba %Rec Limits 70 - 130 70 - 130	e: To atch: RPD 0 1	bital/N 4102 RF Lin 2 2
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-410 Matrix: Solid Analysis Batch: 41104 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl lethod: 300.0 - Anions, Ic Lab Sample ID: MB 880-40958 Matrix: Solid	%Recovery 129 120 024/3-A <i>LCSD</i> %Recovery 129 117 on Chromate	Qua LCS Qua	D lifier aphy	70 - 130 70 - 130 <b>Spike</b> Added 1000 1000 <i>Limits</i> 70 - 130	Result 836.2		Unit mg/Kg	ient \$	D	%Rec 84 89	Prep Typ Prep Ba %Rec Limits 70 - 130 70 - 130	e: To atch: RPD 0 1	bital/N 4102 RP Lim 2 2
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-410 Matrix: Solid Analysis Batch: 41104 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane	%Recovery 129 120 024/3-A <i>LCSD</i> %Recovery 129 117 00 Chromato 0/1-A	Qua LCS Qua O <b>G</b> T	lifier D lifier	70 - 130 70 - 130 <b>Spike</b> Added 1000 1000 <i>Limits</i> 70 - 130	Result 836.2		Unit mg/Kg	ient \$	D	%Rec 84 89	Prep Typ Prep Ba %Rec Limits 70 - 130 70 - 130	e: To atch: RPD 0 1	Blan

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## **QC Sample Results**

Client: Ensolum Project/Site: PLU 30 Big Sinks Job ID: 880-22192-1 SDG: 03E1558016

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-40959/2-A Matrix: Solid Analysis Batch: 41085					Client	t Sample	ID: Lab Co Prep	ontrol Sa Type: S		į
· ····· <b>,···</b> ···························	Spike	LCS	LCS				%Rec			
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits			f
Chloride	250	267.0		mg/Kg		107	90 - 110			
Lab Sample ID: LCSD 880-40959/3-A Matrix: Solid				Clie	nt San	nple ID:	Lab Contro Prep	ol Sampl Type: S		ļ
Analysis Batch: 41085	Calles	1.000	LCSD				% Dee			
• • •	Spike				_	~ <b>-</b>	%Rec		RPD	ł
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	267.4		mg/Kg		107	90 _ 110	0	20	

**QC** Association Summary

Client: Ensolum Project/Site: PLU 30 Big Sinks

Job ID: 880-22192-1 SDG: 03E1558016

### **GC VOA**

### Prep Batch: 40826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22192-1	FS05A	Total/NA	Solid	5035	
880-22192-2	FS06A	Total/NA	Solid	5035	
MB 880-40826/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40826/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40826/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
Analysis Batch: 41499					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22192-1	FS05A	Total/NA	Solid	8021B	40826
880-22192-2	FS06A	Total/NA	Solid	8021B	40826
MB 880-40826/5-A	Method Blank	Total/NA	Solid	8021B	40826
LCS 880-40826/1-A	Lab Control Sample	Total/NA	Solid	8021B	40826
LCSD 880-40826/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40826
analysis Batch: 41666	i				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22192-1	FS05A	Total/NA	Solid	Total BTEX	
880-22192-2	FS06A	Total/NA	Solid	Total BTEX	
SC Semi VOA					
rep Batch: 41024					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-22192-1	FS05A	Total/NA	Solid	8015NM Prep	

880-22192-1         FS05A         Total/NA         Solid         8015NM Prep	
880-22192-2         FS06A         Total/NA         Solid         8015NM Prep	
MB 880-41024/1-A Method Blank Total/NA Solid 8015NM Prep	
LCS 880-41024/2-A Lab Control Sample Total/NA Solid 8015NM Prep	
LCSD 880-41024/3-A Lab Control Sample Dup Total/NA Solid 8015NM Prep	

#### Analysis Batch: 41104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22192-1	FS05A	Total/NA	Solid	8015B NM	41024
880-22192-2	FS06A	Total/NA	Solid	8015B NM	41024
MB 880-41024/1-A	Method Blank	Total/NA	Solid	8015B NM	41024
LCS 880-41024/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41024
LCSD 880-41024/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41024

#### Analysis Batch: 41228

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-22192-1	FS05A	Total/NA	Solid	8015 NM	
880-22192-2	FS06A	Total/NA	Solid	8015 NM	

### HPLC/IC

#### Leach Batch: 40959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22192-1	FS05A	Soluble	Solid	DI Leach	
880-22192-2	FS06A	Soluble	Solid	DI Leach	
MB 880-40959/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-40959/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-40959/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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Client: Ensolum Project/Site: PLU 30 Big Sinks Job ID: 880-22192-1 SDG: 03E1558016

## HPLC/IC

### Analysis Batch: 41085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22192-1	FS05A	Soluble	Solid	300.0	40959
880-22192-2	FS06A	Soluble	Solid	300.0	40959
MB 880-40959/1-A	Method Blank	Soluble	Solid	300.0	40959
LCS 880-40959/2-A	Lab Control Sample	Soluble	Solid	300.0	40959
LCSD 880-40959/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	40959

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Job ID: 880-22192-1 SDG: 03E1558016

## Lab Sample ID: 880-22192-1 Matrix: Solid

Lab Sample ID: 880-22192-2

Matrix: Solid

Client Sample ID: FS05A Date Collected: 12/01/22 13:05 Date Received: 12/01/22 14:38

Project/Site: PLU 30 Big Sinks

Client: Ensolum

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	5035			40826	MNR	EET MID	12/02/22 10:31
Total/NA	Analysis	8021B		1	41499	MNR	EET MID	12/10/22 04:48
Total/NA	Analysis	Total BTEX		1	41666	SM	EET MID	12/12/22 15:45
Total/NA	Analysis	8015 NM		1	41228	SM	EET MID	12/07/22 09:45
Total/NA	Prep	8015NM Prep			41024	DM	EET MID	12/05/22 11:32
Total/NA	Analysis	8015B NM		1	41104	SM	EET MID	12/06/22 13:42
Soluble	Leach	DI Leach			40959	SMC	EET MID	12/03/22 13:50
Soluble	Analysis	300.0		1	41085	СН	EET MID	12/08/22 08:53

### Client Sample ID: FS06A Date Collected: 12/01/22 13:10

Date Received: 12/01/22 14:38

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor		Analyst	Lab	or Analyzed
Total/NA	Prep	5035			40826		EET MID	12/02/22 10:31
Total/NA	Analysis	8021B		1	41499	MNR	EET MID	12/10/22 05:09
Total/NA	Analysis	Total BTEX		1	41666	SM	EET MID	12/12/22 15:45
Total/NA	Analysis	8015 NM		1	41228	SM	EET MID	12/07/22 09:45
Total/NA	Prep	8015NM Prep			41024	DM	EET MID	12/05/22 11:32
Total/NA	Analysis	8015B NM		1	41104	SM	EET MID	12/06/22 14:03
Soluble	Leach	DI Leach			40959	SMC	EET MID	12/03/22 13:50
Soluble	Analysis	300.0		1	41085	СН	EET MID	12/08/22 08:59

#### Laboratory References:

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

> 12 13

Eurofins Midland

### Laboratory: Eurofins Midland

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

hority	Pr	rogram	Identification Number	Expiration Date
as	N	ELAP	T104704400-22-24	06-30-23
			с на на на <del>т</del> аз и на	
• •	•	ut the laboratory is not certif	fied by the governing authority. This list ma	ay include analytes for w
the following analytes the agency does not of	•	ut the laboratory is not certif	ned by the governing authority. This list ma	ay include analytes for w
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the agency does not of	fer certification.	·	, , , , ,	ay include analytes for w

Eurofins Midland

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Job ID: 880-22192-1

SDG: 03E1558016

## **Method Summary**

Client: Ensolum Project/Site: PLU 30 Big Sinks Job ID: 880-22192-1 SDG: 03E1558016

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
01 Leach	Deionized Water Leaching Procedure	ASTM	EET MID

#### Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

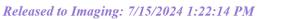
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

**Eurofins Midland** 

## **Sample Summary**

Client: Ensolum Project/Site: PLU 30 Big Sinks Job ID: 880-22192-1 SDG: 03E1558016

Lab Sample ID Client Sample ID Matrix Collected	Received	Depth
880-22192-1 FS05A Solid 12/01/22 13:0	5 12/01/22 14:38	1'
880-22192-2 FS06A Solid 12/01/22 13:1	0 12/01/22 14:38	1'



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Revised Date: 08/25/2020 Rev 2020 7	10		6		0					م ک
			122 14:38 2	11 حا	$\downarrow$	C P	8		222 h	a la la
Date/Time	Received by (Signature)	Relinquished by (Signature)	Date/Time Relinqu		ure)	Received by (Signature)	Rec	arture)	Relinquished by (Signature)	Relinquish
	ons rol sgotiated	or service. Supprisone or una succurrent or un clinicitudin in the same and purchase or definition of entitic company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofina 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 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 provide the same state of the same and the same and the same of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated the same state of the same state of the same same and the same same same same same same same sam	or service, signifying the inservice in the instrument of samples construints and purchase order from clent company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard of Servica. 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 circumstance 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 to the interview of the same 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 to the same of the sa	npany to Eurofin sses or expenses ubmitted to Euro	order from client con aponsibility for any lo <sup>5</sup> 55 for each sample s	shall not assume any re project and a charge of	samples cons samples and plied to each	the only for the cost of pe of \$85.00 will be app	A minimum charg	of service, signature of of service, Eurofins of Eurofins Xenco, p
7471	Hg	BRCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U	As Ba Be Cd Cr Co Cu	BRCRA Sb	TCLP / SPLP 6010	TCLP.	analyzec	Circle Method(s) and Metal(s) to be analyzed	od(s) and N	Circle Meth
V Zn	Ni K Se Ag SiO <sub>2</sub> Na Sr Ti Sn U	o Cu Fe Pb Mg Mn Mo Ni	As Ba Be B Cd Ca Cr Co	Texas 11 AI Sb /		8RCR	-	200.8/6020;	7/6010	Total 200.7 / 6010
		000-22192 Chain of Custody								
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5 - 7 1 4 7 1	<u>→                                    </u>							   		
in a land	2027									
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New St.	4100044		8	-	~	22		~	44	FS06A
	<i>T</i>		X X X	Carab 1		2081 206	(2)	5	54	F505
Sample Comments	San		ВТ Т/- С/-	Grab/ # of Comp Cont	Depth	Date Time Sampled Sampled		on Matrix	Sample Identification	Sampl
NaOH+Ascorbic Acid SAPC	NaOH+As		b		[	Corrected Temperature	Corre		15.	Total Containers.
7n Acetate+NaOH Zn	Zn Acetat				12.1	Temperature Reading:		Yes No N/A	ty Seals.	Sample Custody Seals.
NaSO ,	Na <sub>2</sub> <sub>2</sub> <sub>2</sub> <sub>2</sub> <sub>1</sub> <sub>2</sub> <sub>2</sub>		er			Correction Factor	ļ	Yes No N/A	/ Seals,	Cooler Custody Seals,
, NARIC	Nation Nation				T-NM-007	vometer	Then	Yes No	/ed Intact:	Samples Received Intact:
	H,PO, HP			eters	(Yes No	No Wet Ice:	Yes	Temp Blank.	HPT	SAMPLE RECEIPT
	H-SO H				the lab, if received by 4:30pm	the lab, if				PO#
					TAT starts the day received by	_	Perker	Kase Parker	-	Sampler's Name:
	None NO			Cooe	-{	<u> </u>	2 69 7	incua rin		Project Location
a vauve				Pres.	e Rush	Routine	2	N (24) > 1 3 (0	ے ا	Project Number
emotion Codes	Drae	ANALYSIS REOLIEST			Turn Around	7	Sinks	OL G 30 Big Sinks	PK	Project Name:
Other		CA-200 Deliverables	way Mark	6-2	il Gerrete	Email	2546	303-147-2	30	Phone
	Reporting Level II C Level III PST/UST C TRRP C Level IV	ACZZ 7 Reporting	Corts bud Alber &		City, State ZIP	R720	1	ertshed Mry	Leri	City, State ZIP-
i		State of Project:	2		Address:	Perks beeng	4	3/22 Noriand		Address.
RRC Superfund	UST/PST	Program:	2		Company Name			En solare	ię.	Company Name
	ž	<i>b</i>	Garrett Greek		Bill to: (if different)	Ser	Marrissey	GLOME		Project Manager
L of	www.xenco.com <sup>p</sup> age_	0-3   99	יישטען איזין ערעעען אווא (ערע ער גערעט אין אווא ערעען אווא (ערט) און אין איז איז איז איז איז איז איז איז איז א							
		-1296	EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296	_Paso, TX (915	. 8		Q	Kenco		
4 Br	Work Order No: 20	-0300	Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300 Midland, TX (432) 704-5440. San Antonio, TX (210) 500-3334	Houston, TX (28 Iland. TX (432)	Mic	Environment Testing	onme			* * *

## 12/12/2022

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eurofins .

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13

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300 Chain of Custody

14

Job Number: 880-22192-1 SDG Number: 03E1558016

List Source: Eurofins Midland

## Login Sample Receipt Checklist

Client: Ensolum

Login Number: 22192 List Number: 1 Creator: Kramer, Jessica

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.	True	
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: Tacoma Morrissey Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 12/30/2022 12:00:36 PM Revision 2

## JOB DESCRIPTION

PLU 30 Big Sinks Battery SDG NUMBER 03E1558016

## **JOB NUMBER**

890-3243-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notos and contact information

Received by OCD: 6/28/2024 6:18:11 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 12/30/2022 12:00:36 PM Revision 2

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: 890-3243-1 SDG: 03E1558016

## **Table of Contents**

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Client Sample Results	6
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	8
QC Association Summary	12
Lab Chronicle	14
Certification Summary	15
Method Summary	16
Sample Summary	17
Chain of Custody	18
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## Qualifiers

**GC VOA** Qualifier

F1

S1-

U

Definitions/Glossary		1
um PLU 30 Big Sinks Battery	Job ID: 890-3243-1 SDG: 03E1558016	2
		3
Qualifier Description		4
MS and/or MSD recovery exceeds control limits. Surrogate recovery exceeds control limits, low biased.		5
Indicates the analyte was analyzed for but not detected.		6

#### GC Semi VOA C

Qualifier	Qualifier Description	
U	Indicates the analyte was analyzed for but not detected.	7
HPLC/IC		
Qualifier	Qualifier Description	8
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.	Q
U	Indicates the analyte was analyzed for but not detected.	3
Glossary		10
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	11
%R	Percent Recovery	
CFL	Contains Free Liquid	12
CFU	Colony Forming Unit	
CNF	Contains No Free Liquid	13
DER	Duplicate Error Ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	14

### 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
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

Released to Imaging: 7/15/2024 1:22:14 PM

## Job ID: 890-3243-1

## Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3243-1

#### REVISION

The report being provided is a revision of the original report sent on 10/31/2022. The report (revision 2) is being revised due to Per client email, requesting sample ID and depth change.

Report revision history

The report being provided is a revision of the original report sent on 10/31/2022. The report (revision 2) is being revised due to Per client email, requesting sample ID and depth change.

Revision 1 - 11/29/2022 - Reason - Per client email, requesting sample ID change.

#### Receipt

The sample was received on 10/20/2022 9:38 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.8°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: BH03 (890-3243-1).

#### GC VOA

Method 8021B: The following samples were diluted due to the nature of the sample matrix: (880-20605-A-1-E MS) and (880-20605-A-1-F 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.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-38021 and analytical batch 880-38089 was outside the upper control limits.

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

#### GC Semi VOA

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 880-37511 and analytical batch 880-37598 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.

### Job ID: 890-3243-1 SDG: 03E1558016

## **Client Sample Results**

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

### **Client Sample ID: BH03** Date Collected: 10/19/22 10:40

Date Received: 10/20/22 09:38 Sample Depth: 1.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/26/22 14:13	10/29/22 03:17	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/26/22 14:13	10/29/22 03:17	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/26/22 14:13	10/29/22 03:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/26/22 14:13	10/29/22 03:17	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/26/22 14:13	10/29/22 03:17	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/26/22 14:13	10/29/22 03:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130			10/26/22 14:13	10/29/22 03:17	1
1,4-Difluorobenzene (Surr)	95		70 - 130			10/26/22 14:13	10/29/22 03:17	1
Method: TAL SOP Total BT	EX - Total BTE	X Calculat	ion					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/30/22 21:36	1
Method: SW846 8015 NM -	Diesel Range (	<b>Organics</b> (	DRO) (GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	340		49.9	mg/Kg			10/24/22 09:48	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		10/21/22 13:00	10/21/22 19:08	1
Diesel Range Organics (Over C10-C28)	216		49.9	mg/Kg		10/21/22 13:00	10/21/22 19:08	1
Oll Range Organics (Over C28-C36)	124		49.9	mg/Kg		10/21/22 13:00	10/21/22 19:08	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130			10/21/22 13:00	10/21/22 19:08	1
o-Terphenyl	95		70 - 130			10/21/22 13:00	10/21/22 19:08	1
Method: MCAWW 300.0 - Ar	nions, Ion Chr	omatogra	ohy - Soluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte								

Job ID: 890-3243-1 SDG: 03E1558016

## Lab Sample ID: 890-3243-1 Matrix: Solid

**Eurofins Carlsbad** 

## **Surrogate Summary**

**Client: Ensolum** Project/Site: PLU 30 Big Sinks Battery

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

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)		Ę		
880-20605-A-1-E MS	Matrix Spike	101	92				
880-20605-A-1-F MSD	Matrix Spike Duplicate	102	90		6		
890-3243-1	BH03	111	95				
LCS 880-37911/1-A	Lab Control Sample	99	91				
LCSD 880-37911/2-A	Lab Control Sample Dup	101	91				
MB 880-37911/5-A	Method Blank	102	87		5		
MB 880-38021/5-A	Method Blank	72	60 S1-				
Surrogata Lagand					6		

#### 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)					
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)		13		
880-20579-A-1-C MS	Matrix Spike	77	78				
880-20579-A-1-D MSD	Matrix Spike Duplicate	84	83				
890-3243-1	BH03	86	95				
LCS 880-37446/2-A	Lab Control Sample	96	105				
LCSD 880-37446/3-A	Lab Control Sample Dup	98	102				
MB 880-37446/1-A	Method Blank	116	130				

#### Surrogate Legend

1CO = 1-Chlorooctane OTPH = o-Terphenyl

Prep Type: Total/NA

**Eurofins Carlsbad** 

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

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

#### Lab Sample ID: MB 880-37911/5-A Matrix: Solid Analysis Batch: 38089

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/26/22 14:13	10/29/22 01:12	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/26/22 14:13	10/29/22 01:12	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/26/22 14:13	10/29/22 01:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/26/22 14:13	10/29/22 01:12	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/26/22 14:13	10/29/22 01:12	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/26/22 14:13	10/29/22 01:12	1
	MB	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130			10/26/22 14:13	10/29/22 01:12	1
1,4-Difluorobenzene (Surr)	87		70 - 130			10/26/22 14:13	10/29/22 01:12	1

#### Lab Sample ID: LCS 880-37911/1-A **Matrix: Solid** Analysis Batch: 38089

	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	0.100	0.07484		mg/Kg		75	70 - 130
Toluene	0.100	0.07671		mg/Kg		77	70 - 130
Ethylbenzene	0.100	0.07425		mg/Kg		74	70 - 130
m-Xylene & p-Xylene	0.200	0.1480		mg/Kg		74	70 - 130
o-Xylene	0.100	0.08609		mg/Kg		86	70 - 130

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	91		70 - 130

### Lab Sample ID: LCSD 880-37911/2-A **Matrix: Solid**

#### Analysis Batch: 38089 Prep Batch: 37911 LCSD LCSD Spike %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit Benzene 0.100 0.07938 mg/Kg 79 70 - 130 6 35 Toluene 0.100 0.08189 mg/Kg 82 70 - 130 7 35 Ethylbenzene 0.100 0.08032 mg/Kg 80 70 - 130 8 35 m-Xylene & p-Xylene 0.200 0.1556 mg/Kg 78 70 - 130 5 35 o-Xylene 0.100 0.08950 mg/Kg 89 70 - 130 35 4 ICSD ICSD

	LUSD	LUSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	91		70 - 130

### Lab Sample ID: 880-20605-A-1-E MS Matrix: Solid

Analysis Batch: 38089									Prep Batch: 37911
	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	<0.00201	U F1	0.100	0.08080		mg/Kg		80	70 - 130
Toluene	<0.00201	U F1	0.100	0.07923		mg/Kg		78	70 - 130

**Eurofins Carlsbad** 

Prep Type: Total/NA

**Client Sample ID: Matrix Spike** 

# **Client Sample ID: Method Blank** Prep Type: Total/NA Prep Batch: 37911 5 6 7 8 9 10

**Prep Type: Total/NA** 

Prep Type: Total/NA

Prep Batch: 37911

**Client Sample ID: Lab Control Sample** 

**Client Sample ID: Lab Control Sample Dup** 

<b>Released</b> to	Imaging:	7/15/2024	1:22:14 P	P <b>M</b>

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

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

Lab Sample ID: 880-2060 Matrix: Solid	5-A-1-E MS						CI	ient Sa	mple ID: I Prep Ty		
Analysis Batch: 38089										Batch:	
,, o	Sample	Sample	Spike	MS	MS				%Rec		•••••
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Ethylbenzene	<0.00201	U F1	0.100	0.07637		mg/Kg		76	70 - 130		
m-Xylene & p-Xylene	< 0.00402	U F1	0.200	0.1440		mg/Kg		72	70 - 130		
o-Xylene	<0.00201	U	0.100	0.08398		mg/Kg		84	70 - 130		
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	101		70 - 130								
1,4-Difluorobenzene (Surr)	92		70 - 130								
Lab Sample ID: 880-2060	5-A-1-F MSD	1				Client S	Samp	le ID: N	latrix Spil	ke Dup	licate
Matrix: Solid									Prep Ty		
Analysis Batch: 38089										Batch:	
,	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00201	U F1	0.0990	0.06610	F1	mg/Kg		66	70 - 130	20	35
Toluene	<0.00201	U F1	0.0990	0.06481	F1	mg/Kg		65	70 - 130	20	35
Ethylbenzene	<0.00201	U F1	0.0990	0.06337	F1	mg/Kg		64	70 - 130	19	35
m-Xylene & p-Xylene	< 0.00402	U F1	0.198	0.1224	F1	mg/Kg		62	70 - 130	16	35
o-Xylene	<0.00201	U	0.0990	0.07052		mg/Kg		71	70 - 130	17	35

	10/30	WISD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

#### Lab Sample ID: MB 880-38021/5-A Matrix: Solid Analysis Batch: 38089

#### Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 38021

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/27/22 13:34	10/28/22 13:48	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/27/22 13:34	10/28/22 13:48	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/27/22 13:34	10/28/22 13:48	1
m-Xylene & p-Xylene	< 0.00400	U	0.00400	mg/Kg		10/27/22 13:34	10/28/22 13:48	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/27/22 13:34	10/28/22 13:48	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/27/22 13:34	10/28/22 13:48	1
	MB	MB						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	72		70 - 130			10/27/22 13:34	10/28/22 13:48	1
1,4-Difluorobenzene (Surr)	60	S1-	70 - 130			10/27/22 13:34	10/28/22 13:48	1

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

Lab Sample ID: MB 880-37446 Matrix: Solid Analysis Batch: 37444					le ID: Method Prep Type: To Prep Batch	otal/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		10/21/22 07:36	10/21/22 08:48	1

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Job ID: 890-3243-1 SDG: 03E1558016

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Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

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

Lab Sample ID: MB 880-3	7446/1-A						(	Clie	nt Samp	le ID: Me	ethod	Blank
Matrix: Solid										Prep Typ		
Analysis Batch: 37444										Prep B		
,	ļ	МВ МВ										
Analyte	Res	sult Qualifier	RL		Unit		D	Pr	epared	Analyz	zed	Dil Fac
Diesel Range Organics (Over	<5	0.0 U	50.0		mg/ł	(q		10/2	1/22 07:36	-		1
C10-C28)					0	0						
Oll Range Organics (Over C28-C	36) <5	0.0 U	50.0		mg/ł	ζg		10/2	1/22 07:36	10/21/22 (	08:48	1
		MB MB										
Surrogate		ery Qualifier	· Limits					Pr	repared	Analyz	red	Dil Fac
1-Chlorooctane		116 <b>Qualifier</b>	70 - 130							10/21/22		1
o-Terphenyl		130	70 - 130							10/21/22		1
												-
Lab Sample ID: LCS 880-	37446/2-A					Clie	ent	San	nple ID:	Lab Con	itrol S	ample
Matrix: Solid										Prep Typ	pe: To	tal/NA
Analysis Batch: 37444										Prep B	atch:	37446
			Spike	LCS	LCS					%Rec		
Analyte			Added	Result	Qualifier	Unit		D	%Rec	Limits		
Gasoline Range Organics			1000	977.4		mg/Kg			98	70 - 130		
(GRO)-C6-C10			1000			<i>"</i> -			~~	70 /0-		
Diesel Range Organics (Over			1000	900.1		mg/Kg			90	70 - 130		
C10-C28)												
	LCS	LCS										
Surrogate	%Recovery	Qualifier	Limits									
1-Chlorooctane	96		70 - 130									
o-Terphenyl	105		70 - 130									
Lab Sample ID: LCSD 99(	0 27446/2 A					Client C				Control	Samal	
Lab Sample ID: LCSD 880 Matrix: Solid	J-3/440/3-A					Sherit S	am	pie		Control S		
										Prep Typ Prep B		
Analysis Batch: 37444			Spike		LCSD					%Rec	atch.	RPD
Analyte			Added	-	Qualifier	Unit		D	%Rec	Limits	RPD	Limit
Gasoline Range Organics			1000	1058	Quaimer	mg/Kg			106	70 - 130	8	Linne
(GRO)-C6-C10			1000	1000		iiig/itg			100	10-100	0	20
Diesel Range Organics (Over			1000									20
C10-C28)			1000	970.9		mg/Kg			97	70 - 130	8	20 20
			1000	970.9		mg/Kg			97	70 - 130	8	
	LCSD	LCSD	1000	970.9		mg/Kg			97	70 - 130	8	
Surrogate	LCSD %Recovery			970.9		mg/Kg			97	70 - 130	8	
Surrogate 1-Chlorooctane	LCSD %Recovery 98		Limits	970.9		mg/Kg			97	70 - 130	8	
	%Recovery		Limits	970.9		mg/Kg			97	70 - 130	8	
1-Chlorooctane	<b>%Recovery</b> 98		Limits 70 - 130	970.9		mg/Kg			97	70 - 130	8	
1-Chlorooctane	<b>%Recovery</b> 98 102		Limits 70 - 130	970.9		mg/Kg		Cli		70 - 130 Iple ID: N		20
1-Chlorooctane o-Terphenyl	<b>%Recovery</b> 98 102		Limits 70 - 130	970.9		mg/Kg		Cli	ent Sam	iple ID: N Prep Tyj	Matrix pe: To	20 Spike tal/NA
1-Chlorooctane o-Terphenyl Lab Sample ID: 880-2057	<b>%Recovery</b> 98 102		Limits 70 - 130			mg/Kg		Cli	ent Sam	ple ID: N	Matrix pe: To	20 Spike tal/NA
1-Chlorooctane o-Terphenyl Lab Sample ID: 880-2057 Matrix: Solid	<b>%Recovery</b> 98 102	Qualifier	Limits 70 - 130		MS	mg/Kg		Cli	ent Sam	iple ID: N Prep Tyj	Matrix pe: To	20 Spike tal/NA
1-Chlorooctane o-Terphenyl Lab Sample ID: 880-2057 Matrix: Solid Analysis Batch: 37444 Analyte	%Recovery 98 102 9-A-1-C MS Sample	Qualifier	Limits 70 - 130 70 - 130	MS	MS Qualifier	mg/Kg		Cli	ent Sam	ıple ID: N Prep Tyş Prep B	Matrix pe: To	20 Spike tal/NA
1-Chlorooctane o-Terphenyl Lab Sample ID: 880-2057 Matrix: Solid Analysis Batch: 37444 Analyte Gasoline Range Organics	%Recovery 98 102 9-A-1-C MS Sample	Qualifier Sample Qualifier	Limits 70 - 130 70 - 130 Spike	MS					ent Sam	ple ID: M Prep Typ Prep B %Rec	Matrix pe: To	20 Spike tal/NA
1-Chlorooctane o-Terphenyl Lab Sample ID: 880-2057 Matrix: Solid Analysis Batch: 37444 Analyte Gasoline Range Organics (GRO)-C6-C10	%Recovery 98 102 9-A-1-C MS Sample Result <49.8	Qualifier Sample Qualifier U	Limits 70 - 130 70 - 130 <b>Spike</b> Added 998	MS Result 888.0		Unit mg/Kg			ent Sam %Rec 84	ple ID: N Prep Typ Prep B %Rec Limits 70 - 130	Matrix pe: To	20 Spike tal/NA
1-Chlorooctane o-Terphenyl Lab Sample ID: 880-2057 Matrix: Solid Analysis Batch: 37444 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	%Recovery 98 102 9-A-1-C MS Sample Result	Qualifier Sample Qualifier U	Limits 70 - 130 70 - 130 Spike Added	MS Result		Unit			ent Sam %Rec 84	ple ID: N Prep Typ Prep B %Rec Limits	Matrix pe: To	20 Spike tal/NA
1-Chlorooctane o-Terphenyl Lab Sample ID: 880-2057 Matrix: Solid Analysis Batch: 37444 Analyte Gasoline Range Organics (GRO)-C6-C10	%Recovery 98 102 9-A-1-C MS Sample Result <49.8 <49.8	Qualifier Sample Qualifier U	Limits 70 - 130 70 - 130 <b>Spike</b> Added 998	MS Result 888.0		Unit mg/Kg			ent Sam %Rec 84	ple ID: N Prep Typ Prep B %Rec Limits 70 - 130	Matrix pe: To	20 Spike tal/NA
1-Chlorooctane o-Terphenyl Lab Sample ID: 880-2057 Matrix: Solid Analysis Batch: 37444 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	%Recovery 98 102 9-A-1-C MS Sample Result <49.8 <49.8	Qualifier Sample Qualifier U U	Limits 70 - 130 70 - 130 <b>Spike</b> Added 998 998	MS Result 888.0		Unit mg/Kg			ent Sam %Rec 84	ple ID: N Prep Typ Prep B %Rec Limits 70 - 130	Matrix pe: To	20 Spike tal/NA
1-Chlorooctane o-Terphenyl Lab Sample ID: 880-2057 Matrix: Solid Analysis Batch: 37444 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	%Recovery 98 102 9-A-1-C MS Sample Result <49.8 <49.8	Qualifier Sample Qualifier U U	Limits 70 - 130 70 - 130 <b>Spike</b> Added 998	MS Result 888.0		Unit mg/Kg			ent Sam %Rec 84	ple ID: N Prep Typ Prep B %Rec Limits 70 - 130	Matrix pe: To	20 Spike tal/NA

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Job ID: 890-3243-1

SDG: 03E1558016

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o-Terphenyl

70 - 130

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

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

Lab Sample ID: 880-2057 Matrix: Solid Analysis Batch: 37444	9-A-1-D MSE	)				Client	Sam	ple ID:	Matrix Spi Prep Ty Prep F		tal/NA
Analysis Baton. 07 444	Sample	Sample	Spike	MSD	MSD				%Rec	Juton	RPD
Analyte	•	Qualifier	Added	-	Qualifier	Unit	ſ	D %Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8		998	1056		mg/Kg		101	70 - 130	17	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	767.2		mg/Kg		77	70 - 130	7	20
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	84		70 - 130								
o-Terphenyl	83		70 - 130								
Method: 300.0 - Anion	s, Ion Chr	omatograp	ohy								
Lab Sample ID: MB 880-3	7511/1-A						C	lient Sa	mple ID: M	lethod	Blank
Matrix: Solid									Prep T	ype: So	oluble
Analysis Batch: 37598											
		MB MB									
Analyte	Re	sult Qualifier		RL	Unit		D	Prepared	l Analy	zed	Dil Fac
Chloride	<	5.00 U		5.00	mg/K	(g			10/23/22	19:22	1
Lab Sample ID: LCS 880- Matrix: Solid Analysis Batch: 37598	37511/2-A					Clie	ent S	ample I	D: Lab Cor Prep T	ntrol Sa ype: So	
-			Spike	LCS	LCS				%Rec		
Analyte			Added	Result	Qualifier	Unit	I	D %Rec	Limits		
Chloride			250	259.6		mg/Kg		104	90 - 110		
Lab Sample ID: LCSD 88	0-37511/3-A				C	Client Sa	ampl	e ID: La	b Control		
Matrix: Solid Analysis Batch: 37598									Prep T	ype: So	oluble
			Spike	LCSD	LCSD				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit		D %Rec	Limits	RPD	Limit
Chloride			250	259.0		mg/Kg		104	90 - 110	0	20
Lab Sample ID: 890-3240 Matrix: Solid	-A-3-C MS							Client S	ample ID: Prep T	Matrix ype: So	
Analysis Batch: 37598											
	-	Sample	Spike		MS		_	_ ~_	%Rec		
Analyte		Qualifier	Added		Qualifier	Unit	[	D %Rec	Limits		
Chloride	1120		248	1334	4	mg/Kg		87	90 - 110		
Lab Sample ID: 890-3240 Matrix: Solid Analysis Batch: 37598	-A-3-D MSD					Client	Sam	ple ID:	Matrix Spi Prep T		

Analysis Baten: 01000	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	1120		248	1329	4	mg/Kg		85	90 - 110	0	20

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Job ID: 890-3243-1 SDG: 03E1558016

## **QC** Association Summary

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Prep Type

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Matrix

Solid

Solid

Solid

Solid

Solid

Solid

Matrix

Matrix

Solid

Solid

Solid

Solid

Solid

Solid

Solid

Solid

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

**Client Sample ID** 

Lab Control Sample

Lab Control Sample Dup

Matrix Spike Duplicate

**Client Sample ID** 

**Client Sample ID** 

Method Blank

Method Blank

Matrix Spike

Lab Control Sample

Lab Control Sample Dup

Matrix Spike Duplicate

BH03

Method Blank

Method Blank

Matrix Spike

BH03

### Prep Batch: 37911

Lab Sample ID

MB 880-37911/5-A

LCS 880-37911/1-A

LCSD 880-37911/2-A

880-20605-A-1-E MS

880-20605-A-1-F MSD

Prep Batch: 38021

Lab Sample ID

Lab Sample ID

MB 880-37911/5-A

MB 880-38021/5-A

LCS 880-37911/1-A

LCSD 880-37911/2-A

880-20605-A-1-E MS

880-20605-A-1-F MSD

890-3243-1

MB 880-38021/5-A

Analysis Batch: 38089

890-3243-1

Method

5035

5035

5035

5035

5035

5035

Method

Method

8021B

8021B

8021B

8021B

8021B

8021B

8021B

5035

ob ID: 890-3243-1
SDG: 03E1558016

	1
D: 890-3243-1 : 03E1558016	2
	3
Prep Batch	4
	5
	6
	7
Dron Detak	8
Prep Batch	9
Prep Batch	10
37911	11
37911	
38021	12
37911 37911	
3/911	40

37911

37911

## Analysis Batch: 38189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3243-1	BH03	Total/NA	Solid	Total BTEX	

## GC Semi VOA

#### Analysis Batch: 37444

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-3243-1	BH03	Total/NA	Solid	8015B NM	37446
MB 880-37446/1-A	Method Blank	Total/NA	Solid	8015B NM	37446
LCS 880-37446/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37446
LCSD 880-37446/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37446
880-20579-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	37446
880-20579-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37446

### Prep Batch: 37446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3243-1	BH03	Total/NA	Solid	8015NM Prep	
MB 880-37446/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37446/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37446/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20579-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20579-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	
Analysis Batch: 3762	6				

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-3243-1	BH03	Total/NA	Solid	8015 NM	

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## **QC** Association Summary

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

## HPLC/IC

### Leach Batch: 37511

Client Sample ID	Prep Type	Matrix	Method	Prep Batch	4
BH03	Soluble	Solid	DI Leach		
Method Blank	Soluble	Solid	DI Leach		5
Lab Control Sample	Soluble	Solid	DI Leach		
Lab Control Sample Dup	Soluble	Solid	DI Leach		6
Matrix Spike	Soluble	Solid	DI Leach		
Matrix Spike Duplicate	Soluble	Solid	DI Leach		
8					8
	BH03 Method Blank Lab Control Sample Lab Control Sample Dup Matrix Spike Matrix Spike Duplicate	BH03SolubleMethod BlankSolubleLab Control SampleSolubleLab Control Sample DupSolubleMatrix SpikeSolubleMatrix Spike DuplicateSoluble	BH03SolubleSolidMethod BlankSolubleSolidLab Control SampleSolubleSolidLab Control Sample DupSolubleSolidMatrix SpikeSolubleSolidMatrix Spike DuplicateSolubleSolid	BH03SolubleSolidDI LeachMethod BlankSolubleSolidDI LeachLab Control SampleSolubleSolidDI LeachLab Control Sample DupSolubleSolidDI LeachMatrix SpikeSolubleSolidDI LeachMatrix Spike DuplicateSolubleSolidDI Leach	BH03SolubleSolidDI LeachMethod BlankSolubleSolidDI LeachLab Control SampleSolubleSolidDI LeachLab Control Sample DupSolubleSolidDI LeachMatrix SpikeSolubleSolidDI LeachMatrix Spike DuplicateSolubleSolidDI Leach

#### **Client Sample ID** Prep Type Method Lab Sample ID Matrix Prep Batch 890-3243-1 BH03 Soluble Solid 300.0 37511 MB 880-37511/1-A Method Blank Soluble Solid 300.0 37511 LCS 880-37511/2-A Lab Control Sample Soluble Solid 300.0 37511 LCSD 880-37511/3-A Lab Control Sample Dup Soluble Solid 300.0 37511 Soluble 300.0 890-3240-A-3-C MS Matrix Spike Solid 37511 890-3240-A-3-D MSD Matrix Spike Duplicate Soluble Solid 300.0 37511

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Job ID: 890-3243-1 SDG: 03E1558016

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Client: Ensolum

Job ID: 890-3243-1 SDG: 03E1558016

## **Client Sample ID: BH03** Date Collected: 10/19/22 10:40 Date Received: 10/20/22 09:38

Project/Site: PLU 30 Big Sinks Battery

	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	37911	10/26/22 14:13	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38089	10/29/22 03:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38189	10/30/22 21:36	SM	EET MID
Total/NA	Analysis	8015 NM		1			37626	10/24/22 09:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	37446	10/21/22 13:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37444	10/21/22 19:08	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	37511	10/21/22 14:12	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37598	10/23/22 21:38	СН	EET MID

#### Laboratory References:

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

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## Lab Sample ID: 890-3243-1

Matrix: Solid

## **Accreditation/Certification Summary**

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Client: Ensolum Job ID: 890-32									
Project/Site: PLU 30 Big Sinks Battery SDG: 03E15580									
aboratory: Eurofins Midland I accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.									
Authority	Program	Identification Number	Expiration Date	4					
N/A	N/A	None on record.		5					
				6					
				7					
				8					
				9					
				10					
				12					
				13					

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# **Method Summary**

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery Job ID: 890-3243-1 SDG: 03E1558016

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

#### **Protocol References:**

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates. TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

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# Sample Summary

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Client: Ensolum	
Project/Site: PLU 30 Big Sinks Battery	

Job ID: 890-3243-1
SDG: 03E1558016

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3243-1	BH03	Solid	10/19/22 10:40	10/20/22 09:38	1.5'

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Project Manager         Tecoma Montesy         Bits in creeners         Carrier Creeners         Carrier Creeners         Mont Order           Project Manager         Tecoma Montesy         Encoma Montesy         Encoma Montesy         Mont Order         Mont Order           Constraint Mana         Example Constraint Mana         Example Constraint Mana         Example Constraint Manager         Example Constraint Manager         Mont Order         Mo	Manager     Tacoma Morrissey       vy Name     Ensolum       vy Name     Ensolum       strand     3122 National Parks H       tte ZiP     Cartsbad, NM 88220       above     303-887-2946       Number:     03E155801       Number:     03E155801       Number:     03E155801       Same:     PLU 30 Big Sinks       Number:     03E155801       Same:     PLU 30 Big Sinks       Number:     03E155801       Same:     PLU 30 Big Sinks       Number:     03E155801       Same:     Connor Whitr       * Name:     Connor Whitr       * Same:     Connor Whitr       * Sample identification     Matrix       O     Ves     No       O     Ves     No	Email: Email: Email: Email: Routine Due Date: TAT starts th the lab. if rec No Wet loe: Inter Reading: A Temperature:	2 0 9	Garrett G XTO Ene 3104 E. Cartsbax	Green		WWW.XENCO.COM	10011001001	5
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## Login Sample Receipt Checklist

Client: Ensolum

#### Login Number: 3243 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: 890-3243-1 SDG Number: 03E1558016

List Source: Eurofins Carlsbad

Job Number: 890-3243-1 SDG Number: 03E1558016

List Source: Eurofins Midland

List Creation: 10/21/22 10:46 AM

### Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3243 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: Tacoma Morrissey Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 12/27/2022 10:07:28 AM Revision 1

# **JOB DESCRIPTION**

PLU 30 BIG SINKS CTB SDG NUMBER 03E1558016

# **JOB NUMBER**

890-3291-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for lob notos and contact information



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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 12/27/2022 10:07:28 AM Revision 1

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: 890-3291-1 SDG: 03E1558016

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Certification Summary	18
Method Summary	19
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# **Definitions/Glossary**

Client: Ensolum
Project/Site: PLU 30 BIG SINKS CTB

Job ID: 890-3291-1 SDG: 03E1558016

Project/Site: I	PLU 30 BIG SINKS CTB SDG: 03E1558016	
Qualifiers		3
GC VOA		
Qualifier	Qualifier Description	4
F1	MS and/or MSD recovery exceeds control limits.	
U	Indicates the analyte was analyzed for but not detected.	5
GC Semi VO	Α	
Qualifier	Qualifier Description	6
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not	6 7
	applicable.	
S1+	Surrogate recovery exceeds control limits, high biased.	
U	Indicates the analyte was analyzed for but not detected.	8
HPLC/IC		
Qualifier	Qualifier Description	9
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	12 13
CNF	Contains No Free Liquid	13
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	
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 PRES	Practical Quantitation Limit	
	Presumptive Quality Control	
QC RER	Quality Control	
	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

**Eurofins Carlsbad** 

#### Job ID: 890-3291-1

#### Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3291-1

#### REVISION

The report being provided is a revision of the original report sent on 11/1/2022. The report (revision 1) is being revised due to Per client email, requesting sample ID correction and sample depth.

Report revision history

#### Receipt

The samples were received on 10/25/2022 3:17 PM. 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 1.4°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: FS03A (890-3291-1) and FS04A (890-3291-2).

#### GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-38099 and analytical batch 880-38214 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery 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: Surrogate recovery for the following samples were outside control limits: FS03A (890-3291-1), (890-3291-A-1-C MS) and (890-3291-A-1-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-38024/2-A) and (LCSD 880-38024/3-A). Evidence of matrix interferences is not obvious.

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: 890-3291-1 SDG: 03E1558016

# **Client Sample Results**

Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

#### Client Sample ID: FS03A Date Collected: 10/24/22 10:45 Date Received: 10/25/22 15:17 Sample Depth: 1 feet b

Analyte	ile Organic Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil F
Benzene	<0.00200	U	0.00200	mg/Kg		10/28/22 12:40	10/31/22 18:36	
Toluene	0.00241		0.00200	mg/Kg		10/28/22 12:40	10/31/22 18:36	
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/28/22 12:40	10/31/22 18:36	
m-Xylene & p-Xylene	0.0464		0.00399	mg/Kg		10/28/22 12:40	10/31/22 18:36	
o-Xylene	0.0151		0.00200	mg/Kg		10/28/22 12:40	10/31/22 18:36	
Kylenes, Total	0.0615		0.00399	mg/Kg		10/28/22 12:40	10/31/22 18:36	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil F
I-Bromofluorobenzene (Surr)	121		70 - 130			10/28/22 12:40	10/31/22 18:36	
1,4-Difluorobenzene (Surr)	87		70 - 130			10/28/22 12:40	10/31/22 18:36	
Method: TAL SOP Total BTEX	- Total BTE	X Calculat	ion					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil F
otal BTEX	0.0639		0.00399	mg/Kg			11/01/22 09:15	
Method: SW846 8015 NM - Die	esel Range	Organics (	DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil I
Total TPH	6070		49.8	mg/Kg			10/31/22 13:27	
/lethod: SW846 8015B NM - D	iesel Range	organics	(DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil
Gasoline Range Organics GRO)-C6-C10	321		49.8	mg/Kg		10/27/22 15:04	10/29/22 22:42	
Diesel Range Organics (Over C10-C28)	5750		49.8	mg/Kg		10/27/22 15:04	10/29/22 22:42	
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/27/22 15:04	10/29/22 22:42	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil
-Chlorooctane	96		70 - 130			10/27/22 15:04	10/29/22 22:42	
-Terphenyl	151	S1+	70 - 130			10/27/22 15:04	10/29/22 22:42	
Method: MCAWW 300.0 - Anic	ons, Ion Chr	omatogra	ohy - Soluble					
nalyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil
hloride	62.2		4.97	mg/Kg			10/30/22 09:20	
ient Sample ID: FS04A						Lab Samp	le ID: 890-3	<b>329</b> 1
ate Collected: 10/24/22 13:50						Lab Samp	le ID: 890-3 Matrix	
te Collected: 10/24/22 13:50 te Received: 10/25/22 15:17						Lab Samp		
te Collected: 10/24/22 13:50 te Received: 10/25/22 15:17 imple Depth: 1 feet b		0	da (0.0)			Lab Samp		
te Collected: 10/24/22 13:50 te Received: 10/25/22 15:17 imple Depth: 1 feet b lethod: SW846 8021B - Volat	-		ds (GC) RL	Unit	D		Matrix	
ate Collected: 10/24/22 13:50 ate Received: 10/25/22 15:17 ample Depth: 1 feet b Method: SW846 8021B - Volat malyte	Result	Qualifier	RL		D	Prepared	Matrix Analyzed	:: So
te Collected: 10/24/22 13:50 te Received: 10/25/22 15:17 imple Depth: 1 feet b lethod: SW846 8021B - Volat nalyte enzene	<b>Result</b> <0.00199	Qualifier U	<b>RL</b> 0.00199	mg/Kg	D	Prepared 10/28/22 12:40	Matrix	:: Sc
te Collected: 10/24/22 13:50 te Received: 10/25/22 15:17 mple Depth: 1 feet b lethod: SW846 8021B - Volat nalyte enzene oluene	Result <0.00199 <0.00199	Qualifier U U	RL           0.00199           0.00199	mg/Kg mg/Kg	D	Prepared 10/28/22 12:40 10/28/22 12:40	Matrix Analyzed 10/31/22 19:02 10/31/22 19:02	:: Sc
te Collected: 10/24/22 13:50 te Received: 10/25/22 15:17 imple Depth: 1 feet b Method: SW846 8021B - Volat nalyte enzene oluene thylbenzene	Result <0.00199 <0.00199 <0.00199	Qualifier U U	RL 0.00199 0.00199 0.00199	mg/Kg mg/Kg mg/Kg	D	Prepared 10/28/22 12:40 10/28/22 12:40 10/28/22 12:40	Matrix Analyzed 10/31/22 19:02 10/31/22 19:02 10/31/22 19:02	:: Sc
lient Sample ID: FS04A ate Collected: 10/24/22 13:50 ate Received: 10/25/22 15:17 ample Depth: 1 feet b Method: SW846 8021B - Volat Method: SW846 8021B - Volat	Result <0.00199 <0.00199	Qualifier U U	RL           0.00199           0.00199	mg/Kg mg/Kg	D	Prepared 10/28/22 12:40 10/28/22 12:40 10/28/22 12:40 10/28/22 12:40	Matrix Analyzed 10/31/22 19:02 10/31/22 19:02	:: Sc

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Dil Fac

1

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Job ID: 890-3291-1 SDG: 03E1558016

# Lab Sample ID: 890-3291-1

Matrix: Solid

5

11 12 13

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Surrogate

4-Bromofluorobenzene (Surr)

Limits

70 - 130

%Recovery Qualifier

Project/Site: PLU 30 BIG SINKS CTB

# **Client Sample Results**

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Job ID: 890-3291-1 SDG: 03E1558016

# **Client Sample ID: FS04A**

Client: Ensolum

# Lab Sample ID: 890-3291-2

10/27/22 13:59 10/29/22 15:55

Date Collected: 10/24/22 13:50 Date Received: 10/25/22 15:17 Sa

Gasoline Range Organics

Matrix: Solid

Dil Fac

Dil Fac

Dil Fac

Dil Fac

1

1

1

1

4
5
6
8
9
13

Date Received: 10/25/22 15 Sample Depth: 1 feet b	:17						
Method: SW846 8021B - V	/olatile Organic	Compound	ds (GC) (Continu	ied)			
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed
1,4-Difluorobenzene (Surr)	113		70 - 130			10/28/22 12:40	10/31/22 19:02
Method: TAL SOP Total B	TEX - Total BTE	X Calculat	ion				
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed
Total BTEX	0.237		0.00398	mg/Kg			11/01/22 09:15
Method: SW846 8015 NM	- Diesel Range (	Organics (	DRO) (GC)				
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed
Total TPH	5030		50.0	mg/Kg			10/31/22 13:36
Method: SW846 8015B NM	A - Diesel Range	• Organics	(DRO) (GC)				
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed

<50.0 U

Analyte	Result Qua	lifier RL	Unit	D Prepared	Analyzed	Dil Fac
Method: MCAWW 300.0 - An	ions, Ion Chroma	tography - Soluble				
o-Terphenyl	115	70 - 130		10/27/22 13:59	10/29/22 15:55	1
1-Chlorooctane	101	70 - 130		10/27/22 13:59	10/29/22 15:55	1
Surrogate	%Recovery Qua	lifier Limits		Prepared	Analyzed	Dil Fac
C28-C36)	400	00.0	ing/itg	10/21/22 13:33	10/20/22 10:00	I
C10-C28) Oll Range Organics (Over	488	50.0	mg/Kg	10/27/22 13:59	10/29/22 15:55	1
Diesel Range Organics (Over	4540	50.0	mg/Kg	10/27/22 13:59	10/29/22 15:55	1
(GRO)-C6-C10						

50.0

mg/Kg

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	107	4.99	mg/Kg			10/30/22 09:27	1

# **Surrogate Summary**

**Client: Ensolum** Project/Site: PLU 30 BIG SINKS CTB

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

			Percei	t Surrogate Recovery (Acceptance Limits)	4
		BFB1	DFBZ1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		5
880-20720-A-21-C MS	Matrix Spike	105	96		
880-20720-A-21-D MSD	Matrix Spike Duplicate	98	92		6
890-3291-1	FS03A	121	87		
890-3291-2	FS04A	117	113		7
LCS 880-38099/1-A	Lab Control Sample	118	90		
LCSD 880-38099/2-A	Lab Control Sample Dup	120	99		8
MB 880-38099/5-A	Method Blank	79	90		
Surrogate Legend					9

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

			Percent Surrogate Reco	overy (Acceptance Limits)
		1CO1	ОТРН1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3282-A-1-C MS	Matrix Spike	82	85	
890-3282-A-1-D MSD	Matrix Spike Duplicate	99	102	
890-3291-1	FS03A	96	151 S1+	
890-3291-1 MS	FS03A	105	175 S1+	
890-3291-1 MSD	FS03A	101	169 S1+	
890-3291-2	FS04A	101	115	
LCS 880-38024/2-A	Lab Control Sample	121	141 S1+	
LCS 880-38030/2-A	Lab Control Sample	110	113	
LCSD 880-38024/3-A	Lab Control Sample Dup	127	145 S1+	
LCSD 880-38030/3-A	Lab Control Sample Dup	104	103	
MB 880-38024/1-A	Method Blank	92	103	
MB 880-38030/1-A	Method Blank	83	86	

Surrogate Legend

1CO = 1-Chlorooctane OTPH = o-Terphenyl

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Prep Type: Total/NA

11 12 13

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Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

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

Lab Sample ID: MB 880-38099/5-A
Matrix: Solid
Analysis Batch: 38214

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/28/22 12:40	10/31/22 11:40	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/28/22 12:40	10/31/22 11:40	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/28/22 12:40	10/31/22 11:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/28/22 12:40	10/31/22 11:40	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/28/22 12:40	10/31/22 11:40	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/28/22 12:40	10/31/22 11:40	1
	MB	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		70 - 130			10/28/22 12:40	10/31/22 11:40	1
1,4-Difluorobenzene (Surr)	90		70 - 130			10/28/22 12:40	10/31/22 11:40	1

#### Lab Sample ID: LCS 880-38099/1-A Matrix: Solid Analysis Batch: 38214

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.09267		mg/Kg		93	70 - 130	
Toluene	0.100	0.08730		mg/Kg		87	70 - 130	
Ethylbenzene	0.100	0.08721		mg/Kg		87	70 - 130	
m-Xylene & p-Xylene	0.200	0.1768		mg/Kg		88	70 - 130	
o-Xylene	0.100	0.08756		mg/Kg		88	70 - 130	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	118		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

### Lab Sample ID: LCSD 880-38099/2-A Matrix: Solid

Analysis Batch: 38214							Prep Batch: 38099		
	Spike	LCSD L	LCSD				%Rec		RPD
Analyte	Added	Result C	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09817		mg/Kg		98	70 - 130	6	35
Toluene	0.100	0.08916		mg/Kg		89	70 - 130	2	35
Ethylbenzene	0.100	0.08955		mg/Kg		90	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.1831		mg/Kg		92	70 - 130	3	35
o-Xylene	0.100	0.08959		mg/Kg		90	70 - 130	2	35
LCSI	) LCSD								

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	120		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

#### Lab Sample ID: 880-20720-A-21-C MS Matrix: Solid

Analysis Batch: 38214									Prep Batch: 38099
	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	<0.00200	U F1	0.0998	0.06269	F1	mg/Kg		63	70 - 130
Toluene	<0.00200	U F1	0.0998	0.05124	F1	mg/Kg		51	70 - 130

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Prep Type: Total/NA

**Client Sample ID: Matrix Spike** 

13

**Client Sample ID: Lab Control Sample** 

**Client Sample ID: Lab Control Sample Dup** 

Prep Type: Total/NA Prep Batch: 38099

Prep Type: Total/NA

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Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

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

Lab Sample ID: 880-2072 Matrix: Solid Analysis Batch: 38214	:0-A-21-C MS	•					CI	ient Sa	mple ID: I Prep Ty Prep E		tal/NA
• • •	•	Sample	Spike	-	MS		_	a/ <b>-</b>	%Rec		
Analyte		Qualifier	Added		Qualifier	Unit	D	%Rec	Limits		
Ethylbenzene	<0.00200		0.0998	0.04323		mg/Kg		43	70 - 130		
m-Xylene & p-Xylene	<0.00401		0.200	0.08653		mg/Kg		43	70 - 130		
o-Xylene	<0.00200	U F1	0.0998	0.04264	F1	mg/Kg		43	70 - 130		
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	105		70 - 130								
			70 - 130								
1,4-Difluorobenzene (Surr) Lab Sample ID: 880-2072 Matrix: Solid	96 0-A-21-D MS	D	70 - 130			Client S	Samp	le ID: N	latrix Spil Prep Ty		
Lab Sample ID: 880-2072	20-A-21-D MS					Client S	Samp	le ID: N	Prep Ty Prep E		tal/NA 38099
Lab Sample ID: 880-2072 Matrix: Solid Analysis Batch: 38214	0-A-21-D MS Sample	Sample	Spike	-	MSD				Prep Ty Prep E %Rec	pe: Tot Batch: 3	tal/NA 38099 RPD
Lab Sample ID: 880-2072 Matrix: Solid Analysis Batch: 38214 Analyte	20-A-21-D MS Sample Result	Sample Qualifier	Spike Added	Result	MSD Qualifier	Unit	Samp D	%Rec	Prep Ty Prep E %Rec Limits	pe: Tot Batch: 3 RPD	tal/NA 38099 RPD Limit
Lab Sample ID: 880-2072 Matrix: Solid Analysis Batch: 38214	Sample Result	Sample Qualifier U F1	Spike	-	-				Prep Ty Prep E %Rec	pe: Tot Batch: 3	tal/NA 38099 RPD
Lab Sample ID: 880-2072 Matrix: Solid Analysis Batch: 38214 Analyte Benzene Toluene	20-A-21-D MS Sample Result	Sample Qualifier U F1	Spike Added	Result	Qualifier	Unit		%Rec	Prep Ty Prep E %Rec Limits	pe: Tot Batch: 3 RPD	tal/NA 38099 RPD Limit
Lab Sample ID: 880-2072 Matrix: Solid Analysis Batch: 38214 Analyte Benzene	Sample Result	Sample Qualifier U F1 U F1	Spike Added 0.0990	<b>Result</b> 0.06961	Qualifier F1	Unit mg/Kg		<b>%Rec</b> 70	Prep Ty Prep E %Rec Limits 70 - 130	pe: Tot Batch: 3 RPD 10	tal/NA 38099 RPD Limit 35
Lab Sample ID: 880-2072 Matrix: Solid Analysis Batch: 38214 Analyte Benzene Toluene	20-A-21-D MS Sample Result <0.00200 <0.00200	Sample Qualifier U F1 U F1 U F1	<b>Spike</b> <b>Added</b> 0.0990 0.0990	<b>Result</b> 0.06961 0.06111	<b>Qualifier</b> F1 F1	Unit mg/Kg mg/Kg		<b>%Rec</b> 70 62	Prep Ty Prep E %Rec Limits 70 - 130 70 - 130	pe: Tot Batch: 3 RPD 10 18	tal/NA 38099 RPD Limit 35 35
Lab Sample ID: 880-2072 Matrix: Solid Analysis Batch: 38214 Analyte Benzene Toluene Ethylbenzene	20-A-21-D MS Sample Result <0.00200 <0.00200 <0.00200	Sample Qualifier U F1 U F1 U F1 U F1	Spike Added 0.0990 0.0990 0.0990	<b>Result</b> 0.06961 0.06111 0.05794	Qualifier F1 F1 F1	<b>Unit</b> mg/Kg mg/Kg mg/Kg		%Rec 70 62 59	Prep Ty Prep E %Rec Limits 70 - 130 70 - 130 70 - 130	pe: Tot Batch: 3 RPD 10 18 29	tal/NA 38099 RPD Limit 35 35 35
Lab Sample ID: 880-2072 Matrix: Solid Analysis Batch: 38214 Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene	Sample Result <0.00200 <0.00200 <0.00200 <0.00200 <0.00401 <0.00200	Sample Qualifier U F1 U F1 U F1 U F1	Spike Added 0.0990 0.0990 0.0990 0.198	<b>Result</b> 0.06961 0.06111 0.05794 0.1157	Qualifier F1 F1 F1	Unit mg/Kg mg/Kg mg/Kg mg/Kg		<b>%Rec</b> 70 62 59 58	Prep Ty           Prep E           %Rec           Limits           70 - 130           70 - 130           70 - 130           70 - 130           70 - 130	<b>RPD</b> 10 18 29 29	tal/NA 38099 RPD Limit 35 35 35 35
Lab Sample ID: 880-2072 Matrix: Solid Analysis Batch: 38214 Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene	Sample Result <0.00200 <0.00200 <0.00200 <0.00200 <0.00401 <0.00200	Sample Qualifier U F1 U F1 U F1 U F1 U F1 U F1	Spike Added 0.0990 0.0990 0.0990 0.198	<b>Result</b> 0.06961 0.06111 0.05794 0.1157	Qualifier F1 F1 F1	Unit mg/Kg mg/Kg mg/Kg mg/Kg		<b>%Rec</b> 70 62 59 58	Prep Ty           Prep E           %Rec           Limits           70 - 130           70 - 130           70 - 130           70 - 130           70 - 130	<b>RPD</b> 10 18 29 29	tal/NA 38099 RPD Limit 35 35 35 35
Lab Sample ID: 880-2072 Matrix: Solid Analysis Batch: 38214 Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene o-Xylene	20-A-21-D MS Sample Result <0.00200 <0.00200 <0.00200 <0.00200 <0.00401 <0.00200 <i>MSD</i>	Sample Qualifier U F1 U F1 U F1 U F1 U F1 U F1	Spike Added 0.0990 0.0990 0.198 0.0990	<b>Result</b> 0.06961 0.06111 0.05794 0.1157	Qualifier F1 F1 F1	Unit mg/Kg mg/Kg mg/Kg mg/Kg		<b>%Rec</b> 70 62 59 58	Prep Ty           Prep E           %Rec           Limits           70 - 130           70 - 130           70 - 130           70 - 130           70 - 130	<b>RPD</b> 10 18 29 29	tal/NA 38099 RPD Limit 35 35 35 35

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

#### Lab Sample ID: MB 880-38024/1-A Matrix: Solid Analysis Batch: 38137

	МВ	МВ						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/27/22 13:59	10/29/22 10:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/27/22 13:59	10/29/22 10:00	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/27/22 13:59	10/29/22 10:00	1
	MB	MB						

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	103		70 - 130

#### Lab Sample ID: LCS 880-38024/2-A Matrix: Solid Analysis Batch: 38137

Analysis Batch: 38137							Prep Ba	atch: 38024
	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	1170		mg/Kg		117	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	855.4		mg/Kg		86	70 - 130	
C10-C28)								

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**Client Sample ID: Method Blank** 

Analyzed

Prep Type: Total/NA

10/27/22 13:59 10/29/22 10:00

10/27/22 13:59 10/29/22 10:00

**Client Sample ID: Lab Control Sample** 

Dil Fac

1

1

Prepared

Prep Type: Total/NA

Prep Batch: 38024

Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

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

5

Lab Sample ID: LCS 880- Matrix: Solid	38024/2-A					Clier	nt Sar	nple ID	: Lab Cor Prep Ty	pe: Tot	al/NA
Analysis Batch: 38137									Prep E	Batch: 3	38024
	1.05	LCS									
Surrogate	%Recovery		Limits								
1-Chlorooctane	121		70 - 130								
o-Terphenyl		S1+	70 - 130								
Lab Sample ID: LCSD 880	D-38024/3-A				c	Client Sa	mple	ID: Lat	o Control	Sample	e Dup
Matrix: Solid									Prep Ty		
Analysis Batch: 38137										Batch: 3	
			Spike	LCSD	LCSD				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics			1000	1233		mg/Kg		123	70 - 130	5	20
(GRO)-C6-C10											
Diesel Range Organics (Over C10-C28)			1000	912.3		mg/Kg		91	70 - 130	6	20
	LCSD	LCSD									
Surrogate	%Recovery		Limits								
1-Chlorooctane	127	Quanner	70 - 130								
o-Terphenyl		S1+	70 - 130								
	110	011	101100								
Lab Sample ID: 890-3282	-A-1-C MS						CI	ient Sa	mple ID: I	Matrix \$	Spike
Matrix: Solid									· Prep Ty		
Analysis Batch: 38137										Batch: 3	
-	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics	<49.8	U	998	994.7		mg/Kg		98	70 - 130		
(GRO)-C6-C10											
Diesel Range Organics (Over	<49.8	U	998	895.0		mg/Kg		88	70 - 130		
C10-C28)											
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	82		70 - 130								
o-Terphenyl	85		70 - 130								
Lab Sample ID: 890-3282	-A-1-D MSD					Client S	Samp	le ID: N	latrix Spil		
Matrix: Solid									Prep Ty		
Analysis Batch: 38137										Batch: 3	38024
		Sample	Spike		MSD				%Rec		RPD
Analyte		Qualifier	Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8		998	914.9		mg/Kg		90	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1085		mg/Kg		107	70 - 130	19	20
	MSD	MSD									
Surrogate	%Recovery		Limits								
1-Chlorooctane	99		70 - 130								

Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

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

Matrix: Solid	030/1-A						C	Clie		ole ID: Method Prep Type: To	otal/NA
Analysis Batch: 38135										Prep Batch	: 38030
	MB	MB									
Analyte	Result	t Qualifier	RL		Unit	t	D	Pr	repared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	) U	50.0		mg/l	Kg	1	10/2	7/22 15:04	10/29/22 21:37	1
Diesel Range Organics (Over C10-C28)	<50.0	) U	50.0		mg/l	Kg	1	10/27	7/22 15:04	10/29/22 21:37	
Oll Range Organics (Over C28-C36	) <50.0	) U	50.0		mg/l	Kg	1	10/2	7/22 15:04	10/29/22 21:37	1
	ME	B MB									
Surrogate	%Recovery	v Qualifier	Limits					Pı	repared	Analyzed	Dil Fac
1-Chlorooctane	83	3	70 - 130				1	10/2	7/22 15:04	10/29/22 21:37	1
o-Terphenyl	86	5	70 - 130				1	10/2	7/22 15:04	10/29/22 21:37	1
Analysis Batch: 38135										Prep Batch	: 3803
Analyte			Spike Added	-	LCS Qualifier	Unit		п	%Rec	%Rec	: 3803(
Analyte Gasoline Range Organics			Spike Added 1000	-	LCS Qualifier	<b>Unit</b> mg/Kg		D	<b>%Rec</b> 82		: 3803(
·			Added	Result				D		%Rec Limits	: 3803(
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	LCS LC	 S	<b>Added</b> 1000	<b>Result</b> 820.2		mg/Kg		D	82	%Rec Limits 70 - 130	: 38030
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	LCS LC %Recovery Qu		<b>Added</b> 1000	<b>Result</b> 820.2		mg/Kg		D	82	%Rec Limits 70 - 130	. 38030
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over			Added 1000 1000	<b>Result</b> 820.2		mg/Kg		D	82	%Rec Limits 70 - 130	: 38030
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane	%Recovery Qu		Added 1000 1000 <i>Limits</i>	<b>Result</b> 820.2		mg/Kg		D	82	%Rec Limits 70 - 130	: 3803(
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl	%Recovery Qu 110 113		Added 1000 1000 <i>Limits</i> 70 - 130	<b>Result</b> 820.2	Qualifier	mg/Kg mg/Kg	amp		82	%Rec Limits 70 - 130	
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane	%Recovery Qu 110 113		Added 1000 1000 <i>Limits</i> 70 - 130	<b>Result</b> 820.2	Qualifier	mg/Kg mg/Kg	amp		82 102 ID: Lab	%Rec Limits 70 - 130 70 - 130	ble Dup
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-3	%Recovery Qu 110 113		Added 1000 1000 <i>Limits</i> 70 - 130	<b>Result</b> 820.2	Qualifier	mg/Kg mg/Kg	amp		82 102 ID: Lab	%Rec Limits 70 - 130 70 - 130 Control Samp	ble Dup otal/NA
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: LCSD 880-3 Matrix: Solid	%Recovery Qu 110 113		Added 1000 1000 <i>Limits</i> 70 - 130	<b>Result</b> 820.2 1025	Qualifier	mg/Kg mg/Kg	amp		82 102 ID: Lab	%Rec Limits 70 - 130 70 - 130 Control Samp Prep Type: To	ble Dup otal/NA

	Эріке	LCOD	LCOD				/onec		RFD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	811.4		mg/Kg		81	70 - 130	1	20
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	945.5		mg/Kg		95	70 - 130	8	20
C10-C28)									

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	103		70 - 130

#### Lab Sample ID: 890-3291-1 MS Matrix: Solid Analysis Batch: 38135

Analysis Batch: 38135										atch: 38030
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	321		998	1085		mg/Kg		77	70 - 130	
Diesel Range Organics (Over C10-C28)	5750		998	6103	4	mg/Kg		35	70 - 130	

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**Client Sample ID: FS03A** 

Prep Type: Total/NA

**Released to Imaging:** 7/15/2024 1:22:14 PM

**Client: Ensolum** Project/Site: PLU 30 BIG SINKS CTB

Lab Sample ID: 890-3291-1 MS

Analysis Batch: 38135

Matrix: Solid

Surrogate

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

MS MS

%Recovery Qualifier

1-Chlorooctane	105			70 - 130										
o-Terphenyl	175	S1+		70 - 130										
Lab Sample ID: 890-3291	-1 MSD										Cli	ent Sam	ple ID:	FS03/
Matrix: Solid													ype: T	
Analysis Batch: 38135													Batch	
·····,····	Sample	Sampl	le	Spike	MS	DI	MSD					%Rec		RPD
Analyte	Result	•		Added	Resu	lt (	Qualifier	Unit		D	%Rec	Limits	RPD	) Limi
Gasoline Range Organics (GRO)-C6-C10	321			998	105	4		mg/Kg			74	70 - 130		3 20
Diesel Range Organics (Over C10-C28)	5750			998	587	2 4	4	mg/Kg			12	70 - 130	2	20
	MSD	MSD												
Surrogate	%Recovery	Qualif	fier	Limits										
<b>Surrogate</b> 1-Chlorooctane		Qualif	fier	<b>Limits</b> 70 - 130										
•	<b>%Recovery</b> 101	<b>Qualif</b> S1+	fier											
1-Chlorooctane	%Recovery 101 169 S, Ion Chro	S1+	ograp	70 - 130 70 - 130					C	lie	nt San	nple ID: Prep	Methoc Type: \$	
1-Chlorooctane o-Terphenyl Iethod: 300.0 - Anion Lab Sample ID: MB 880-3 Matrix: Solid	%Recovery 101 169 s, Ion Chro 8007/1-A	S1+ omat	ograp	70 - 130 70 - 130	RL		Unit		D		nt San	Prep		

Limits

Analysis Batch: 38166							
	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Chloride	250	263.5		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-38007/3-A Matrix: Solid Analysis Batch: 38166			C	Client Sa	mple	ID: Lat	Control Prep Ty		
····· <b>,</b> ··· ····	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	264.0		mg/Kg		106	90 - 110	0	20
Lab Sample ID: 890-3286-A-1-B MS Matrix: Solid Analysis Batch: 38166					C	lient Sa	mple ID: I Prep Ty		
Sample Sample	e Spike	MS	MS				%Rec		

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	10600		5030	15700		mg/Kg		101	90 - 110	

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Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB Page 235 of 324

Job ID: 890-3291-1 SDG: 03E1558016

# Method: 300.0 - Anions, Ion Chromatography (Continued)

.ab Sample ID: 890-3286-A-1-C MSD /atrix: Solid Analysis Batch: 38166									Prep Ty	/pe: So	luble	
	•	Sample	Spike		MSD	11 14		0/ Data	%Rec		RPD	
Analyte Chloride	10600	Qualifier	Added	15700	Qualifier	Unit mg/Kg	D	%Rec 101	Limits	RPD	Limit 20	

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# **QC Association Summary**

Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

Matrix Spike Duplicate

### **GC VOA**

#### Prep Batch: 38099

-					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3291-1	FS03A	Total/NA	Solid	5035	
890-3291-2	FS04A	Total/NA	Solid	5035	
MB 880-38099/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38099/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38099/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20720-A-21-C MS	Matrix Spike	Total/NA	Solid	5035	

Total/NA

Solid

5035

#### Analysis Batch: 38214

880-20720-A-21-D MSD

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch	
890-3291-1	FS03A	Total/NA	Solid	8021B	38099	
890-3291-2	FS04A	Total/NA	Solid	8021B	38099	
MB 880-38099/5-A	Method Blank	Total/NA	Solid	8021B	38099	
LCS 880-38099/1-A	Lab Control Sample	Total/NA	Solid	8021B	38099	
LCSD 880-38099/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38099	
880-20720-A-21-C MS	Matrix Spike	Total/NA	Solid	8021B	38099	
880-20720-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38099	
880-20720-A-21-D MSD		Iotal/NA	Solid		8021B	8021B 38099

#### Analysis Batch: 38336

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-3291-1	FS03A	Total/NA	Solid	Total BTEX	
890-3291-2	FS04A	Total/NA	Solid	Total BTEX	

#### GC Semi VOA

#### Prep Batch: 38024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3291-2	FS04A	Total/NA	Solid	8015NM Prep	
MB 880-38024/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38024/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38024/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3282-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3282-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### Prep Batch: 38030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3291-1	FS03A	Total/NA	Solid	8015NM Prep	
MB 880-38030/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38030/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38030/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3291-1 MS	FS03A	Total/NA	Solid	8015NM Prep	
890-3291-1 MSD	FS03A	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 38135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3291-1	FS03A	Total/NA	Solid	8015B NM	38030
MB 880-38030/1-A	Method Blank	Total/NA	Solid	8015B NM	38030
LCS 880-38030/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38030
LCSD 880-38030/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38030
890-3291-1 MS	FS03A	Total/NA	Solid	8015B NM	38030
890-3291-1 MSD	FS03A	Total/NA	Solid	8015B NM	38030

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#### Job ID: 890-3291-1 SDG: 03E1558016

# **QC Association Summary**

Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

### GC Semi VOA

#### Analysis Batch: 38137

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-3291-2	FS04A	Total/NA	Solid	8015B NM	38024
MB 880-38024/1-A	Method Blank	Total/NA	Solid	8015B NM	38024
LCS 880-38024/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38024
LCSD 880-38024/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38024
890-3282-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	38024
890-3282-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	38024
Analysis Batch: 3827	7				
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-3291-1	FS03A	Total/NA	Solid	8015 NM	
890-3291-2	FS04A	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 38007

Lab Sample ID 890-3291-1	Client Sample ID FS03A	Prep Type Soluble	Matrix Solid	Method DI Leach	Prep Batch
890-3291-2	FS04A	Soluble	Solid	DI Leach	
MB 880-38007/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38007/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38007/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3286-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3286-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 38166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3291-1	FS03A	Soluble	Solid	300.0	38007
890-3291-2	FS04A	Soluble	Solid	300.0	38007
MB 880-38007/1-A	Method Blank	Soluble	Solid	300.0	38007
LCS 880-38007/2-A	Lab Control Sample	Soluble	Solid	300.0	38007
LCSD 880-38007/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38007
890-3286-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	38007
890-3286-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	38007

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#### Job ID: 890-3291-1 SDG: 03E1558016

Project/Site: PLU 30 BIG SINKS CTB

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11 12 13

Job ID: 890-3291-1 SDG: 03E1558016

### Lab Sample ID: 890-3291-1 Matrix: Solid

**Client Sample ID: FS03A** Date Collected: 10/24/22 10:45 Date Received: 10/25/22 15:17

**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			5.01 g	5 mL	38099	10/28/22 12:40	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38214	10/31/22 18:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38336	11/01/22 09:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38277	10/31/22 13:27	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	38030	10/27/22 15:04	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38135	10/29/22 22:42	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	38007	10/27/22 11:23	СН	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38166	10/30/22 09:20	СН	EET MID

#### **Client Sample ID: FS04A** Date Collected: 10/24/22 13:50 Date Received: 10/25/22 15:17

	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	38099	10/28/22 12:40	MNR	EET MID	
Total/NA	Analysis	8021B		1	5 mL	5 mL	38214	10/31/22 19:02	MNR	EET MID	
Total/NA	Analysis	Total BTEX		1			38336	11/01/22 09:15	AJ	EET MID	
Total/NA	Analysis	8015 NM		1			38277	10/31/22 13:36	AJ	EET MID	
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	38024	10/27/22 13:59	DM	EET MID	
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38137	10/29/22 15:55	AJ	EET MID	
Soluble	Leach	DI Leach			5.01 g	50 mL	38007	10/27/22 11:23	СН	EET MID	
Soluble	Analysis	300.0		1	50 mL	50 mL	38166	10/30/22 09:27	CH	EET MID	

#### Laboratory References:

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

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Matrix: Solid

Lab Sample ID: 890-3291-2

**Accreditation/Certification Summary** 

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Client: Ensolum Project/Site: PLU 30 BIG \$		er inication Summary	Job ID: 890-3291-1 SDG: 03E1558016	
Laboratory: Eurofins	s Midland	preditations/certifications are applicable to this repo		
Authority	Program		on Date	4
N/A	N/A	None on record.		Ę
				ľ
				ľ

Eurofins Carlsbad

# **Method Summary**

Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB Job ID: 890-3291-1 SDG: 03E1558016

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

#### **Protocol References:**

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates. TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

**Eurofins Carlsbad** 

# Sample Summary

Client: Ensolum Project/Site: PLU 30 BIG SINKS CTB

Job ID: 890-3291-1
SDG: 03E1558016

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	0
890-3291-1	FS03A	Solid	10/24/22 10:45	10/25/22 15:17	1 feet
890-3291-2	FS04A	Solid	10/24/22 13:50	10/25/22 15:17	1 feet

Cerlipter	111		Relinquished by: (Signature)	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 our commission result income will be enforced unless previously negotial 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 negotial of the cost of sample submitted to Eurofins Xenco. But not analyzed. These terms will be enforced unless previously negotial of the cost of the	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 essigns standard terms and conditions	Circle Method(s) and Metal(s) to be analyzed	Total 200.7 / 6010 200.8 / 6020:							/	/	FS04	FS03	Sample Identification	Total Containers:	Sample Custody Seals: Yes No	Ye	Samples Received Intact (Yes) No	SAMPLE RECEIPT Temp Blank:	PO#		Project Location:	en.	Project Name: PLU 30 E	Phone: 303-887-2946	City, State ZIP: Carlsbad, NM 88220	Address: 3122 National Parks Hwy	-	Project Manager: Tacoma Morrissey		eurotins
	LAC		>	or the cost of s 00 will be appli	ishment of sa	e analyzed	020:					A			_	S 10	S 10	Matrix S	Cor	NIA	Ā				Connor Whitman		03E1558016	PLU 30 Big Sinks CTB		38220	Parks Hwy		sey	San Car	
	F	5	Received	ed to each pro	nples constitu		BRC				/					10/24/2022	10/24/2022	Date Sampled	Corrected Temperature:	Temperature Reading:	Correction Factor:	Thermometer ID:	F.Yes No	1				TB							
	f		Received by: (Signature)	ject and a cha	tes a valid pur	TCLP / SF	BRCRA 13PPM			4	h					1:50	10:45	Time Sampled	perature:	eading:	IOF:		Wet Ice:	the lab, if rec	TAT starts th	Due Date:	Routine	Tum	Email:						
			ure)	rge of \$5 for ea	chase order fro	TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag	M Texas		-	- Salar	X				1.1	0.5 0	0.5 C	Depth G	1.4		-0.2	ESOMIN	(Yes) No	the lab, if received by 4.50pm	TAT starts the day received by		Rush	Turn Around	Garrett Gr	City, State ZIP	Address:	Company Name:	Bill to: (If different)		2
+	1	5	-	onity for an	om client c	BRCRA	11 AI 3	-	$\mathbf{H}$	T						Comp 1	Comp 1	Grab/ # of Comp Cont	1	1	-	-	met	-	a by	-	Code		een TE	ZIP:		lame:	erent)	L Paso, T.	Houston, T
	POCO	2	Date/Time	submitted	ompany to	Sb A	AI Sb As I		1							×	×	CHLO	RIDE	S (E	PA:	300	.0)						oronHot	Carlsb	3104 E	XTO Energy	Garret	(575) 50 X (915) 50 X (975) 70	X (281) 2
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1	10	5	Re	s Xenco, bu	enco, its ah	Cd Cr	B Cd Ca	1		$\parallel$							-	UTCA	Jour	10		-	_	Ī						8220	St			risbad, NM	Dallas, TX
			Relinquished by: (Signature)	t not analy	fillates and	Co Cu	a Cr Co					1									890					-		AN					2	EL Paso. TX (915) 585-3443, Lubbock, TX (806) 794-1298 Hobbs, NM (575) 392-7550. Cartsbad, NM (575) 988-3199	Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
			ed by: (S	red. These	subcontrac	Pb Mn	Cu Fe			$\parallel$										-	890-3291 CH				-			ANALYSIS REQUEST				1		-1296 -3199	0300
			ignature	terms will b	tors, It ass	Mo Ni	Pb Mg												_	-	hain of Custody							REQUE		77	9	2		ן ר	
-	+	-	-	e terms will be enforced unless previously negotiated	igns standa	Se Ag	Mn Mo			+						-	-	-	-		ustody						-	ST	Deliverables EDD	eporting L	State of Project:	ogram: L			
			Receiv	unless pre-	ances bey	ΠU	NIK													-									s EDD	evelII	ojecti	ISTIPST		E	S.
			ed by: (S	viously neg	nd conditio	Hg	Se Ag S		+		-				-		+	-		-	l.				2	-	+			Level III		PRP[	Work C	www.xenco.com	R Ord
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			9) 9)			45.117.	Sr TI S						AFE:		Cost Center:	Serve Substitution	Incident ID:	Sam	A COMPA	INCHACK UN	Nazozuji Nasoj	NaHSUL NABIS	H,PO4 HP	12001 N2	HCL HC	Cool: Cool	None: NO	Pres				leids	Work Order Comments	Page	
		21 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Date/Time			Hg: 1631 / 245.1 / 7470 / 7471	Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn							2037891001	nter:	**************************************	ID:	Sample Comments	TROUT THE OWNER AND A	An ACEIGIET NOUT, AN	Naso,	NABIS	. 10	NaCH Na			Di Water H <sub>2</sub> O	<b>Preservative Codes</b>	Other			Program: UST/PST PRP Brownfleids RRC Superfund	1	of	

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Released to Imaging: 7/15/2024 1:22:14 PM

## Login Sample Receipt Checklist

Client: Ensolum

#### Login Number: 3291 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	

List Source: Eurofins Carlsbad

Job Number: 890-3291-1 SDG Number: 03E1558016

List Source: Eurofins Midland

List Creation: 10/27/22 10:25 AM

## Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3291 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: Tacoma Morrissey Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 12/27/2022 10:05:00 AM Revision 1

# JOB DESCRIPTION

PLU 30 Big Sinks Battery SDG NUMBER 03E1558016

# **JOB NUMBER**

890-3247-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notos and contact information

Received by OCD: 6/28/2024 6:18:11 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 12/27/2022 10:05:00 AM Revision 1

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

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

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SDG: 03E1558016

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# **Definitions/Glossary**

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery Job ID: 890-3247-1 SDG: 03E1558016

Qualifiers		3
GC VOA		
Qualifier	Qualifier Description	4
U	Indicates the analyte was analyzed for but not detected.	
GC Semi VO	Α	5
Qualifier	Qualifier Description	
S1+	Surrogate recovery exceeds control limits, high biased.	6
U	Indicates the analyte was analyzed for but not detected.	
HPLC/IC		
Qualifier	Qualifier Description	
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not	8
	applicable.	
U	Indicates the analyte was analyzed for but not detected.	9
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	12
CNF	Contains No Free Liquid	
DER	Duplicate Error Ratio (normalized absolute difference)	13
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)	
	Minimum Detectable Activity (Radiochemistry) Minimum Detectable Concentration (Radiochemistry)	
MDL	Minimum Detectable Activity (Radiochemistry) Minimum Detectable Concentration (Radiochemistry) Method Detection Limit	
MDC MDL ML	Minimum Detectable Activity (Radiochemistry) Minimum Detectable Concentration (Radiochemistry) Method Detection Limit Minimum Level (Dioxin)	
MDL ML MPN	Minimum Detectable Activity (Radiochemistry) Minimum Detectable Concentration (Radiochemistry) Method Detection Limit Minimum Level (Dioxin) Most Probable Number	
MDL ML MPN MQL	Minimum Detectable Activity (Radiochemistry) Minimum Detectable Concentration (Radiochemistry) Method Detection Limit Minimum Level (Dioxin) Most Probable Number Method Quantitation Limit	
MDL ML MPN MQL NC	Minimum Detectable Activity (Radiochemistry) Minimum Detectable Concentration (Radiochemistry) Method Detection Limit Minimum Level (Dioxin) Most Probable Number Method Quantitation Limit Not Calculated	
MDL ML MPN MQL NC ND	Minimum Detectable Activity (Radiochemistry) Minimum Detectable Concentration (Radiochemistry) Method Detection Limit Minimum Level (Dioxin) Most Probable Number Method Quantitation Limit Not Calculated Not Detected at the reporting limit (or MDL or EDL if shown)	
MDL ML MPN MQL NC ND NEG	Minimum Detectable Activity (Radiochemistry) Minimum Detectable Concentration (Radiochemistry) Method Detection Limit Minimum Level (Dioxin) Most Probable Number Method Quantitation Limit Not Calculated Not Detected at the reporting limit (or MDL or EDL if shown) Negative / Absent	
MDL ML MPN MQL NC ND NEG POS	Minimum Detectable Activity (Radiochemistry) Minimum Detectable Concentration (Radiochemistry) Method Detection Limit Minimum Level (Dioxin) Most Probable Number Method Quantitation Limit Not Calculated Not Calculated Not Detected at the reporting limit (or MDL or EDL if shown) Negative / Absent Positive / Present	
MDL ML MPN MQL NC ND NEG POS PQL	Minimum Detectable Activity (Radiochemistry)Minimum Detectable Concentration (Radiochemistry)Method Detection LimitMinimum Level (Dioxin)Most Probable NumberMethod Quantitation LimitNot CalculatedNot Detected at the reporting limit (or MDL or EDL if shown)Negative / AbsentPositive / PresentPractical Quantitation Limit	
MDL ML MPN MQL NC ND NEG POS PQL PRES	Minimum Detectable Activity (Radiochemistry)Minimum Detectable Concentration (Radiochemistry)Method Detection LimitMinimum Level (Dioxin)Most Probable NumberMethod Quantitation LimitNot CalculatedNot Detected at the reporting limit (or MDL or EDL if shown)Negative / AbsentPositive / PresentPractical Quantitation LimitPresumptive	
MDL ML MPN MQL NC ND NEG POS PQL PRES QC	Minimum Detectable Activity (Radiochemistry)Minimum Detectable Concentration (Radiochemistry)Method Detection LimitMinimum Level (Dioxin)Most Probable NumberMethod Quantitation LimitNot CalculatedNot Detected at the reporting limit (or MDL or EDL if shown)Negative / AbsentPositive / PresentPractical Quantitation LimitPresumptiveQuality Control	
MDL ML MPN MQL NC ND NEG POS PQL PRES QC RER	Minimum Detectable Activity (Radiochemistry)Minimum Detectable Concentration (Radiochemistry)Method Detection LimitMinimum Level (Dioxin)Most Probable NumberMethod Quantitation LimitNot CalculatedNot Detected at the reporting limit (or MDL or EDL if shown)Negative / AbsentPositive / PresentPractical Quantitation LimitPresumptiveQuality ControlRelative Error Ratio (Radiochemistry)	
MDL ML MPN MQL NC ND NEG POS PQL PRES QC RER RL	Minimum Detectable Activity (Radiochemistry)Minimum Detectable Concentration (Radiochemistry)Method Detection LimitMinimum Level (Dioxin)Most Probable NumberMethod Quantitation LimitNot CalculatedNot Detected at the reporting limit (or MDL or EDL if shown)Negative / AbsentPositive / PresentPractical Quantitation LimitPresumptiveQuality ControlRelative Error Ratio (Radiochemistry)Reporting Limit or Requested Limit (Radiochemistry)	
MDL ML MPN MQL NC ND NEG POS PQL PRES QC RER RL RPD	Minimum Detectable Activity (Radiochemistry)Minimum Detectable Concentration (Radiochemistry)Method Detection LimitMinimum Level (Dioxin)Most Probable NumberMethod Quantitation LimitNot CalculatedNot Detected at the reporting limit (or MDL or EDL if shown)Negative / AbsentPositive / PresentPractical Quantitation LimitPresumptiveQuality ControlRelative Error Ratio (Radiochemistry)Reporting Limit or Requested Limit (Radiochemistry)Relative Percent Difference, a measure of the relative difference between two points	
MDL ML MPN	Minimum Detectable Activity (Radiochemistry)Minimum Detectable Concentration (Radiochemistry)Method Detection LimitMinimum Level (Dioxin)Most Probable NumberMethod Quantitation LimitNot CalculatedNot Detected at the reporting limit (or MDL or EDL if shown)Negative / AbsentPositive / PresentPractical Quantitation LimitPresumptiveQuality ControlRelative Error Ratio (Radiochemistry)Reporting Limit or Requested Limit (Radiochemistry)	

**Eurofins Carlsbad** 

### Job ID: 890-3247-1

#### Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3247-1

#### REVISION

The report being provided is a revision of the original report sent on 10/24/2022. The report (revision 1) is being revised due to Per client email, requesting sample depths to be corrected.

Report revision history

#### Receipt

The samples were received on 10/20/2022 9:38 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: FS01A (890-3247-1) and FS02A (890-3247-2).

#### GC VOA

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 880-37503 and analytical batch 880-37444 was outside the upper control limits.

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 880-37511 and analytical batch 880-37598 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.

#### Job ID: 890-3247-1 SDG: 03E1558016

# **Client Sample Results**

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

#### Client Sample ID: FS01A Date Collected: 10/19/22 14:10 Date Received: 10/20/22 09:38 Sample Depth: 1 feet b

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00201	U	0.00201	mg/Kg		10/21/22 14:15	10/24/22 14:21	
Toluene	<0.00201	U	0.00201	mg/Kg		10/21/22 14:15	10/24/22 14:21	
Ethylbenzene	0.00261		0.00201	mg/Kg		10/21/22 14:15	10/24/22 14:21	
m-Xylene & p-Xylene	0.0306		0.00402	mg/Kg		10/21/22 14:15	10/24/22 14:21	· - · · · · · · ·
o-Xylene	0.0117		0.00201	mg/Kg		10/21/22 14:15	10/24/22 14:21	
Xylenes, Total	0.0423		0.00402	mg/Kg		10/21/22 14:15	10/24/22 14:21	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	118		70 - 130			10/21/22 14:15	10/24/22 14:21	
1,4-Difluorobenzene (Surr)	73		70 - 130			10/21/22 14:15	10/24/22 14:21	
Method: TAL SOP Total BTE	X - Total BTE	X Calculat	tion					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	0.0449		0.00402	mg/Kg			10/24/22 16:38	
Method: SW846 8015 NM - D	iesel Range	Organics (	DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	8680		49.9	mg/Kg			10/24/22 09:48	
Method: SW846 8015B NM - Analyte Gasoline Range Organics		Qualifier	<b>RL</b> 49.9	Unit mg/Kg	D	Prepared 10/21/22 13:50	Analyzed 10/22/22 00:39	Dil Fa
(GRO)-C6-C10 Diesel Range Organics (Over	5310		49.9	mg/Kg		10/21/22 13:50	10/22/22 00:39	
C10-C28) Oll Range Organics (Over C28-C36)	3130		49.9	mg/Kg		10/21/22 13:50	10/22/22 00:39	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	110		70 - 130			10/21/22 13:50	10/22/22 00:39	
o-Terphenyl	121		70 - 130			10/21/22 13:50	10/22/22 00:39	
Method: MCAWW 300.0 - An	ions, Ion Chr	omatogra	phy - Soluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	224		5.01	mg/Kg			10/23/22 21:42	
client Sample ID: FS02A ate Collected: 10/19/22 14:1 ate Received: 10/20/22 09:38 ample Depth: 1 feet b	5					Lab Samp	le ID: 890-3 Matrix	8247-2 c: Solid
Method: SW846 8021B - Vola			• •					
Analyte Benzene	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa

	olutile organie	Compound										
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac				
Benzene	<0.00199	U	0.00199	mg/Kg		10/21/22 14:15	10/24/22 15:02	1				
Toluene	<0.00199	U	0.00199	mg/Kg		10/21/22 14:15	10/24/22 15:02	1				
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/21/22 14:15	10/24/22 15:02	1				
m-Xylene & p-Xylene	0.0222		0.00398	mg/Kg		10/21/22 14:15	10/24/22 15:02	1				
o-Xylene	0.0105		0.00199	mg/Kg		10/21/22 14:15	10/24/22 15:02	1				
Xylenes, Total	0.0327		0.00398	mg/Kg		10/21/22 14:15	10/24/22 15:02	1				

Eurofins Carlsbad

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Job ID: 890-3247-1 SDG: 03E1558016

Matrix: Solid

Lab Sample ID: 890-3247-1

### Released to Imaging: 7/15/2024 1:22:14 PM

# **Client Sample Results**

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Job ID: 890-3247-1 SDG: 03E1558016

#### **Client Sample ID: FS02A** Date Collected: 10/19/22 14:15 C 9:38

Project/Site: PLU 30 Big Sinks Battery

Date Received: 10/20/22	0
Sample Depth: 1 feet b	

Client: Ensolum

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130			10/21/22 14:15	10/24/22 15:02	1
1,4-Difluorobenzene (Surr)	72		70 - 130			10/21/22 14:15	10/24/22 15:02	1
Method: TAL SOP Total BTE	X - Total BTE	X Calculat	ion					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.0327		0.00398	mg/Kg			10/24/22 16:38	1
Method: SW846 8015 NM - D	iesel Range	Organics (	DRO) (GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	5080		50.0	mg/Kg			10/24/22 09:48	1
Method: SW846 8015B NM -	Diesel Range	• Organics	(DRO) (GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	204		50.0	mg/Kg		10/21/22 13:50	10/22/22 01:20	1
Diesel Range Organics (Over C10-C28)	3150		50.0	mg/Kg		10/21/22 13:50	10/22/22 01:20	1
Oll Range Organics (Over C28-C36)	1730		50.0	mg/Kg		10/21/22 13:50	10/22/22 01:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130			10/21/22 13:50	10/22/22 01:20	1
o-Terphenyl	92		70 - 130			10/21/22 13:50	10/22/22 01:20	1
Method: MCAWW 300.0 - An	ions, Ion Chr	omatogra	ohy - Soluble					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	80.0		5.00	mg/Kg			10/23/22 21:47	1

**Eurofins Carlsbad** 

Lab Sample ID: 890-3247-2 Matrix: Solid

# **Surrogate Summary**

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

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

		Percent Surrogate Recovery (Acceptance Limits)			4
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)		5
890-3247-1	FS01A	118	73		
890-3247-2	FS02A	124	72		6
890-3253-A-1-A MS	Matrix Spike	100	95		
890-3253-A-1-B MSD	Matrix Spike Duplicate	97	72		
LCS 880-37514/1-A	Lab Control Sample	96	89		
LCSD 880-37514/2-A	Lab Control Sample Dup	95	81		9
MB 880-37514/5-A	Method Blank	107	77		-0

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Lab Sample ID Client			Percent Surrogate Recovery (Acceptance Limits)			
	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)		1	
890-3240-A-2-C MS	Matrix Spike	82	84			
890-3240-A-2-D MSD	Matrix Spike Duplicate	79	81			
890-3247-1	FS01A	110	121			
890-3247-2	FS02A	88	92			
LCS 880-37503/2-A	Lab Control Sample	90	100			
LCSD 880-37503/3-A	Lab Control Sample Dup	99	110			
MB 880-37503/1-A	Method Blank	118	133 S1+			

#### Surrogate Legend

1CO = 1-Chlorooctane OTPH = o-Terphenyl

#### Job ID: 890-3247-1 SDG: 03E1558016

Prep Type: Total/NA

Prep Type: Total/NA

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

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

#### Lab Sample ID: MB 880-37514/5-A Matrix: Solid Analysis Batch: 37615

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/21/22 14:15	10/24/22 10:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/21/22 14:15	10/24/22 10:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/21/22 14:15	10/24/22 10:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/21/22 14:15	10/24/22 10:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/21/22 14:15	10/24/22 10:42	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/21/22 14:15	10/24/22 10:42	1
	MB	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130			10/21/22 14:15	10/24/22 10:42	1
1,4-Difluorobenzene (Surr)	77		70 - 130			10/21/22 14:15	10/24/22 10:42	1

#### Lab Sample ID: LCS 880-37514/1-A Matrix: Solid Analysis Batch: 37615

· · ·	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1046		mg/Kg		105	70 - 130	
Toluene	0.100	0.1066		mg/Kg		107	70 - 130	
Ethylbenzene	0.100	0.09931		mg/Kg		99	70 - 130	
m-Xylene & p-Xylene	0.200	0.2054		mg/Kg		103	70 - 130	
o-Xylene	0.100	0.1034		mg/Kg		103	70 - 130	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

## Lab Sample ID: LCSD 880-37514/2-A Matrix: Solid

Analysis Batch: 37615							Prep E	Satch: 3	37514
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09576		mg/Kg		96	70 - 130	9	35
Toluene	0.100	0.09860		mg/Kg		99	70 - 130	8	35
Ethylbenzene	0.100	0.1009		mg/Kg		101	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1953		mg/Kg		98	70 - 130	5	35
o-Xylene	0.100	0.09779		mg/Kg		98	70 - 130	6	35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	81		70 - 130

#### Lab Sample ID: 890-3253-A-1-A MS Matrix: Solid

Analysis Batch: 37615									Prep Batch: 37514
	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	<0.00201	U	0.100	0.1004		mg/Kg		99	70 - 130
Toluene	<0.00201	U	0.100	0.1142		mg/Kg		109	70 - 130

**Eurofins Carlsbad** 

Prep Type: Total/NA

**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA Prep Batch: 37514

Prep Type: Total/NA Prep Batch: 37514

Prep Type: Total/NA

**Client Sample ID: Method Blank** 

**Client Sample ID: Lab Control Sample** 

**Client Sample ID: Lab Control Sample Dup** 

# Released to Imaging: 7/15/2024 1:22:14 PM

## 12/27/2022 (Rev. 1)

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

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

Lab Sample ID: 890-3253- Matrix: Solid Analysis Batch: 37615	A-1-A MS						CI	ient Sa	mple ID: I Prep Ty Prep E		al/NA
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Ethylbenzene	<0.00201	U	0.100	0.09592		mg/Kg		96	70 - 130		
m-Xylene & p-Xylene	< 0.00402	U	0.200	0.2008		mg/Kg		100	70 - 130		
o-Xylene	<0.00201	U	0.100	0.1000		mg/Kg		100	70 - 130		
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	100		70 - 130								
1,4-Difluorobenzene (Surr)	95		70 - 130								
Lab Sample ID: 890-3253- Matrix: Solid Analysis Batch: 37615	A-1-B MSD					Client S	Samp	le ID: N	latrix Spil Prep Ty Prep E		al/NA
Matrix: Solid		Sample	Spike	MSD	MSD	Client S	Samp	le ID: N	Prep Ty	pe: Tot	al/NA
Matrix: Solid	Sample	Sample Qualifier	Spike Added	-	MSD Qualifier	Client S	Samp D	le ID: N %Rec	Prep Ty Prep E	pe: Tot	al/NA 37514
Matrix: Solid Analysis Batch: 37615	Sample	Qualifier	•	-	-				Prep Ty Prep E %Rec	pe: Tot Batch: 3	al/NA 37514 RPD
Matrix: Solid Analysis Batch: 37615 Analyte	Sample Result	Qualifier U	Added	Result	-	Unit		%Rec	Prep Ty Prep E %Rec Limits	pe: Tot Batch: 3	al/NA 37514 RPD Limit
Matrix: Solid Analysis Batch: 37615 Analyte Benzene	Sample Result <0.00201	Qualifier U U	<b>Added</b> 0.0996	<b>Result</b> 0.09485	-	<b>Unit</b> mg/Kg		<b>%Rec</b> 94	Prep Ty Prep E %Rec Limits 70 - 130	pe: Tot Batch: 3 RPD 6	al/NA 37514 RPD Limit 35
Matrix: Solid Analysis Batch: 37615 Analyte Benzene Toluene	Sample Result <0.00201 <0.00201	Qualifier U U U	Added 0.0996 0.0996	<b>Result</b> 0.09485 0.09849	-	<mark>Unit</mark> mg/Kg mg/Kg		<b>%Rec</b> 94 94	Prep Ty Prep E %Rec Limits 70 - 130 70 - 130	pe: Tot Batch: 3 RPD 6 15	al/NA 37514 RPD Limit 35 35
Matrix: Solid Analysis Batch: 37615 Analyte Benzene Toluene Ethylbenzene	Sample Result <0.00201 <0.00201 <0.00201	Qualifier U U U U U	Added 0.0996 0.0996 0.0996	<b>Result</b> 0.09485 0.09849 0.09498	-	<b>Unit</b> mg/Kg mg/Kg mg/Kg		%Rec 94 94 95	Prep Ty Prep E %Rec Limits 70 - 130 70 - 130 70 - 130	pe: Tot Batch: 3 RPD 6 15 1	<b>al/NA</b> 37514 RPD Limit 35 35 35
Matrix: Solid Analysis Batch: 37615 Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene	Sample Result <0.00201 <0.00201 <0.00201 <0.00402 <0.00201	Qualifier U U U U U	Added 0.0996 0.0996 0.0996 0.199	<b>Result</b> 0.09485 0.09849 0.09498 0.1982	-	Unit mg/Kg mg/Kg mg/Kg mg/Kg		%Rec 94 95 100	Prep Ty Prep E %Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130	pe: Tot Batch: 3 RPD 6 15 1 1	<b>al/NA</b> <b>37514</b> <b>RPD</b> <b>Limit</b> 35 35 35 35 35
Matrix: Solid Analysis Batch: 37615 Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene	Sample Result <0.00201 <0.00201 <0.00201 <0.00402 <0.00201	Qualifier U U U U U U U MSD	Added 0.0996 0.0996 0.0996 0.199	<b>Result</b> 0.09485 0.09849 0.09498 0.1982	-	Unit mg/Kg mg/Kg mg/Kg mg/Kg		%Rec 94 95 100	Prep Ty Prep E %Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130	pe: Tot Batch: 3 RPD 6 15 1 1	<b>al/NA</b> <b>37514</b> <b>RPD</b> <b>Limit</b> 35 35 35 35 35

1,4-Difluorobenzene (Surr)

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

72

#### Lab Sample ID: MB 880-37503/1-A Matrix: Solid Analysis Batch: 37444

	MB	МВ					-	
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/21/22 13:50	10/21/22 19:50	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/21/22 13:50	10/21/22 19:50	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/21/22 13:50	10/21/22 19:50	1
	MB	МВ						

70 - 130

Surrogate	%Recovery	Qualifier	Limits		
1-Chlorooctane	118		70 - 130		
o-Terphenyl	133	S1+	70 - 130		

#### Lab Sample ID: LCS 880-37503/2-A Matrix: Solid Analysis Batch: 37444

Analysis Batch: 37444							Prep B	atch: 37503
	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	858.1		mg/Kg		86	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	774.2		mg/Kg		77	70 - 130	
C10-C28)								

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**Client Sample ID: Method Blank** 

Analyzed

Prep Type: Total/NA

10/21/22 13:50 10/21/22 19:50

10/21/22 13:50 10/21/22 19:50

**Client Sample ID: Lab Control Sample** 

Dil Fac

1

1

Prepared

Prep Type: Total/NA

Prep Batch: 37503

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**Client: Ensolum** Project/Site: PLU 30 Big Sinks Battery

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

Prep Batch: 37503

Prep Type: Total/NA

Lab Sample ID: LCS 880-3 Matrix: Solid Analysis Batch: 37444	37503/2-A	
	LCS	LCS
Surrogate	%Recovery	Qualifier
1-Chlorooctane	90	
o-Terphenyl	100	

# Lab Sample ID: LCSD 880-37503/3-A Matrix: Solid

Analysis Batch: 37444		Prep Batch: 37503							
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1041		mg/Kg		104	70 - 130	19	20
Diesel Range Organics (Over C10-C28)	1000	902.2		mg/Kg		90	70 - 130	15	20

Limits 70 - 130 70 - 130

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	99		70 - 130
o-Terphenyl	110		70 - 130

#### Lab Sample ID: 890-3240-A-2-C MS . Matrix: Solid

Analysis Batch: 37444									Prep Type: Prep Bate	ch: 37503
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1086		mg/Kg		109	70 - 130	
Diesel Range Organics (Over C10-C28)	<49.9	U	998	781.6		mg/Kg		76	70 - 130	

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	84		70 - 130

#### Lab Sample ID: 890-3240-A-2-D MSD **Matrix: Solid** Analysis Batch: 37444

Analysis Batch: 37444									Prep E	Batch: 3	37503
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1014		mg/Kg		102	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	762.1		mg/Kg		74	70 - 130	3	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	79		70 - 130
o-Terphenyl	81		70 - 130

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

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**Client Sample ID: Matrix Spike** 

Client Sample ID: Lab Control Sample Dup

. Pron Typo: Total/NA

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

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# Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37511/1-A							Clie	ent Sam	ple ID: M		
Matrix: Solid									Prep Ty	ype: So	oluble
Analysis Batch: 37598											
	ME	8 MB									
Analyte	Resul	t Qualifier		RL	Unit		D P	repared	Analyz	zed	Dil Fac
Chloride	<5.00	) U		5.00	mg/K	g			10/23/22	19:22	1
Lab Sample ID: LCS 880-37511/2-	A					Clie	ent Sai	nple ID	: Lab Cor		
Matrix: Solid									Prep Ty	ype: So	oluble
Analysis Batch: 37598											
			Spike	-	LCS				%Rec		
Analyte			Added		Qualifier	Unit	D	%Rec	Limits		
Chloride			250	259.6		mg/Kg		104	90 - 110		
Lab Sample ID: LCSD 880-37511/3	8-A				C	Client Sa	ample	ID: Lab		Sample	e Dur
Matrix: Solid							- <b>-</b> -		Prep Ty		_
Analysis Batch: 37598											
			Spike	LCSD	LCSD				%Rec		RP
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limi
Chloride			250	259.0		mg/Kg		104	90 - 110	0	20
											<b>.</b>
Lab Sample ID: 890-3240-A-3-C M	S						C	ient Sa	mple ID: I	Matrix 3	Spike
· · · · · · · · · · · · · · · · · · ·	S						CI	ient Sa	mple ID: I Prep Ty		
Matrix: Solid	S						CI	ient Sa			
Matrix: Solid Analysis Batch: 37598	S nple Sa	mple	Spike	MS	MS		CI	ient Sa			
Matrix: Solid Analysis Batch: 37598 Sar		•	Spike Added		MS Qualifier	Unit	CI	ient Sa %Rec	Prep Ty		
Matrix: Solid Analysis Batch: 37598 Sar Analyte Re	nple Sa	•	•		Qualifier	<b>Unit</b> mg/Kg			Prep Ty %Rec		
Matrix: Solid Analysis Batch: 37598 Sar Analyte Re Chloride	nple Sa sult Qu	•	Added	Result	Qualifier	mg/Kg	D	<b>%Rec</b> 87	Prep Ty           %Rec           Limits           90 - 110	ype: So	bluble
Matrix: Solid Analysis Batch: 37598 Sar Analyte Re Chloride Lab Sample ID: 890-3240-A-3-D M	nple Sa sult Qu	•	Added	Result	Qualifier	mg/Kg	D	<b>%Rec</b> 87	Prep Ty %Rec Limits 90 - 110	ype: So	licate
Matrix: Solid Analysis Batch: 37598 Sar Analyte Re Chloride Lab Sample ID: 890-3240-A-3-D M Matrix: Solid	nple Sa sult Qu	•	Added	Result	Qualifier	mg/Kg	D	<b>%Rec</b> 87	Prep Ty           %Rec           Limits           90 - 110	ype: So	licate
Matrix: Solid Analysis Batch: 37598 Sar Analyte Re Chloride Lab Sample ID: 890-3240-A-3-D M Matrix: Solid Analysis Batch: 37598	nple Sa sult Qu	alifier	Added	Result	Qualifier 4	mg/Kg	D	<b>%Rec</b> 87	Prep Ty %Rec Limits 90 - 110	ype: So	licate
Analyte Re Chloride Lab Sample ID: 890-3240-A-3-D M Matrix: Solid Analysis Batch: 37598 Sar	nple Sa sult Qu 1120 SD	mple	Added 248	Result 1334 MSD	Qualifier 4	mg/Kg	D	<b>%Rec</b> 87	Prep Ty %Rec Limits 90 - 110 latrix Spil Prep Ty	ype: So	licate

# **QC** Association Summary

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Matrix

Solid

Solid

Solid

Solid

Solid

Solid

Solid

Matrix

Solid

Solid

Solid

Solid

Solid

Solid

Solid

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

**Client Sample ID** 

Method Blank

Matrix Spike

FS01A

FS02A

Lab Control Sample

Lab Control Sample Dup

Matrix Spike Duplicate

**Client Sample ID** 

Lab Control Sample

Lab Control Sample Dup

Matrix Spike Duplicate

Method Blank

Matrix Spike

FS01A

FS02A

# **GC VOA**

#### Prep Batch: 37514

Lab Sample ID

MB 880-37514/5-A

LCS 880-37514/1-A

890-3253-A-1-A MS

Lab Sample ID

MB 880-37514/5-A

LCS 880-37514/1-A

890-3253-A-1-A MS

LCSD 880-37514/2-A

890-3253-A-1-B MSD

890-3247-1

890-3247-2

890-3253-A-1-B MSD

Analysis Batch: 37615

LCSD 880-37514/2-A

890-3247-1

890-3247-2

Job ID: 890-32

Method

5035

5035

5035

5035

5035

5035

5035

Method

8021B

8021B

8021B

8021B

8021B

8021B

8021B

Prep Batch

Prep Batch

37514

37514

37514

37514

37514

37514

37514

27-1 SDG: 03E1558016

4
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6
8
9

#### Analysis Batch: 37725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3247-1	FS01A	Total/NA	Solid	Total BTEX	
890-3247-2	FS02A	Total/NA	Solid	Total BTEX	

## GC Semi VOA

#### Analysis Batch: 37444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3247-1	FS01A	Total/NA	Solid	8015B NM	37503
890-3247-2	FS02A	Total/NA	Solid	8015B NM	37503
MB 880-37503/1-A	Method Blank	Total/NA	Solid	8015B NM	37503
LCS 880-37503/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37503
LCSD 880-37503/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37503
890-3240-A-2-C MS	Matrix Spike	Total/NA	Solid	8015B NM	37503
890-3240-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37503

#### Prep Batch: 37503

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-3247-1	FS01A	Total/NA	Solid	8015NM Prep	
890-3247-2	FS02A	Total/NA	Solid	8015NM Prep	
MB 880-37503/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37503/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37503/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3240-A-2-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3240-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 37630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3247-1	FS01A	Total/NA	Solid	8015 NM	
890-3247-2	FS02A	Total/NA	Solid	8015 NM	

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# **QC Association Summary**

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery

# HPLC/IC

## Leach Batch: 37511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	4
890-3247-1	FS01A	Soluble	Solid	DI Leach		
890-3247-2	FS02A	Soluble	Solid	DI Leach		5
MB 880-37511/1-A	Method Blank	Soluble	Solid	DI Leach		
LCS 880-37511/2-A	Lab Control Sample	Soluble	Solid	DI Leach		6
LCSD 880-37511/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach		
890-3240-A-3-C MS	Matrix Spike	Soluble	Solid	DI Leach		
890-3240-A-3-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach		
Analysis Batch: 3759	8					8
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch	9
890-3247-1	FS01A	Soluble	Solid	300.0	37511	
890-3247-2	FS02A	Soluble	Solid	300.0	37511	
MB 880-37511/1-A	Method Blank	Soluble	Solid	300.0	37511	
LCS 880-37511/2-A	Lab Control Sample	Soluble	Solid	300.0	37511	
LCSD 880-37511/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37511	
890-3240-A-3-C MS	Matrix Spike	Soluble	Solid	300.0	37511	
890-3240-A-3-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37511	
						13

Job ID: 890-3247-1 SDG: 03E1558016

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Project/Site: PLU 30 Big Sinks Battery

5 6

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11 12 13

Job ID: 890-3247-1 SDG: 03E1558016

# Lab Sample ID: 890-3247-1 Matrix: Solid

Lab Sample ID: 890-3247-2

Matrix: Solid

Client Sample ID: FS01A Date Collected: 10/19/22 14:10 Date Received: 10/20/22 09:38

**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	37514	10/21/22 14:15	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37615	10/24/22 14:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37725	10/24/22 16:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			37630	10/24/22 09:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	37503	10/21/22 13:50	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37444	10/22/22 00:39	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	37511	10/21/22 14:12	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37598	10/23/22 21:42	СН	EET MID

#### Client Sample ID: FS02A Date Collected: 10/19/22 14:15 Date Received: 10/20/22 09:38

	Batch	Batch		Dil	Initial	Final	Batch	Prepared			
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab	
Total/NA	Prep	5035			5.03 g	5 mL	37514	10/21/22 14:15	MNR	EET MID	
Total/NA	Analysis	8021B		1	5 mL	5 mL	37615	10/24/22 15:02	MNR	EET MID	
Total/NA	Analysis	Total BTEX		1			37725	10/24/22 16:38	SM	EET MID	
Total/NA	Analysis	8015 NM		1			37630	10/24/22 09:48	SM	EET MID	
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37503	10/21/22 13:50	DM	EET MID	
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37444	10/22/22 01:20	SM	EET MID	
Soluble	Leach	DI Leach			5 g	50 mL	37511	10/21/22 14:12	KS	EET MID	
Soluble	Analysis	300.0		1	50 mL	50 mL	37598	10/23/22 21:47	СН	EET MID	

#### Laboratory References:

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

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Accreditation/Certification Summary

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	Accreditation/C	ertification Summary	
Client: Ensolum Project/Site: PLU 30 Big \$	Sinks Battery		Job ID: 890-3247-1 SDG: 03E1558016
aboratory: Eurofine	<b>s Midland</b> leld by this laboratory are listed. Not all acc	creditations/certifications are applicable t	to this report
Authority	Program	Identification Number	Expiration Date
I/A	N/A	None on record.	

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# **Method Summary**

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery Job ID: 890-3247-1 SDG: 03E1558016

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

#### **Protocol References:**

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates. TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

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# Sample Summary

Client: Ensolum Project/Site: PLU 30 Big Sinks Battery Job ID: 890-3247-1 SDG: 03E1558016

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3247-1	FS01A	Solid	10/19/22 14:10	10/20/22 09:38	1 feet b
890-3247-2	FS02A	Solid	10/19/22 14:15	10/20/22 09:38	1 feet b

					HON EL P	aso, TX ( aso, NM (5	15) 585-3 5) 392-75	43. Lubbo 50. Carlsbe	EL Paso. TX (915) 585-343. Lubbock. TX (806) 794-1296 Hobbs. NM (575) 392-7550. Carisbad. NM (575) 988-3199	794-1296	s	www.xenco.com	Page	of
Deviand Manager	Tacama Morriesau	Ne			Bill to: (If different)		Garrett Green	ueu				Work Order Comments	omments	
Company Name	Frisolum	ĥ			Company Name:		XTO Energy	A		Pre	gram: UST/PST	Program: UST/PST    PRP    Brownfields    RRC	ields RRC	Supertund
Address:	3122 National Parks Hwy	arks H	w		Address		3104 E. Green St	reen St		Sta	State of Project:	i F		
City. State ZIP:	Carlsbad, NM 88220	8220			City. State ZIP.		Carlsbad.	Carlsbad, NM 88220		Rei	porting Level II	Reporting Level II _ Level III _ PST/UST ] TRRP ]	UST 🗌 TRRP	
Phone	303-887-2948			Emailt	Garraft Grae	(DEX:	onMobil c	mo		Dei	Deliverables: EDD	ADaPT	Other.	
Designed Marmon	DI 11 30 Rin Sinke Battery	Sinke	Batterv	Turn	Turn Around		1			ANALYSIS REQUEST	st		Preserva	Preservative Codes
Project Number:	03E1	03E1558016	6	N Routine	Rush	Pres. Code	H					ž	None ND	DI Water, H <sub>2</sub> O
Project Location:				Due Date:			-					ŏ	Cool. Cool	MeOH: Me
Sampler's Name: PO #:	Connor Whitman	r Whitm	nan	TAT starts th the lab, if rec	TAT starts the day received by the lab, if received by 4:30pm				_			Í Í	HCL HC	HNO, HN
SAMPLE RECEIPT	PT Temp Blank:	ank:	Yes No	Wet Ice:	Yes No	iətər	((					Í	H <sub>3</sub> PO <sub>4</sub> HP	
Samples Received Intact			Thermometer ID:	0:		Bran	000					ž	NaHSO <sub>4</sub> NABIS	10
Cooler Custody Seals:	x Yes No	NIA	Correction Factor.	dor.		ы	:¥d			HERE WAR ARE AND	THE DESIGNATION OF THE OWNER OF T	ž	NajSrOj NeSO	-
Sample Custody Seals:	ls: Yes No	NIA	Temperature Reading:	teading:		_	-	220	890	890-3247 Chain of Custody	J.	ž ž	Zn Acetate+NaOH Zn NaOH+Ascorbic Acid SAPC	OH Zn
I OTAI COMBINERS.			Date Time	Time	Grab/	# 01	10190. 2108) (	:08) X					Camila	mante
Sample Identification		Matrix	Sampled	Sampled	Depth Comp			10				-	aiduac	emannino aiduise
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Total 200.7 / 6010 200.8 / 6020: Circle Method(s) and Metal(s) to be analyzed	010 200.8 / 6020: Dd Metal(s) to be an	)20: analvz		BRCRA 13PP TCLP / SF	RA 13PPM Texas 11 AI S TCLP/SPLP 6010: BRCRA	170	As Ba Be bb As Ba B	Be B C a Be C	d Ca Cr	b As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U	1×	Se Ag SiO <sub>2</sub> Na Sr Tl Sn U Hg: 1631/245.1/7470	Sr TI Sn U	J V Zn 17471
Notice: Signature of this of service. Eurofins Xend of Eurofins Xenco. A min	Socument and relinquis o will be liable only for imum charge of \$85,00	shment o r the cost 0 will be a	f samples constitute of samples and s pplied to each pr	utes a valid pur chalt not assume oject and a cha	chase order from o any responsibility rge of \$5 for each	fient comp y for any k sample su	any to Eur	ofins Xenco senses incu urofins Xer	its affiliates i red by the cli co, but not an	Nocioe: Signature of this document and reinquiahment of samples consitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subconfractors. It assigns standard forms and conditions Suprature of this document and reinquiahment of samples consitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subconfractors. It assigns standard for control of second the control 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 minum charge of 956, 000 will be applied to accipited and a charge of 55 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated	president terms a procession terms a procession of the series of the ser	and conditions and the control viously negotiated.		
Relinquished by: (Signature)	: (Signature)	<	Received	Received by: (Signature)	ure)		Date/Time	e	Relinqui	Relinquished by: (Signature)	Receive	Received by: (Signature)	(0	Date/Time
· Contatto		P	Ruch	0		10	ec.oc. ol	9938						
			-											

Job Number: 890-3247-1 SDG Number: 03E1558016

List Source: Eurofins Carlsbad

# Login Sample Receipt Checklist

Client: Ensolum

<6mm (1/4").

#### Login Number: 3247 List Number: 1 Creator: Stutzman, Amanda

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	N/A	

Job Number: 890-3247-1 SDG Number: 03E1558016

List Source: Eurofins Midland

List Creation: 10/21/22 10:46 AM

# Login Sample Receipt Checklist

Client: Ensolum

<6mm (1/4").

Login Number: 3247 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: 7/15/2024 1:22:14 PM



# APPENDIX D

**NMOCD** Notifications

Released to Imaging: 7/15/2024 1:22:14 PM

From:	Green, Garrett J
То:	Tacoma Morrissey
Subject:	FW: XTO - Sampling Notification (Week of 10/31/22 - 11/4/22)
Date:	Friday, October 28, 2022 2:16:44 PM

From: Green, Garrett J

**Sent:** Friday, October 28, 2022 1:11 PM

To: ocd.enviro@emnrd.nm.gov; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>;
Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Hamlet, Robert, EMNRD
<Robert.Hamlet@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>
Subject: XTO - Sampling Notification (Week of 10/31/22 - 11/4/22)

All,

XTO plans to complete final sampling activities at the following sites the week of Oct 31, 2022.

#### Monday

- Poker Lake Unit 409/ nAPP2223751933

#### Tuesday

- Poker Lake Unit 409/ nAPP2223751933
- JRU DI 11 Ekalaka 823H/ nAPP2224527297

#### Wednesday

- Poker Lake Unit 409/ nAPP2223751933
- JRU DI 11 Ekalaka 823H/ nAPP2224527297

#### Thursday

- Poker Lake Unit 409/ nAPP2223751933
- PLU 30 Big Sinks/ nAPP2209137379, nAPP2208351954, nAPP2206853301

#### Friday

- Poker Lake Unit 409/ nAPP2223751933

#### Thank you!

#### **Garrett Green**

Environmental Coordinator Delaware Business Unit (575) 200-0729

From:	Collins, Melanie
To:	DelawareSpills /SM; Green, Garrett J; Pennington, Shelby G
Cc:	Ashley Ager; Kalei Jennings; Tacoma Morrissey; Ben Belill; Stuart Hyde
Subject:	FW: The Oil Conservation Division (OCD) has rejected the application, Application ID: 110560
Date:	Tuesday, September 6, 2022 1:18:20 PM
Attachments:	image001.png
Date:	FW: The Oil Conservation Division (OCD) has rejected the application, Application ID: 110560 Tuesday, September 6, 2022 1:18:20 PM

And the 3<sup>rd</sup> one arrived..released 3/19/22.





Environmental Technician <u>melanie.collins@exxonmobil.com</u> 432-556-3756

From: OCDOnline@state.nm.us [mailto:OCDOnline@state.nm.us]
Sent: Tuesday, September 6, 2022 12:57 PM
To: Collins, Melanie <melanie.collins@exxonmobil.com>
Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 110560

**External Email - Think Before You Click** 

To whom it may concern (c/o Melanie Collins for XTO ENERGY, INC),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2209137379, for the following reasons:

• The deferral request is denied. Depth to groundwater is not adequately identified. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided. If evidence of depth to ground water within a ½ mile radius of the site cannot be provided, impacted soils will need to meet Table 1 Closure Criteria for ground water at a depth of 50 feet or less. As much of the contaminated soil outside the secondary containment area should be removed safely with alternative methods. Delineation up against and under the containment needs to occur to define edge of release. The work will need to occur in 90 days after the report has been reviewed.

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 110560.

Please review and make the required correction(s) prior to resubmitting. If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you, Robert Hamlet 575-748-1283 Robert.Hamlet@state.nm.us

## New Mexico Energy, Minerals and Natural Resources Department

1220 South St. Francis Drive Santa Fe, NM 87505

From:	Hamlet, Robert, EMNRD
То:	Green, Garrett J
Cc:	<u>Tacoma Morrissey;</u> <u>DelawareSpills /SM; Bratcher, Mike, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD</u>
Subject:	RE: [EXTERNAL] XTO 48 Hour Liner Inspection PLU 30 Big Sinks CTB - NAPP2206853301, NAPP2208351954, & NAPP2209137379
Date:	Friday, April 29, 2022 9:31:38 AM

Garrett,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Robert Hamlet • Environmental Specialist - Advanced Environmental Bureau EMNRD - Oil Conservation Division 811 S. First Street | Artesia, NM 88210 575.909.0302 | robert.hamlet@state.nm.us http://www.emnrd.state.nm.us/OCD/



From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Thursday, April 28, 2022 4:39 PM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Venegas, Victoria, EMNRD
<Victoria.Venegas@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Enviro,
OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; DelawareSpills /SM
<DelawareSpills@exxonmobil.com>

Subject: [EXTERNAL] XTO 48 Hour Liner Inspection PLU 30 Big Sinks CTB - NAPP2206853301, NAPP2208351954, & NAPP2209137379

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

Good afternoon,

This is sent as a 48-hour notification, XTO is scheduled to inspect the lined containment at PLU 30 Big Sinks CTB for three releases that occurred at the facility. Release dates are as follows (2/24/2022, 3/14/2022 and 3/19/2022), on Monday, May 2, 2022, at 10am MST. 24 hour release notifications were sent out on Friday, February 25, 2022 11:09 AM, Monday, March 14, 2022 3:05 PM and Saturday, March 19, 2022 12:47 PM since the releases were greater than 25 barrels in volume. Please call us with any questions or concerns.

GPS Coordinates: (32.10395, -103.82149)

Thank you,

## **Garrett Green**

Environmental Coordinator Delaware Business Unit (575) 200-0729 <u>Garrett.Green@ExxonMobil.com</u>

XTO Energy, Inc. 3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729



APPENDIX B

NMOCD Correspondence

From:	Hamlet, Robert, EMNRD
To:	Green, Garrett J
Cc:	<u>Tacoma Morrissey; DelawareSpills /SM; Bratcher, Mike, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD</u>
Subject:	RE: [EXTERNAL] XTO 48 Hour Liner Inspection PLU 30 Big Sinks CTB - NAPP2206853301, NAPP2208351954, & NAPP2209137379
Date:	Friday, April 29, 2022 9:31:38 AM

Garrett,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Robert Hamlet • Environmental Specialist - Advanced Environmental Bureau EMNRD - Oil Conservation Division 811 S. First Street | Artesia, NM 88210 575.909.0302 | robert.hamlet@state.nm.us http://www.emnrd.state.nm.us/OCD/



From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Thursday, April 28, 2022 4:39 PM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Venegas, Victoria, EMNRD
<Victoria.Venegas@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Enviro,
OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; DelawareSpills /SM
<DelawareSpills@exxonmobil.com>

Subject: [EXTERNAL] XTO 48 Hour Liner Inspection PLU 30 Big Sinks CTB - NAPP2206853301, NAPP2208351954, & NAPP2209137379

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

Good afternoon,

This is sent as a 48-hour notification, XTO is scheduled to inspect the lined containment at PLU 30 Big Sinks CTB for three releases that occurred at the facility. Release dates are as follows (2/24/2022, 3/14/2022 and 3/19/2022), on Monday, May 2, 2022, at 10am MST. 24 hour release notifications were sent out on Friday, February 25, 2022 11:09 AM, Monday, March 14, 2022 3:05 PM and Saturday, March 19, 2022 12:47 PM since the releases were greater than 25 barrels in volume. Please call us with any questions or concerns.

GPS Coordinates: (32.10395, -103.82149)

Thank you,

## **Garrett Green**

Environmental Coordinator Delaware Business Unit (575) 200-0729 <u>Garrett.Green@ExxonMobil.com</u>

XTO Energy, Inc. 3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729  
 From:
 Aimee Cole

 To:
 Tacoma Morrissey

 Subject:
 FW: XTO Site Activities for the week of April 21st

 Date:
 Monday, May 2, 2022 12:23:00 PM

 Attachments:
 image001.png image002.png image003.png

image004.png



Aimee Cole Senior Managing Scientist 720-384-7365 Ensolum, LLC in f Y

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Friday, April 29, 2022 10:00 AM
To: ocd.enviro@state.nm.us; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hamlet,
Robert, EMNRD <Robert.Hamlet@state.nm.us>; Nobui, Jennifer, EMNRD
<Jennifer.Nobui@state.nm.us>; Chad.Hensley@state.nm.us
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Baker, Adrian
<adrian.baker@exxonmobil.com>; Aimee Cole <acole@ensolum.com>
Subject: XTO Site Activities for the week of April 21st

# [ \*\*EXTERNAL EMAIL\*\*]

All,

XTO plans to complete final sampling activities at the following sites the week of May 2, 2022.

Monday

- PLU 30 Big Sinks CTB / nAPP2206853301, nAPP2208351954, nAPP2209137379

Tuesday

- PLU 30 Big Sinks CTB / nAPP2206853301, nAPP2208351954, nAPP2209137379

#### Wednesday

- ADU 624 / NAPP2123634554

Thursday

- ADU 624 / NAPP2123634554

Friday

- ADU 624 / NAPP2123634554

Thank you,

## Garrett Green

Environmental Coordinator Delaware Business Unit (575) 200-0729 <u>Garrett.Green@ExxonMobil.com</u>

XTO Energy, Inc. 3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

From:	Collins, Melanie
То:	DelawareSpills /SM; Green, Garrett J; Pennington, Shelby G
Cc:	Ashley Ager; Kalei Jennings; Tacoma Morrissey; Ben Belill; Stuart Hyde
Subject:	FW: The Oil Conservation Division (OCD) has rejected the application, Application ID: 110560
Date:	Tuesday, September 6, 2022 1:18:20 PM
Attachments:	image001.png

And the 3<sup>rd</sup> one arrived..released 3/19/22.





Environmental Technician <u>melanie.collins@exxonmobil.com</u> 432-556-3756

From: OCDOnline@state.nm.us [mailto:OCDOnline@state.nm.us]
Sent: Tuesday, September 6, 2022 12:57 PM
To: Collins, Melanie <melanie.collins@exxonmobil.com>
Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 110560

**External Email - Think Before You Click** 

To whom it may concern (c/o Melanie Collins for XTO ENERGY, INC),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2209137379, for the following reasons:

• The deferral request is denied. Depth to groundwater is not adequately identified. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided. If evidence of depth to ground water within a ½ mile radius of the site cannot be provided, impacted soils will need to meet Table 1 Closure Criteria for ground water at a depth of 50 feet or less. As much of the contaminated soil outside the secondary containment area should be removed safely with alternative methods. Delineation up against and under the containment needs to occur to define edge of release. The work will need to occur in 90 days after the report has been reviewed.

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 110560.

Please review and make the required correction(s) prior to resubmitting. If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you, Robert Hamlet 575-748-1283 Robert.Hamlet@state.nm.us

## New Mexico Energy, Minerals and Natural Resources Department

1220 South St. Francis Drive Santa Fe, NM 87505

From:	<u>Green, Garrett J</u>
To:	ocd.enviro@emnrd.nm.gov; Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD
Cc:	Tacoma Morrissey; DelawareSpills /SM
Subject:	XTO - Sampling Notification (Week of 10/17/22 - 10/21/22)
Date:	Monday, October 17, 2022 11:21:03 AM

All,

Please see the update below to this week's sampling schedule. XTO plans to complete final sampling activities at the following sites the week of Oct 17, 2022.

Monday

- BEU 29W Vader 100H / nAPP2102831345

#### Tuesday

- BEU 29W Vader 100H / nAPP2102831345
- PLU 21 BD 125H/ nAPP2214547737

#### Wednesday

- BEU 29W Vader 100H / nAPP2102831345
- PLU 30 Big Sinks/ nAPP2209137379, nAPP2208351954, nAPP2206853301

#### Thursday

- PLU 30 Big Sinks/ nAPP2209137379, nAPP2208351954, nAPP2206853301
- JRU 108 / nAPP2217931599
- JRU 106 / nAPP2212344322

#### **Garrett Green**

Environmental Coordinator Delaware Business Unit (575) 200-0729 <u>Garrett.Green@ExxonMobil.com</u>

XTO Energy, Inc. 3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

From:	Green, Garrett J
To:	Tacoma Morrissey
Subject:	FW: XTO - Sampling Notification (Week of 10/31/22 - 11/4/22)
Date:	Friday, October 28, 2022 2:16:44 PM

From: Green, Garrett J

**Sent:** Friday, October 28, 2022 1:11 PM

To: ocd.enviro@emnrd.nm.gov; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>;
Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Hamlet, Robert, EMNRD
<Robert.Hamlet@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>
Subject: XTO - Sampling Notification (Week of 10/31/22 - 11/4/22)

All,

XTO plans to complete final sampling activities at the following sites the week of Oct 31, 2022.

#### Monday

- Poker Lake Unit 409/ nAPP2223751933

#### Tuesday

- Poker Lake Unit 409/ nAPP2223751933
- JRU DI 11 Ekalaka 823H/ nAPP2224527297

#### Wednesday

- Poker Lake Unit 409/ nAPP2223751933
- JRU DI 11 Ekalaka 823H/ nAPP2224527297

#### Thursday

- Poker Lake Unit 409/ nAPP2223751933
- PLU 30 Big Sinks/ nAPP2209137379, nAPP2208351954, nAPP2206853301

#### Friday

- Poker Lake Unit 409/ nAPP2223751933

#### Thank you!

#### **Garrett Green**

Environmental Coordinator Delaware Business Unit (575) 200-0729

From:	Collins, Melanie
То:	Tacoma Morrissey; Ashley Ager; Ben Belill
Cc:	Pennington, Shelby G; Green, Garrett J; DelawareSpills /SM
Subject:	FW: The Oil Conservation Division (OCD) has rejected the application, Application ID: 193687
Date:	Monday, July 10, 2023 4:46:34 PM
Attachments:	image001.png

Deferral Denial for PLU 30 BS TB released 2/24/22 --- Deferral was submitted 3/6/23.

# Melaníe Collíns



Environmental Technician melanie.collins@exxonmobil.com 432-556-3756

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Monday, July 10, 2023 4:37 PM
To: Collins, Melanie <melanie.collins@exxonmobil.com>
Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 193687

External Email - Think Before You Click

To whom it may concern (c/o Melanie Collins for XTO ENERGY, INC),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2206853301, for the following reasons:

• The Deferral Request is Denied. The "step-out" samples on pad to verify the edge of the release should only be a maximum of 1-2 feet from the observed edge of the release. Stepping out away from the release area toward the edge of the pad may tell us whether or not the release left the active well pad, but it does not tell us where the actual edge of the release is located. When equipment is located in and around the release area, samples must come from the sidewalls of the release area excavation. The OCD needs to know if the release went in, around, or under equipment/tanks/pipelines. Not having sidewall samples from the actual excavation won't give us those sampling data points that we need. On future reports, "step-out" samples should only be taken a maximum of 1-2 feet from the observed edge of the release area. "Step-out" samples should never be conducted if equipment is in the vicinity of the release area. Please conduct sidewalls in the release area excavation.

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 193687. Please review and make the required correction(s) prior to resubmitting. If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you, Robert Hamlet 575-748-1283 Robert.Hamlet@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department

1220 South St. Francis Drive Santa Fe, NM 87505

From:	Collins, Melanie
То:	Tacoma Morrissey; Ashley Ager; Ben Belill
Cc:	Green, Garrett J; DelawareSpills /SM; Pennington, Shelby G
Subject:	FW: The Oil Conservation Division (OCD) has rejected the application, Application ID: 193699
Date:	Tuesday, July 11, 2023 3:20:07 PM
Attachments:	image001.png

Another PLU 30 BS denial, from the multi-incident report. Release date is 3/14/22.

# Melaníe Collíns



Environmental Technician melanie.collins@exxonmobil.com 432-556-3756

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Tuesday, July 11, 2023 3:12 PM
To: Collins, Melanie <melanie.collins@exxonmobil.com>
Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 193699

External Email - Think Before You Click

To whom it may concern (c/o Melanie Collins for XTO ENERGY, INC),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2208351954, for the following reasons:

• The Deferral Request is Denied. The "step-out" samples on pad to verify the edge of the release should only be a maximum of 1-2 feet from the observed edge of the release. Stepping out away from the release area toward the edge of the pad may tell us whether or not the release left the active well pad, but it does not tell us where the actual edge of the release is located. When equipment is located in and around the release area, samples must come from the sidewalls of the release area excavation. The OCD needs to know if the release went in, around, or under equipment/tanks/pipelines. Not having sidewall samples from the actual excavation won't give us those sampling data points that we need. On future reports, "step-out" samples should only be taken a maximum of 1-2 feet from the observed edge of the release area. "Step-out" samples should never be conducted if equipment is in the vicinity of the release area. Please conduct sidewalls in the release area excavation.

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 193699. Please review and make the required correction(s) prior to resubmitting. If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you, Robert Hamlet 575-748-1283 Robert.Hamlet@emnrd.nm.gov

# New Mexico Energy, Minerals and Natural Resources Department

1220 South St. Francis Drive Santa Fe, NM 87505

From:	Collins, Melanie
To:	Tacoma Morrissey; Ben Belill; Ashley Ager
Cc:	DelawareSpills /SM; Green, Garrett J; Pennington, Shelby G
Subject:	FW: The Oil Conservation Division (OCD) has rejected the application, Application ID: 193710
Date:	Friday, June 30, 2023 8:00:12 AM
Attachments:	image001.png

Another deferral denial....PLU 30 Big Sinks CTB released 3/19/22; deferral submitted 5/25/22.

# Melaníe Collins



Environmental Technician <u>melanie.collins@exxonmobil.com</u> 432-556-3756

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Thursday, June 29, 2023 5:27 PM
To: Collins, Melanie <melanie.collins@exxonmobil.com>
Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 193710

External Email - Think Before You Click

To whom it may concern (c/o Melanie Collins for XTO ENERGY, INC),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2209137379, for the following reasons:

This deferral application is not approved. 

 The release should be horizontally and vertically delineated to 600 mg/kg for chlorides 100 mg/kg TPH to define the edges of the release.
 Delineation samples must include lab tested analytical results.
 A scaled diagram of the release area was not included in this report.

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 193710.

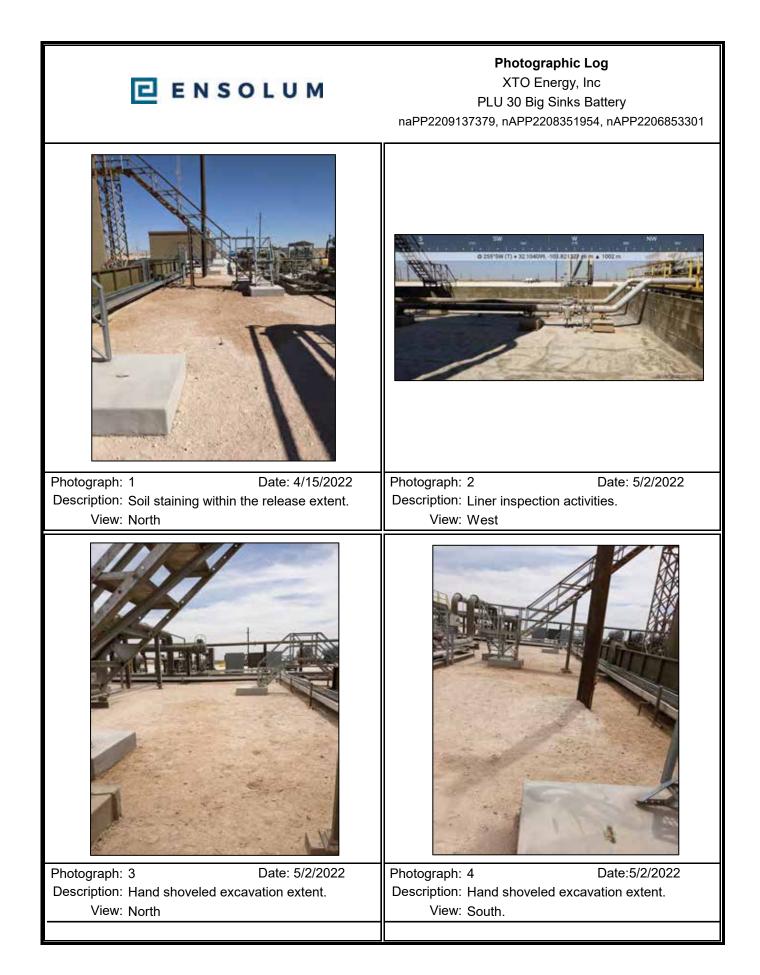
Please review and make the required correction(s) prior to resubmitting. If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

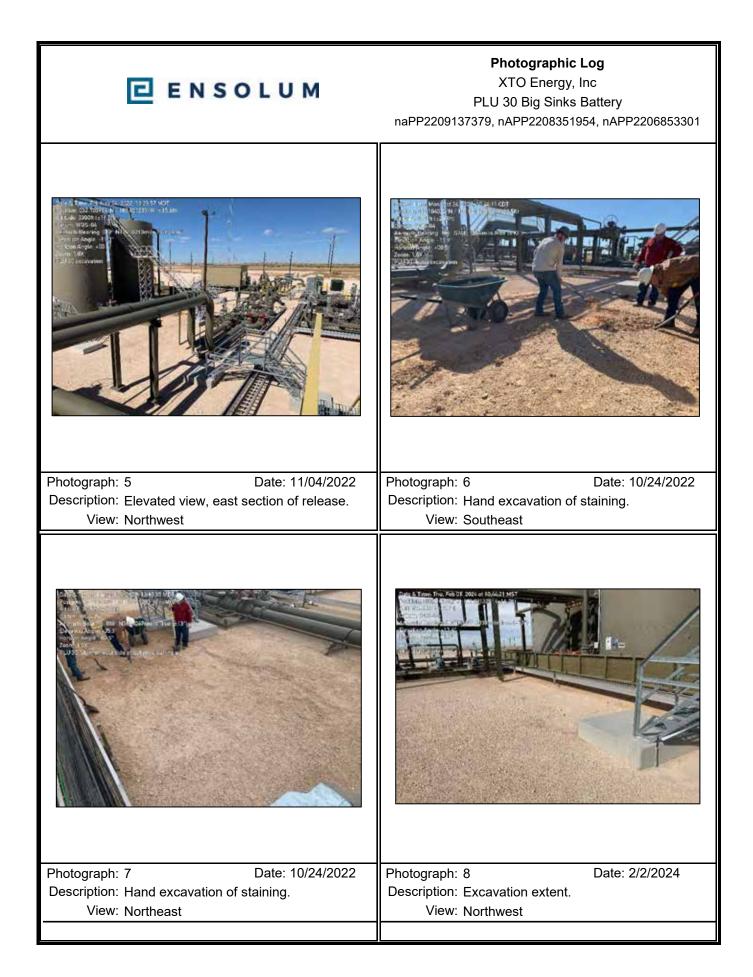
Thank you, Jocelyn Harimon Environmental Specialist



APPENDIX C

Photographic Log







# APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

Received by OCD: 6/28/2024 6:18:11 PM



**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Tacoma Morrissey Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 2/13/2024 12:22:15 PM

# JOB DESCRIPTION

PLU 30 BIG SINKS BATTERY 03C1558016

# **JOB NUMBER**

890-6096-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notos and contact information



# **Eurofins Carlsbad**

# Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

AMER

Generated 2/13/2024 12:22:15 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: 890-6096-1 SDG: 03C1558016

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	Demitions/Glossaly		1	
Client: Enso Project/Site	olum : PLU 30 BIG SINKS BATTERY	Job ID: 890-6096-1 SDG: 03C1558016		
Qualifiers	;		3	
GC VOA Qualifier	Qualifier Description		4	
F1	MS and/or MSD recovery exceeds control limits.			
S1+	Surrogate recovery exceeds control limits, high biased.		5	
U	Indicates the analyte was analyzed for but not detected.			
GC Semi V	DA		6	

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

Indicates the analyte was analyzed for but not detected.

**Qualifier Description** 

Method Quantitation Limit

Practical Quantitation Limit

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

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

Not Calculated

Negative / Absent

Positive / Present

Presumptive

Quality Control

#### HPLC/IC Qualifier

Quanner	
11	

MQL

NEG

POS

PQL

PRES

QC

RER

RPD

TEF

TEQ TNTC

RL

NC ND

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	13
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	
ML	Minimum Level (Dioxin)	
MPN	Most Probable Number	

## **Case Narrative**

Client: Ensolum Project: PLU 30 BIG SINKS BATTERY Job ID: 890-6096-1

**Eurofins Carlsbad** 

Page 294 of 324

#### Job ID: 890-6096-1

#### Job Narrative 890-6096-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

#### Receipt

The samples were received on 2/1/2024 2:43 PM. 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 0.4°C

#### Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: SW01 (890-6096-1), SW02 (890-6096-2), SS03 (890-6096-3), SS04 (890-6096-4), SS05 (890-6096-5), SS06 (890-6096-6) and SS07 (890-6096-7).

#### GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-72821 and analytical batch 880-72835 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: SW01 (890-6096-1) and SS07 (890-6096-7). 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.

#### GC Semi VOA

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-72531 and analytical batch 880-72814 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: SW01 (890-6096-1), SW02 (890-6096-2), SS03 (890-6096-3), SS04 (890-6096-4), (890-6096-A-2-C MS) and (890-6096-A-2-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: The method blank for preparation batch 880-72531 and analytical batch 880-72814 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD\_NM: Spike compounds were inadvertently omitted during the extraction process for the matrix spike/matrix spike duplicate (MS/MSD); therefore, matrix spike recoveries are unavailable for preparation batch 880-72531 and analytical batch 880-72814. The associated laboratory control sample (LCS) met acceptance criteria.

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.

## **Client Sample ID: SW01**

Date Collected: 02/01/24 10:50 Date Received: 02/01/24 14:43

Sample Depth: 0-1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	< 0.00201	U	0.00201	mg/Kg		02/11/24 13:30	02/13/24 07:21	1
Toluene	<0.00201	U	0.00201	mg/Kg		02/11/24 13:30	02/13/24 07:21	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/11/24 13:30	02/13/24 07:21	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/11/24 13:30	02/13/24 07:21	1
o-Xylene	0.00251		0.00201	mg/Kg		02/11/24 13:30	02/13/24 07:21	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/11/24 13:30	02/13/24 07:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	321	S1+	70 - 130			02/11/24 13:30	02/13/24 07:21	1
1,4-Difluorobenzene (Surr)	100		70 - 130			02/11/24 13:30	02/13/24 07:21	1
Method: TAL SOP Total BTEX - To	otal BTEX Cale	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/13/24 07:21	1
Method: SW846 8015 NM - Diesel	Range Organ	ics (DRO) ((	GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<248	U	248	mg/Kg			02/11/24 21:36	1
-	el Range Orga	nics (DRO)	(GC)					
Method: SW846 8015B NM - Dies Analyte		n <mark>ics (DRO)</mark> Qualifier	(GC) RL	Unit	D	Prepared	Analyzed	Dil Fac
Method: SW846 8015B NM - Dies		Qualifier	· · ·	Unit mg/Kg	D	Prepared 02/06/24 16:51	Analyzed 02/11/24 21:36	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	Result	Qualifier U	RL		D			
Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <248	Qualifier U U	<b>RL</b> 248	mg/Kg	<u>D</u>	02/06/24 16:51	02/11/24 21:36	5
Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result <248 <248	Qualifier U U U	<b>RL</b> 248 248	mg/Kg mg/Kg	<u>D</u>	02/06/24 16:51 02/06/24 16:51	02/11/24 21:36 02/11/24 21:36	5
Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result           <248	Qualifier U U U	RL           248           248           248           248	mg/Kg mg/Kg	<u>D</u>	02/06/24 16:51 02/06/24 16:51 02/06/24 16:51	02/11/24 21:36 02/11/24 21:36 02/11/24 21:36	5 5 5

Method: EPA 300.0 - Anions, Ior	n Chromatography - Soluble						
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1040	5.03	mg/Kg			02/06/24 22:33	1

### **Client Sample ID: SW02** Date Collected: 02/01/24 11:05 Date Received: 02/01/24 14:43

Sample Depth: 0-1

Method: SW846 8021B - Volati	le Organic Comp	ounds (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 07:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 07:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 07:42	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		02/11/24 13:30	02/13/24 07:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 07:42	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		02/11/24 13:30	02/13/24 07:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130			02/11/24 13:30	02/13/24 07:42	1

**Eurofins Carlsbad** 

Lab Sample ID: 890-6096-2

Matrix: Solid

Job ID: 890-6096-1 SDG: 03C1558016

# Lab Sample ID: 890-6096-1

Matrix: Solid

Released to Imaging: 7/15/2024 1:22:14 PM

## **Client Sample Results**

Client: Ensolum Project/Site: PLU 30 BIG SINKS BATTERY

Client Sample ID: SW02

Date Collected: 02/01/24 11:05

Date Received: 02/01/24 14:43 Sample Depth: 0-1

thod: SW846 8021B	Volatilo Organ	ic Compounds	(GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1,4-Difluorobenzene (Surr)	124		70 - 130			02/11/24 13:30	02/13/24 07:42	
Method: TAL SOP Total BTE	K - Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00401	U	0.00401	mg/Kg			02/13/24 07:42	
Method: SW846 8015 NM - Di	iesel Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Fotal TPH	<50.5	U	50.5	mg/Kg			02/11/24 20:26	

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.5	U F1	50.5	mg/Kg		02/06/24 16:51	02/11/24 20:26	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.5	U F1	50.5	mg/Kg		02/06/24 16:51	02/11/24 20:26	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		02/06/24 16:51	02/11/24 20:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	4	S1-	70 - 130			02/06/24 16:51	02/11/24 20:26	1
o-Terphenyl	0.4	S1-	70 - 130			02/06/24 16:51	02/11/24 20:26	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble							
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	95.9	4.97	mg/Kg			02/06/24 22:40	1

#### **Client Sample ID: SS03**

Date Collected: 02/01/24 11:15 Date Received: 02/01/24 14:43 Sample Depth: 0.5

Method: SW846 8021B - Volat	ile Organic Comp	ounds (GC)	)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/11/24 13:30	02/13/24 08:02	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/11/24 13:30	02/13/24 08:02	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/11/24 13:30	02/13/24 08:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/11/24 13:30	02/13/24 08:02	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/11/24 13:30	02/13/24 08:02	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/11/24 13:30	02/13/24 08:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130			02/11/24 13:30	02/13/24 08:02	1
1,4-Difluorobenzene (Surr)	121		70 - 130			02/11/24 13:30	02/13/24 08:02	1
Method: TAL SOP Total BTEX	- Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/13/24 08:02	1

Method: SW846 8015 NM - Diesel	Range Organics (DRO) (G0	C)					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	50.3	49.7	mg/Kg			02/11/24 21:58	1

Eurofins Carlsbad

Job ID: 890-6096-1 SDG: 03C1558016

# Lab Sample ID: 890-6096-2

Matrix: Solid

5

Matrix: Solid

Lab Sample ID: 890-6096-3

Project/Site: PLU 30 BIG SINKS BATTERY

Job ID: 890-6096-1 SDG: 03C1558016

Lab Sample ID: 890-6096-4

Matrix: Solid

# **Client Sample ID: SS03**

Date Collected: 02/01/24 11:15 Date Received: 02/01/24 14:43

Sample Depth: 0.5

Client: Ensolum

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.7	U	49.7	mg/Kg		02/06/24 16:51	02/11/24 21:58	1
(GRO)-C6-C10								
Diesel Range Organics (Over	50.3		49.7	mg/Kg		02/06/24 16:51	02/11/24 21:58	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.7	U	49.7	mg/Kg		02/06/24 16:51	02/11/24 21:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	25	S1-	70 - 130			02/06/24 16:51	02/11/24 21:58	1
o-Terphenyl	18	S1-	70 - 130			02/06/24 16:51	02/11/24 21:58	1

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	83.8	4.95	mg/Kg			02/06/24 22:46	1

### **Client Sample ID: SS04**

#### Date Collected: 02/01/24 11:20 Date Received: 02/01/24 14:43

Sample Depth: 0.5

< 0.00199					Prepared	Analyzed	Dil Fac
~0.00199	U	0.00199	mg/Kg		02/11/24 13:30	02/13/24 08:23	1
<0.00199	U	0.00199	mg/Kg		02/11/24 13:30	02/13/24 08:23	1
<0.00199	U	0.00199	mg/Kg		02/11/24 13:30	02/13/24 08:23	1
<0.00398	U	0.00398	mg/Kg		02/11/24 13:30	02/13/24 08:23	1
<0.00199	U	0.00199	mg/Kg		02/11/24 13:30	02/13/24 08:23	1
<0.00398	U	0.00398	mg/Kg		02/11/24 13:30	02/13/24 08:23	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
115		70 - 130			02/11/24 13:30	02/13/24 08:23	1
130		70 - 130			02/11/24 13:30	02/13/24 08:23	1
Fotal BTEX Calc	culation						
Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<0.00398	U	0.00398	mg/Kg			02/13/24 08:23	1
el Range Organ	ics (DRO) (	GC)					
Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<49.9	U	49.9	mg/Kg			02/11/24 22:21	1
	<0.00199 <0.00398 <0.00199 <0.00398 %Recovery 115 130 Total BTEX Calc Result <0.00398 el Range Organ Result	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		02/06/24 16:51	02/11/24 22:21	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		02/06/24 16:51	02/11/24 22:21	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/06/24 16:51	02/11/24 22:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	66	S1-	70 - 130			02/06/24 16:51	02/11/24 22:21	1
o-Terphenyl	56	S1-	70 - 130			02/06/24 16:51	02/11/24 22:21	1

**Eurofins Carlsbad** 

Lab Sample ID: 890-6096-3 Matrix: Solid 5

		Clien	t Sample Re	sults									
Client: Ensolum Project/Site: PLU 30 BIG SINKS BA	ATTERY						Job ID: 890 SDG: 03C1						
Client Sample ID: SS04 Date Collected: 02/01/24 11:20 Date Received: 02/01/24 14:43 Sample Depth: 0.5						Lab Sample ID: 890-60 Matrix:							
Method: EPA 300.0 - Anions, Ion		-			_								
Analyte Chloride	Result 78.0	Qualifier		Unit mg/Kg	D	Prepared	Analyzed 02/06/24 22:53	Dil Fac					
				3. 3									
Client Sample ID: SS05 Date Collected: 02/01/24 11:25 Date Received: 02/01/24 14:43 Sample Depth: 0.5						Lab Sar	nple ID: 890- Matri	6096-5 ix: Solid					
Method: SW846 8021B - Volatile	Organic Com	ounds (GC)											
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac					
Benzene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 08:43	1					
Toluene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 08:43	1					
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 08:43	1					
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		02/11/24 13:30	02/13/24 08:43	1					
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 08:43	1					
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		02/11/24 13:30	02/13/24 08:43	1					
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac					
4-Bromofluorobenzene (Surr)	112		70 - 130			02/11/24 13:30	02/13/24 08:43	1					
1,4-Difluorobenzene (Surr)	116		70 - 130			02/11/24 13:30	02/13/24 08:43	1					
Method: TAL SOP Total BTEX - T	otal BTEX Cal	culation											
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac					
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/13/24 08:43	1					
Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)										
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac					
Total TPH	201		50.0	mg/Kg			02/11/24 22:43	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	<50.0	U	50.0	mg/Kg		02/06/24 16:51	02/11/24 22:43	1					
Diesel Range Organics (Over C10-C28)	201		50.0	mg/Kg		02/06/24 16:51	02/11/24 22:43	1					
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/06/24 16:51	02/11/24 22:43	1					
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac					
1-Chlorooctane	96		70 - 130			02/06/24 16:51	02/11/24 22:43	1					
o-Terphenyl	96		70 - 130			02/06/24 16:51	02/11/24 22:43	1					
Method: EPA 300.0 - Anions, Ion	Chromatograp	ohy - Solubl	e										
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac					

Unit Dil Fac Analyte Result Qualifier RL D Prepared Analyzed 02/06/24 23:00 5.05 Chloride 102 mg/Kg

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1

Date Collected: 02/01/24 11:30 Date Received: 02/01/24 14:43

Sample Depth: 0.5

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00201	U	0.00201	mg/Kg		02/11/24 13:30	02/13/24 09:04	
Toluene	<0.00201	U	0.00201	mg/Kg		02/11/24 13:30	02/13/24 09:04	
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/11/24 13:30	02/13/24 09:04	
m-Xylene & p-Xylene	< 0.00402	U	0.00402	mg/Kg		02/11/24 13:30	02/13/24 09:04	
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/11/24 13:30	02/13/24 09:04	
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/11/24 13:30	02/13/24 09:04	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	113		70 - 130			02/11/24 13:30	02/13/24 09:04	
1,4-Difluorobenzene (Surr)	116		70 - 130			02/11/24 13:30	02/13/24 09:04	
Method: TAL SOP Total BTEX -	Total BTEX Cal	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/13/24 09:04	
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil F
Total TPH	<49.6	U	49.6	mg/Kg			02/11/24 23:05	
Method: SW846 8015B NM - Die	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics GRO)-C6-C10	<49.6	U	49.6	mg/Kg		02/06/24 16:51	02/11/24 23:05	
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		02/06/24 16:51	02/11/24 23:05	
Oll Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		02/06/24 16:51	02/11/24 23:05	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil F
1-Chlorooctane	121		70 - 130			02/06/24 16:51	02/11/24 23:05	
o-Terphenyl	123		70 - 130			02/06/24 16:51	02/11/24 23:05	
Method: EPA 300.0 - Anions, Ior	Chromatograp	ohy - Solubl	e					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	75.3		4.99	mg/Kg			02/06/24 23:20	
lient Sample ID: SS07						Lab Sar	nple ID: 890-	6096-
ate Collected: 02/01/24 11:35 ate Received: 02/01/24 14:43 ample Depth: 0.5							Matri	x: Sol
Method: SW846 8021B - Volatile	Organic Comp	ounds (CC)						
Method: SW846 8021B - Volatile Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil F

	303.0301338010
3	Lab Sample ID: 890-6096-6
	Matrix: Solid

Job ID: 890-6096-1 SDG: 03C1558016

Matrix: Solid

Rooun	quannor		onic			/	Birrao
<49.6	U	49.6	mg/Kg		02/06/24 16:51	02/11/24 23:05	1
<49.6	U	49.6	mg/Kg		02/06/24 16:51	02/11/24 23:05	1
<49.6	U	49.6	mg/Kg		02/06/24 16:51	02/11/24 23:05	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
121		70 - 130			02/06/24 16:51	02/11/24 23:05	1
123		70 - 130			02/06/24 16:51	02/11/24 23:05	1
Chromatograp	hy - Solubl	е					
	<49.6 <49.6 <49.6 <b>%Recovery</b> 121	<49.6 U <49.6 U <49.6 U %Recovery Qualifier 121	<49.6	<49.6 U	<49.6         U         49.6         mg/Kg           <49.6	<49.6	<49.6

Date Collected: 02/01/24 11:3			Matr	ix: Solid				
Date Received: 02/01/24 14:4	3							
Sample Depth: 0.5								
Method: SW846 8021B - Vo	latile Organic Comp	ounds (GC	)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 09:24	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 09:24	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 09:24	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		02/11/24 13:30	02/13/24 09:24	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 09:24	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		02/11/24 13:30	02/13/24 09:24	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

4-Bromofluorobenzene (Surr)

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02/13/24 09:24

02/11/24 13:30

**Released to Imaging:** 7/15/2024 1:22:14 PM

70 - 130

159 S1+

2/13/2024

1

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Job ID: 890-6096-1

SDG: 03C1558016

Matrix: Solid

Lab Sample ID: 890-6096-7

## **Client Sample Results**

Client: Ensolum Project/Site: PLU 30 BIG SINKS BATTERY

Client Sample ID: SS07

Date Collected: 02/01/24 11:35

Date Received: 02/01/24 14:43

Sample Depth: 0.5

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

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	125		70 - 130			02/11/24 13:30	02/13/24 09:24	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			02/13/24 09:24	1
Method: SW846 8015 NM - Diese	I Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3	mg/Kg			02/11/24 23:26	1
Method: SW846 8015B NM - Dies	el Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3	mg/Kg		02/06/24 16:51	02/11/24 23:26	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		02/06/24 16:51	02/11/24 23:26	1
Oll Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		02/06/24 16:51	02/11/24 23:26	4
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	90		70 - 130			02/06/24 16:51	02/11/24 23:26	1
o-Terphenyl	93		70 - 130			02/06/24 16:51	02/11/24 23:26	1
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	e					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	76.7		5.01	mg/Kg			02/06/24 23:27	1

Job ID: 890-6096-1 SDG: 03C1558016

Prep Type: Total/NA

Prep Type: Total/NA

# Project/Site: PLU 30 BIG SINKS BATTERY Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Client: Ensolum

				Percent Surrogate Recovery (Acceptance Limits)	4
		BFB1	DFBZ1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		Ę
390-6096-1	SW01	321 S1+	100		
890-6096-2	SW02	106	124		6
390-6096-3	SS03	114	121		- 27
390-6096-4	SS04	115	130		
890-6096-5	SS05	112	116		
890-6096-6	SS06	113	116		8
390-6096-7	SS07	159 S1+	125		
90-6102-A-6-C MS	Matrix Spike	103	107		9
90-6102-A-6-D MSD	Matrix Spike Duplicate	105	106		~
.CS 880-72821/1-A	Lab Control Sample	102	101		
.CSD 880-72821/2-A	Lab Control Sample Dup	95	99		
MB 880-72821/5-A	Method Blank	127	130		
MB 880-72837/5-A	Method Blank	118	122		
Surrogate Legend					
BFB = 4-Bromofluoroben	nzene (Surr)				
DFBZ = 1,4-Difluorobenz	zene (Surr)				
ethod: 8015B NM	- Diesel Range Organics	s (DRO) (GC	;)		

### Matrix: Solid

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
b Sample ID	Client Sample ID	(70-130)	(70-130)	
-6096-1	SW01	0.4 S1-	2 S1-	
6096-2	SW02	4 S1-	0.4 S1-	
6096-2 MS	SW02	0.9 S1-	0.3 S1-	
6096-2 MSD	SW02	2 S1-	0.3 S1-	
096-3	SS03	25 S1-	18 S1-	
096-4	SS04	66 S1-	56 S1-	
96-5	SS05	96	96	
096-6	SS06	121	123	
096-7	SS07	90	93	
880-72531/2-A	Lab Control Sample	120	115	
D 880-72531/3-A	Lab Control Sample Dup	105	101	
880-72531/1-A	Method Blank	204 S1+	221 S1+	

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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

Lab Sample ID: MB 880-72821/5-A	
Matrix: Solid	

Analysis Batch: 72835

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 00:57	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 00:57	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 00:57	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/11/24 13:30	02/13/24 00:57	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/11/24 13:30	02/13/24 00:57	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/11/24 13:30	02/13/24 00:57	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130			02/11/24 13:30	02/13/24 00:57	1
1,4-Difluorobenzene (Surr)	130		70 - 130			02/11/24 13:30	02/13/24 00:57	1

#### Lab Sample ID: LCS 880-72821/1-A Matrix: Solid

#### Analysis Batch: 72835

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.09626		mg/Kg		96	70 - 130	
Toluene	0.100	0.09713		mg/Kg		97	70 - 130	
Ethylbenzene	0.100	0.08842		mg/Kg		88	70 - 130	
m-Xylene & p-Xylene	0.200	0.2090		mg/Kg		104	70 - 130	
o-Xylene	0.100	0.09157		mg/Kg		92	70 - 130	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

### Lab Sample ID: LCSD 880-72821/2-A

#### Matrix: Solid alvala Datak - -----

Analysis Batch: 72835								Batch:	72821
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09743		mg/Kg		97	70 - 130	1	35
Toluene	0.100	0.09577		mg/Kg		96	70 - 130	1	35
Ethylbenzene	0.100	0.09049		mg/Kg		90	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.2036		mg/Kg		102	70 - 130	3	35
o-Xylene	0.100	0.08994		mg/Kg		90	70 - 130	2	35
10									

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

#### Lab Sample ID: 890-6102-A-6-C MS Matrix: Solid

#### Analysis Batch: 72835

Analysis Batch: 72835									Prep Batch: 72821
	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	<0.00200	U F1	0.0996	0.06796	F1	mg/Kg		68	70 - 130
Toluene	<0.00200	U F1	0.0996	0.06838	F1	mg/Kg		69	70 - 130

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Prep Type: Total/NA

**Client Sample ID: Matrix Spike** 

13

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72821

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 72821

Lab Sample ID: 890-6102-A-6-C MS

Matrix: Solid

Analyte

Ethylbenzene m-Xylene & p-Xylene

Analysis Batch: 72835

## **QC Sample Results**

MS MS

0.05975 F1

0.1426

0.07199

**Result Qualifier** 

Spike

Added

0.0996

0.199

Client: Ensolum Project/Site: PLU 30 BIG SINKS BATTERY

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

Sample Sample

<0.00200 UF1

<0.00401 U

Result Qualifier

			Job ID: 890- SDG: 03C1		
		Client	Sample ID: Matrix	x Spike	
			Prep Type: T Prep Batch	otal/NA	
			%Rec		
Unit	D	%Rec	Limits		
mg/Kg		60	70 - 130		
mg/Kg		72	70 - 130		
mg/Kg		72	70 - 130		

**Client Sample ID: Matrix Spike Duplicate** 

o-Xylene	<0.00200	U F1	0.0996
	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

#### Lab Sample ID: 890-6102-A-6-D MSD Matrix: Solid

#### Analysis Batch: 72835

Analysis Batch: 72835									Prep	Batch:	72821	
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	<0.00200	U F1	0.0990	0.06864	F1	mg/Kg		69	70 - 130	1	35	
Toluene	<0.00200	U F1	0.0990	0.06759	F1	mg/Kg		68	70 - 130	1	35	ī
Ethylbenzene	<0.00200	U F1	0.0990	0.06441	F1	mg/Kg		65	70 - 130	7	35	
m-Xylene & p-Xylene	<0.00401	U	0.198	0.1530		mg/Kg		77	70 - 130	7	35	ĩ
o-Xylene	<0.00200	U F1	0.0990	0.06881	F1	mg/Kg		69	70 - 130	5	35	

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

#### Lab Sample ID: MB 880-72837/5-A Matrix: Solid Analysis Batch: 72835

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

#### Prep Batch: 72837

Prep Type: Total/NA

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/12/24 08:41	02/12/24 13:20	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/12/24 08:41	02/12/24 13:20	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/12/24 08:41	02/12/24 13:20	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/12/24 08:41	02/12/24 13:20	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/12/24 08:41	02/12/24 13:20	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/12/24 08:41	02/12/24 13:20	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130			02/12/24 08:41	02/12/24 13:20	1
1,4-Difluorobenzene (Surr)	122		70 - 130			02/12/24 08:41	02/12/24 13:20	1

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

Lab Sample ID: MB 880-72531/1-A Matrix: Solid Analysis Batch: 72814						Client Sa	mple ID: Metho Prep Type: <sup>-</sup> Prep Batcl	Total/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		02/06/24 16:51	02/11/24 19:18	1

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## **QC Sample Results**

Client: Ensolum Project/Site: PLU 30 BIG SINKS BATTERY

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

Lab Sample ID: MB 880-72531/	1-A								Client S	ample ID: N	/lethoo	Blank
Matrix: Solid												otal/NA
Analysis Batch: 72814												: 72531
Analysis Datch. 72014		МВ МВ								Fieh	Daten	. 72551
Analyte		sult Qualifier	RL		Uni	t	D	Р	repared	Analyze	ed.	Dil Fac
Diesel Range Organics (Over		50.0 U	50.0		mg		_		6/24 16:51			1
C10-C28)					5	5						
Oll Range Organics (Over C28-C36)	<5	0.0 U	50.0		mg	/Kg		02/0	6/24 16:51	02/11/24 1	9:18	1
		MB MB										
Surrogate		very Qualifier	Limits					P	repared	Analyze	he	Dil Fac
1-Chlorooctane		204 S1+	70 - 130						6/24 16:51			1
o-Terphenyl		221 S1+	70 - 130						6/24 16:51			1
-								02/0		•=••=•		
Lab Sample ID: LCS 880-72531	/ <b>2-A</b>						С	lient	Sample	ID: Lab Co	ntrol S	Sample
Matrix: Solid										Prep T	ype: To	otal/NA
Analysis Batch: 72814										Prep	Batch	: 72531
			Spike	LCS	LCS					%Rec		
Analyte			Added	Result	Qualifier	Unit		D	%Rec	Limits		
Gasoline Range Organics			1000	1019		mg/Kg			102	70 - 130		
(GRO)-C6-C10			1000	400-					400	70 100		
Diesel Range Organics (Over C10-C28)			1000	1033		mg/Kg			103	70 - 130		
010-028)												
	LCS	LCS										
Surrogate	%Recovery	Qualifier	Limits									
1-Chlorooctane	120		70 - 130									
o-Terphenyl	115		70 - 130									
Lab Sample ID: LCSD 880-7253	R1/3_Δ					CI	iont	Sam		Lab Control	Same	
Matrix: Solid	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					01	iem	Jan				otal/NA
Analysis Batch: 72814												: 72531
			Spike	LCSD	LCSD					%Rec	Batom	RPD
Analyte			Added		Qualifier	Unit		D	%Rec	Limits	RPD	Limit
Gasoline Range Organics			1000	903.6		mg/Kg			90	70 - 130	12	20
(GRO)-C6-C10												
Diesel Range Organics (Over			1000	932.7		mg/Kg			93	70 - 130	10	20
C10-C28)												
	LCSD	LCSD										
Surrogate	%Recovery	Qualifier	Limits									
1-Chlorooctane	105		70 - 130									
o-Terphenyl	101		70 - 130									
-												
Lab Sample ID: 890-6096-2 MS										Client Sam	-	
Matrix: Solid												otal/NA
Analysis Batch: 72814	Commis	Sampla	Spiles		Me						Batch	: 72531
Analyta	Sample S	•	Spike Addod		MS Qualifier	l Init		<b>P</b>	% Boo	%Rec		
Analyte Gasoline Range Organics	Result ( <50.5		Added		Qualifier U F1			D	%Rec 2	Limits 70 - 130		
(GRO)-C6-C10	S0.0		1010	<b>\</b> 00.4	UFI	mg/Kg			2	10 - 130		
Diesel Range Organics (Over	<50.5	U F1	1010	<50.4	U F1	mg/Kg			-0.1	70 - 130		
C10-C28)												
	MS	MS										
Surrogate	%Recovery		Limits									
1-Chlorooctane	0.9		70 - 130									
	0.0	- ·	70 - 100									

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Job ID: 890-6096-1 SDG: 03C1558016

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o-Terphenyl

70 - 130

0.3 S1-

Lab Sample ID: 890-6096-2 MSD

Matrix: Solid

(GRO)-C6-C10

Analyte

Analysis Batch: 72814

Gasoline Range Organics

Diesel Range Organics (Over

## **QC Sample Results**

MSD MSD

<50.4 UF1

<50.4 UF1

Result Qualifier

Unit

mg/Kg

mg/Kg

D

0.1

70 - 130

Spike

Added

1010

1010

Client: Ensolum Project/Site: PLU 30 BIG SINKS BATTERY

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

Sample Sample

<50.5 UF1

<50.5 UF1

Result Qualifier

		D: 890-6 : 03C15	
	Client San		
		ype: To Batch:	
	%Rec		RPD
%Rec	Limits	RPD	Limit
2	70 - 130	6	20

9

20

C10-C28)														
010-020)														
		MSD												
	%Recovery		ifier	Limits										
1-Chlorooctane		S1-		70 - 130										
o-Terphenyl	0.3	S1-		70 - 130										
Method: 300.0 - Anions, Ion (	Chromat	ogra	aphy											
Lab Sample ID: MB 880-72305/1-/	4										Client S	Sample ID:	Method	Blank
Matrix: Solid												Prep	Type: S	oluble
Analysis Batch: 72467														
		MB	МВ											
Analyte	R	esult	Qualifier		RL		Unit		D	Pr	epared	Analy	zed	Dil Fac
Chloride	<	<5.00	U		5.00		mg/Kg	)				02/06/24	21:05	1
Lab Sample ID: LCS 880-72305/2-	A								Cli	ent	Sample	e ID: Lab C	ontrol S	ample
Matrix: Solid												Prep	Type: S	oluble
Analysis Batch: 72467														
				Spike	L	S LCS	3					%Rec		
					_	ılt Qua	lifior	Unit		D	%Rec	Limits		
Analyte				Added	Res	int Qua	inner	Unit		U	%Rec	Linnis		
Analyte Chloride				Added 250	255			mg/Kg			102	90 - 110		
Chloride	3-4							mg/Kg	ient S		102	90 - 110		le Dun
Chloride Lab Sample ID: LCSD 880-72305/	3-A							mg/Kg	ient S		102	90 <sub>-</sub> 110 Lab Contro		-
Chloride Lab Sample ID: LCSD 880-72305/ Matrix: Solid	3-A							mg/Kg	ient S		102	90 <sub>-</sub> 110 Lab Contro	ol Sampl Type: S	-
Chloride Lab Sample ID: LCSD 880-72305/	3-A			250	255	.0		mg/Kg	ient S		102	90 <sub>-</sub> 110 Lab Contro Prep		oluble
Chloride Lab Sample ID: LCSD 880-72305/ Matrix: Solid Analysis Batch: 72467	3-A			250 Spike	255 LC3	D LCS	SD	mg/Kg Cli	ient S	Sam	102 ple ID:	90 - 110 Lab Contro Prep %Rec	Type: S	oluble RPD
Chloride Lab Sample ID: LCSD 880-72305/ Matrix: Solid	3-A			250	255 LC3	D LCS	SD	mg/Kg Cli Unit	ient S		102	90 <sub>-</sub> 110 Lab Contro Prep		oluble
Chloride Lab Sample ID: LCSD 880-72305/ Matrix: Solid Analysis Batch: 72467 Analyte	3-A			250 Spike Added	255 LC: Res	D LCS	SD	mg/Kg Cli	ient S	Sam	102 ple ID: %Rec	90 - 110 Lab Contro Prep %Rec Limits	Type: S	oluble RPD Limit
Chloride Lab Sample ID: LCSD 880-72305/ Matrix: Solid Analysis Batch: 72467 Analyte	3-A			250 Spike Added	255 LC: Res	D LCS	SD	mg/Kg Cli Unit	ient S	Sam	102 ple ID: %Rec	90 - 110 Lab Contro Prep %Rec Limits	Type: S	RPD Limit 20
Chloride Lab Sample ID: LCSD 880-72305/ Matrix: Solid Analysis Batch: 72467 Analyte Chloride	3-A			250 Spike Added	255 LC: Res	D LCS	SD	mg/Kg Cli Unit	ient S	Sam	102 ple ID: %Rec	90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sa	Type: S	RPD Limit 20
Chloride Lab Sample ID: LCSD 880-72305/ Matrix: Solid Analysis Batch: 72467 Analyte Chloride Lab Sample ID: 890-6096-5 MS	3-A			250 Spike Added	255 LC: Res	D LCS	SD	mg/Kg Cli Unit	ient S	Sam	102 ple ID: %Rec	90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sa	Type: S	RPD Limit 20
Chloride Lab Sample ID: LCSD 880-72305/ Matrix: Solid Analysis Batch: 72467 Analyte Chloride Lab Sample ID: 890-6096-5 MS Matrix: Solid	3-A Sample	Samı	ple	250 Spike Added	25: LC: Res 254	D LCS	SD	mg/Kg Cli Unit	ient S	Sam	102 ple ID: %Rec	90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sa	Type: S	RPD Limit 20
Chloride Lab Sample ID: LCSD 880-72305/ Matrix: Solid Analysis Batch: 72467 Analyte Chloride Lab Sample ID: 890-6096-5 MS Matrix: Solid				250 Spike Added 250	255 LC: 254	D LCS	SD Alifier	mg/Kg Cli Unit	ient S	Sam	102 ple ID: %Rec	90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sa Prep	Type: S	RPD Limit 20
Chloride Lab Sample ID: LCSD 880-72305/ Matrix: Solid Analysis Batch: 72467 Analyte Chloride Lab Sample ID: 890-6096-5 MS Matrix: Solid Analysis Batch: 72467	Sample			250 Spike Added 250 Spike	255 LC: 254	D LCS III Qua 3 IS MS III Qua	SD Alifier	mg/Kg Cli Unit mg/Kg	ient S	Sam D	102 ple ID: %Rec 102	90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sa Prep %Rec	Type: S	RPD Limit 20
Chloride Lab Sample ID: LCSD 880-72305/ Matrix: Solid Analysis Batch: 72467 Analyte Chloride Lab Sample ID: 890-6096-5 MS Matrix: Solid Analysis Batch: 72467 Analyte	Sample Result			250 Spike Added 250 Spike Added	255 LC5 254 I Res	D LCS III Qua 3 IS MS III Qua	SD Alifier	mg/Kg Cli Unit mg/Kg Unit	ient S	Sam D	102 ple ID: %Rec 102 %Rec	90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sa Prep %Rec Limits	Type: S RPD 0 mple ID: Type: S	oluble RPD Limit 20 : SS05 oluble
Chloride Lab Sample ID: LCSD 880-72305/ Matrix: Solid Analysis Batch: 72467 Analyte Chloride Lab Sample ID: 890-6096-5 MS Matrix: Solid Analysis Batch: 72467 Analyte Chloride	Sample Result			250 Spike Added 250 Spike Added	255 LC5 254 I Res	D LCS III Qua 3 IS MS III Qua	SD Alifier	mg/Kg Cli Unit mg/Kg Unit	ient S	Sam D	102 ple ID: %Rec 102 %Rec	90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sa 90 - 110 KRec Limits 90 - 110 Client Sa	Type: S RPD 0 mple ID: Type: S	oluble RPD Limit 20 : SS05 oluble
Chloride Lab Sample ID: LCSD 880-72305/ Matrix: Solid Analysis Batch: 72467 Analyte Chloride Lab Sample ID: 890-6096-5 MS Matrix: Solid Analysis Batch: 72467 Analyte Chloride Lab Sample ID: 890-6096-5 MSD Matrix: Solid	Sample Result			250 Spike Added 250 Spike Added	255 LC5 254 I Res	D LCS III Qua 3 IS MS III Qua	SD Alifier	mg/Kg Cli Unit mg/Kg Unit	ient S	Sam D	102 ple ID: %Rec 102 %Rec	90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sa 90 - 110 KRec Limits 90 - 110 Client Sa	Type: S <u>RPD</u> 0 mple ID: Type: S mple ID:	oluble RPD Limit 20 : SS05 oluble
Chloride Lab Sample ID: LCSD 880-72305/ Matrix: Solid Analysis Batch: 72467 Analyte Chloride Lab Sample ID: 890-6096-5 MS Matrix: Solid Analysis Batch: 72467 Analyte Chloride Lab Sample ID: 890-6096-5 MSD	Sample Result	Qual	ifier	250 Spike Added 250 Spike Added	255 LC3 254 I Res 368	D LCS III Qua 3 IS MS III Qua	SD Alifier Alifier	mg/Kg Cli Unit mg/Kg Unit	S	Sam D	102 ple ID: %Rec 102 %Rec	90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sa 90 - 110 KRec Limits 90 - 110 Client Sa	Type: S <u>RPD</u> 0 mple ID: Type: S mple ID:	oluble RPD Limit 20 : SS05 oluble : SS05
Chloride Lab Sample ID: LCSD 880-72305/ Matrix: Solid Analysis Batch: 72467 Analyte Chloride Lab Sample ID: 890-6096-5 MS Matrix: Solid Analysis Batch: 72467 Analyte Chloride Lab Sample ID: 890-6096-5 MSD Matrix: Solid	Sample Result 102	Qual	ifier	250 Spike Added 250 Spike Added 253	255 LC3 Res 254 I Res 368	D LCS Itt Qua 3 Is MS Itt Qua	SD Alifier Alifier	mg/Kg Cli Unit mg/Kg Unit	S	Sam D	102 ple ID: %Rec 102 %Rec	90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Client Sa Prep %Rec Limits 90 - 110 Client Sa Prep	Type: S <u>RPD</u> 0 mple ID: Type: S mple ID:	oluble RPD Limit 20 : SS05 oluble : SS05 oluble

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## **QC** Association Summary

Prep Type

Total/NA

Matrix

Solid

Method

5035

5035

5035

5035

5035

5035

5035

5035

5035

5035

5035

5035

Client: Ensolum Project/Site: PLU 30 BIG SINKS BATTERY

**Client Sample ID** 

SW01

SW02

SS03

SS04

SS05

SS06

SS07

Method Blank

Matrix Spike

Lab Control Sample

Lab Control Sample Dup

Matrix Spike Duplicate

**GC VOA** 

Prep Batch: 72821

Lab Sample ID

890-6096-1

890-6096-2

890-6096-3

890-6096-4

890-6096-5

890-6096-6

890-6096-7

MB 880-72821/5-A

LCS 880-72821/1-A

LCSD 880-72821/2-A

890-6102-A-6-C MS

890-6102-A-6-D MSD

Analysis Batch: 72835

Prep Batch

#### Job ID: 890-6096-1 SDG: 03C1558016

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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
890-6096-1	SW01	Total/NA	Solid	8021B	7282
890-6096-2	SW02	Total/NA	Solid	8021B	72821
890-6096-3	SS03	Total/NA	Solid	8021B	72821
890-6096-4	SS04	Total/NA	Solid	8021B	72821
890-6096-5	SS05	Total/NA	Solid	8021B	72821
890-6096-6	SS06	Total/NA	Solid	8021B	72821
890-6096-7	SS07	Total/NA	Solid	8021B	72821
MB 880-72821/5-A	Method Blank	Total/NA	Solid	8021B	72821
MB 880-72837/5-A	Method Blank	Total/NA	Solid	8021B	72837
LCS 880-72821/1-A	Lab Control Sample	Total/NA	Solid	8021B	72821
LCSD 880-72821/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	72821
890-6102-A-6-C MS	Matrix Spike	Total/NA	Solid	8021B	72821
890-6102-A-6-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	72821
rep Batch: 72837					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-72837/5-A	Method Blank	Total/NA	Solid	5035	

#### Lab Sample ID **Client Sample ID** Method Prep Type Matrix **Prep Batch** 890-6096-1 SW01 Total/NA Solid Total BTEX 890-6096-2 SW02 Total/NA Solid Total BTEX SS03 Total/NA Solid Total BTEX 890-6096-3 890-6096-4 SS04 Total/NA Solid Total BTEX SS05 Total/NA Solid Total BTEX 890-6096-5 890-6096-6 SS06 Total/NA Solid Total BTEX 890-6096-7 SS07 Total/NA Solid Total BTEX

#### GC Semi VOA

#### Prep Batch: 72531

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-6096-1	SW01	Total/NA	Solid	8015NM Prep	
890-6096-2	SW02	Total/NA	Solid	8015NM Prep	
890-6096-3	SS03	Total/NA	Solid	8015NM Prep	
890-6096-4	SS04	Total/NA	Solid	8015NM Prep	

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## **QC Association Summary**

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Matrix

Solid

Solid

Solid

Solid

Solid

Solid

Solid

Solid

Client: Ensolum Project/Site: PLU 30 BIG SINKS BATTERY

**Client Sample ID** 

Method Blank

Lab Control Sample

Lab Control Sample Dup

SS05

SS06

SS07

SW02

SW02

### GC Semi VOA (Continued)

#### Prep Batch: 72531 (Continued)

Lab Sample ID

890-6096-5

890-6096-6

890-6096-7

MB 880-72531/1-A

LCS 880-72531/2-A

890-6096-2 MS

890-6096-2 MSD

LCSD 880-72531/3-A

Analysis Batch: 72814

Job ID: 890-6096-1 SDG: 03C1558016

Method

8015NM Prep

Prep Batch	4
	5
	6
	8
	9

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-6096-1	SW01	Total/NA	Solid	8015B NM	72531
890-6096-2	SW02	Total/NA	Solid	8015B NM	72531
890-6096-3	SS03	Total/NA	Solid	8015B NM	72531
890-6096-4	SS04	Total/NA	Solid	8015B NM	72531
890-6096-5	SS05	Total/NA	Solid	8015B NM	72531
890-6096-6	SS06	Total/NA	Solid	8015B NM	72531
890-6096-7	SS07	Total/NA	Solid	8015B NM	72531
MB 880-72531/1-A	Method Blank	Total/NA	Solid	8015B NM	72531
LCS 880-72531/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	72531
LCSD 880-72531/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	72531
890-6096-2 MS	SW02	Total/NA	Solid	8015B NM	72531
890-6096-2 MSD	SW02	Total/NA	Solid	8015B NM	72531

#### Analysis Batch: 72975

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-6096-1	SW01	Total/NA	Solid	8015 NM	
890-6096-2	SW02	Total/NA	Solid	8015 NM	
890-6096-3	SS03	Total/NA	Solid	8015 NM	
890-6096-4	SS04	Total/NA	Solid	8015 NM	
890-6096-5	SS05	Total/NA	Solid	8015 NM	
890-6096-6	SS06	Total/NA	Solid	8015 NM	
890-6096-7	SS07	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 72305

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-6096-1	SW01	Soluble	Solid	DI Leach	
890-6096-2	SW02	Soluble	Solid	DI Leach	
890-6096-3	SS03	Soluble	Solid	DI Leach	
890-6096-4	SS04	Soluble	Solid	DI Leach	
890-6096-5	SS05	Soluble	Solid	DI Leach	
890-6096-6	SS06	Soluble	Solid	DI Leach	
890-6096-7	SS07	Soluble	Solid	DI Leach	
MB 880-72305/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-72305/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-72305/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-6096-5 MS	SS05	Soluble	Solid	DI Leach	
890-6096-5 MSD	SS05	Soluble	Solid	DI Leach	

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# **QC** Association Summary

Client: Ensolum Project/Site: PLU 30 BIG SINKS BATTERY

### HPLC/IC

### Analysis Batch: 72467

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-6096-1	SW01	Soluble	Solid	300.0	72305
890-6096-2	SW02	Soluble	Solid	300.0	72305
890-6096-3	SS03	Soluble	Solid	300.0	72305
890-6096-4	SS04	Soluble	Solid	300.0	72305
890-6096-5	SS05	Soluble	Solid	300.0	72305
890-6096-6	SS06	Soluble	Solid	300.0	72305
890-6096-7	SS07	Soluble	Solid	300.0	72305
MB 880-72305/1-A	Method Blank	Soluble	Solid	300.0	72305
LCS 880-72305/2-A	Lab Control Sample	Soluble	Solid	300.0	72305
LCSD 880-72305/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	72305
890-6096-5 MS	SS05	Soluble	Solid	300.0	72305
890-6096-5 MSD	SS05	Soluble	Solid	300.0	72305 1
					1

2/13/2024

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#### Job ID: 890-6096-1 SDG: 03C1558016

Project/Site: PLU 30 BIG SINKS BATTERY

Job ID: 890-6096-1 SDG: 03C1558016

### Lab Sample ID: 890-6096-1 Matrix: Solid

Lab Sample ID: 890-6096-2

Lab Sample ID: 890-6096-3

Lab Sample ID: 890-6096-4

Matrix: Solid

Matrix: Solid

Client Sample ID: SW01 Date Collected: 02/01/24 10:50 Date Received: 02/01/24 14:43

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	72821	02/11/24 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72835	02/13/24 07:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73053	02/13/24 07:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			72975	02/11/24 21:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	72531	02/06/24 16:51	ткс	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	72814	02/11/24 21:36	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	72305	02/04/24 12:41	СН	EET MID
Soluble	Analysis	300.0		1			72467	02/06/24 22:33	СН	EET MID

## Client Sample ID: SW02

# Date Collected: 02/01/24 11:05

Date Received: 02/01/24 14:43

	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	72821	02/11/24 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72835	02/13/24 07:42	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73053	02/13/24 07:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			72975	02/11/24 20:26	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	72531	02/06/24 16:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72814	02/11/24 20:26	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	72305	02/04/24 12:41	СН	EET MID
Soluble	Analysis	300.0		1			72467	02/06/24 22:40	СН	EET MID

## Client Sample ID: SS03

# Date Collected: 02/01/24 11:15

Date Received: 02/01/24 14:43

	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	72821	02/11/24 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72835	02/13/24 08:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73053	02/13/24 08:02	SM	EET MID
Total/NA	Analysis	8015 NM		1			72975	02/11/24 21:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	72531	02/06/24 16:51	ткс	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72814	02/11/24 21:58	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	72305	02/04/24 12:41	СН	EET MID
Soluble	Analysis	300.0		1			72467	02/06/24 22:46	СН	EET MID

#### Client Sample ID: SS04 Date Collected: 02/01/24 11:20 Date Received: 02/01/24 14:43

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	72821	02/11/24 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72835	02/13/24 08:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73053	02/13/24 08:23	SM	EET MID

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Matrix: Solid

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# Released to Imaging: 7/15/2024 1:22:14 PM

Project/Site: PLU 30 BIG SINKS BATTERY

Job ID: 890-6096-1 SDG: 03C1558016

### Lab Sample ID: 890-6096-4 Matrix: Solid

Lab Sample ID: 890-6096-5

Lab Sample ID: 890-6096-6

Lab Sample ID: 890-6096-7

Matrix: Solid

Matrix: Solid

Matrix: Solid

Client Sample ID: SS04 Date Collected: 02/01/24 11:20 Date Received: 02/01/24 14:43

Client: Ensolum

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			72975	02/11/24 22:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	72531	02/06/24 16:51	ткс	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72814	02/11/24 22:21	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	72305	02/04/24 12:41	СН	EET MID
Soluble	Analysis	300.0		1			72467	02/06/24 22:53	СН	EET MID

#### Client Sample ID: SS05 Date Collected: 02/01/24 11:25 Date Received: 02/01/24 14:43

	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	72821	02/11/24 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72835	02/13/24 08:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73053	02/13/24 08:43	SM	EET MID
Total/NA	Analysis	8015 NM		1			72975	02/11/24 22:43	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	72531	02/06/24 16:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72814	02/11/24 22:43	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	72305	02/04/24 12:41	СН	EET MID
Soluble	Analysis	300.0		1			72467	02/06/24 23:00	СН	EET MID

### **Client Sample ID: SS06**

Date Collected: 02/01/24 11:30 Date Received: 02/01/24 14:43

	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	72821	02/11/24 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72835	02/13/24 09:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73053	02/13/24 09:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			72975	02/11/24 23:05	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	72531	02/06/24 16:51	ткс	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72814	02/11/24 23:05	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	72305	02/04/24 12:41	СН	EET MID
Soluble	Analysis	300.0		1			72467	02/06/24 23:20	CH	EET MID

#### Client Sample ID: SS07 Date Collected: 02/01/24 11:35

#### Date Collected: 02/01/24 11:35 Date Received: 02/01/24 14:43

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	72821	02/11/24 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72835	02/13/24 09:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73053	02/13/24 09:24	SM	EET MID
Total/NA	Analysis	8015 NM		1			72975	02/11/24 23:26	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	72531	02/06/24 16:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72814	02/11/24 23:26	SM	EET MID

Eurofins Carlsbad

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# Released to Imaging: 7/15/2024 1:22:14 PM

## Lab Chronicle

Job ID: 890-6096-1

# Project/Site: PLU 30 BIG SINKS BATTERY Client Sample ID: SS07

Date Collected: 02/01/24 11:35 Date Received: 02/01/24 14:43

Client: Ensolum

	Batab	Detab		Dil	1	Einel	Batal	Durant			
	Batch	Batch		Dil	Initial	Final	Batch	Prepared			
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab	6
Soluble	Leach	DI Leach			4.99 g	50 mL	72305	02/04/24 12:41	СН	EET MID	
Soluble	Analysis	300.0		1			72467	02/06/24 23:27	СН	EET MID	6

#### Laboratory References:

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

SDG: 03C1558016

### Lab Sample ID: 890-6096-7 Matrix: Solid

Eurofins Carlsbad

## Accreditation/Certification Summary

Client: Ensolum Project/Site: PLU 30 BIG SINKS BATTERY

#### Laboratory: Eurofins Midland

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

Authority	Progr	am	Identification Number	Expiration Date
Texas	NELA	P	T104704400-23-26	06-30-24
The following analyte	s are included in this report, bu	ut the laboratory is not certif	fied by the governing authority. This lis	t may include analytes
0,	does not offer certification. Prep Method	Matrix	Analyte	
for which the agency Analysis Method 8015 NM	does not offer certification. Prep Method	Matrix	Analyte Total TPH	

Page 312 of 324

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Job ID: 890-6096-1

SDG: 03C1558016

2/13/2024

# **Method Summary**

#### Client: Ensolum Project/Site: PLU 30 BIG SINKS BATTERY

Job ID: 890-6096-1 SDG: 03C1558016

8021BVolatile Organic Compounds (GC)SW846EET MIDTotal BTEXTotal BTEX CalculationTAL SOPEET MID8015 NMDiesel Range Organics (DRO) (GC)SW846EET MID80158 NMDiesel Range Organics (DRO) (GC)SW846EET MID800.0Anions, Ion ChromatographyEPAEET MID5035Closed System Purge and TrapSW846EET MID8015NM PrepMicroextractionSW846EET MID8015NM PrepMicroextractionSW846EET MID91 LeachDeionized Water Leaching ProcedureASTMEET MIDProtocol Refereres: ASTM = ASTM International EPA = US Environmental Protection Agency SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates. TAL SOP = TestAmerica Laboratories, Standard Operating ProcedureSW846EET MIDLaboratory Refereres: EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440EET MIDEET MID	Method	Method Description	Protocol	Laboratory
8015 NMDiesel Range Organics (DRO) (GC)SW846EET MID8015B NMDiesel Range Organics (DRO) (GC)SW846EET MID300.0Anions, Ion ChromatographyEPAEET MID5035Closed System Purge and TrapSW846EET MID8015NM PrepMicroextractionSW846EET MIDDI LeachDeionized Water Leaching ProcedureSW846EET MIDASTM = ASTM International EPA = US Environmental Protection Agency SW846 = "Text Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates. TAL SOP = TextAmerica Laboratories, Standard Operating ProcedureSW846EET MIDLaboratory Reference:	8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Bit StateDiesel Range Organics (DRO) (GC)SW846EET MID300.0Anions, Ion ChromatographyEPAEET MID5035Closed System Purge and TrapSW846EET MID8015NM PrepMicroextractionSW846EET MID8015NM PrepDeionized Water Leaching ProcedureSW846EET MIDDI LeachDeionized Water Leaching ProcedureASTMEET MIDProtocol References:ASTM = ASTM InternationalEPA = US Environmental Protection AgencySW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates. TAL SOP = TestAmerica Laboratories, Standard Operating ProcedureSUB46EU	Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
300.0Anions, Ion ChromatographyEPAEET MID5035Closed System Purge and TrapSW846EET MID8015NM PrepMicroextractionSW846EET MIDDL LeachDeionized Water Leaching ProcedureASTMEET MIDProtocol References:ASTM = ASTM International EPA = US Environmental Protection Agency SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates. TAL SOP = TestAmerica Laboratories, Standard Operating ProcedureKethods	8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
5035       Closed System Purge and Trap       SW846       EET MID         8015NM Prep       Microextraction       SW846       EET MID         DL Leach       Deionized Water Leaching Procedure       ASTM       EET MID         Protocol References:         ASTM = ASTM International       EPA = US Environmental Protection Agency       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:	8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015NM Prep       Microextraction       SW846       EET MID         DI Leach       Deionized Water Leaching Procedure       ASTM       EET MID         Protocol References:         ASTM = ASTM International       EPA = US Environmental Protection Agency       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:	300.0	Anions, Ion Chromatography	EPA	EET MID
DI Leach Deionized Water Leaching Procedure ASTM EET MID   Protocol References:   ASTM = ASTM International   EPA = US Environmental Protection Agency:   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:	5035	Closed System Purge and Trap	SW846	EET MID
Protocol References: ASTM = ASTM International EPA = US Environmental Protection Agency 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:	8015NM Prep	Microextraction	SW846	EET MID
ASTM = ASTM International EPA = US Environmental Protection Agency 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:	DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure Laboratory References:	ASTM = A EPA = US	STM International Environmental Protection Agency		
Laboratory References:			dition, November 1986 And Its Updates.	
•	TAL SOP :	<ul> <li>TestAmerica Laboratories, Standard Operating Procedure</li> </ul>		
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440				
	EET MID =	= Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440		

#### Laboratory References:

Eurofins Carlsbad

Job ID: 890-6096-1	
SDG: 03C1558016	

		Sample Sun	nmary				
Client: Ensolun Project/Site: Pl	n LU 30 BIG SINKS BATTERY					Job ID: 890-6096-1 SDG: 03C1558016	
Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth		
890-6096-1	SW01	Solid	02/01/24 10:50	02/01/24 14:43	0-1		1
890-6096-2	SW02	Solid	02/01/24 11:05	02/01/24 14:43	0-1		
890-6096-3	SS03	Solid	02/01/24 11:15	02/01/24 14:43	0.5		5
890-6096-4	SS04	Solid	02/01/24 11:20	02/01/24 14:43	0.5		
890-6096-5	SS05	Solid	02/01/24 11:25	02/01/24 14:43	0.5		6
890-6096-6	SS06	Solid	02/01/24 11:30	02/01/24 14:43	0.5		0
890-6096-7	SS07	Solid	02/01/24 11:35	02/01/24 14:43	0.5		
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am Page er Comments RRC PSTrUST TRRP RC PSTRUST TRRP PSTRUST Drner PSTRUST Drner PSTRUST NRC PSTRUST NRC None: NO D None: NO D None: NO D None: NABIS Na,S20,: NaSO, Na,S20,: NaSO, Na,S20,: NaSO, ZA Adatate MaOH. NaHSO.: NABIS Na,S20,: NaSO, ZA Adatate MaOH. NaCH+Ascorbic AC Sample Con NaPP220081 AFE: 20378910 AFE: 20378910 / 747 AFE: Date	acoma Morrissey and the service of	Parameters 000,0) [20 High Parameters 000,0] [20			
er Comments ownfreids RRC  PSTrUST TRRP PSTrUST TRRP PSTrUST Coner Preservativ None: NO p Nane: NO p Nane: NO p NaSO4: NaBIS Na_SS_05, NaSO5 N	acoma Morrissey ansolum 122 National Parks Hwy antsbad, NM 88220 03-837-2946 PLU 30 Big Sinks Battery PLU 30 Big Sinks Battery Turn 03C1558016 010e Date: Connor Whitman TAT starts the Metaby free the iap, free the iap	Parameters Construction (Construction of a grant of a g	88220	Work Program: UST/PST   PRP[ State of Project: Reporting: Level II   Level II Deliverables: EDD   XSIS REQUEST XSIS REQUEST	
ownfreids    TRRP    PSTrUST    TRRP    PSTrUST    TRRP    Preservativ None: NO [] Cool: Cool N HyPO.: HP HyPO.: NaSO, HyPO.: NaSO, Na;SyO; Na;SyO; Na;SyO; Na;SyO	1122 National Parks Hwy artsbad, NM 88220 3-887-2946 03-887-2946 PLU 30 Big Sinks Battery PLU 30 Big Sinks Battery Turn 03C1558016 0ue Date Connor Whitman TAT starts the ternait Connor Mathere Connection Factor Time Correction Factor Correction Factor	B         B         B         B         B         C         B         B         C         B         B         C         B         B         C         D	88,220 88,220	Program: UST/PST [] PRP[ State of Project: Reporting: Level II [] Level II Deliverables: EDD [] YSIS REQUEST	
PSTruST TRRP Concertaint PSTruST TRRP Concertaint Preservative None: NO D Cool: Cool No No HyPO.c HP NaHSO.c NABIS Na,S/O.; NaSO. Na,S/O.; NaSO. Na,S/O.; NaSO. NaHSO.c NABIS Na,S/O.; NaSO. NaHSO.cont NaHP2005 Cool Cont NAPP20055 Cost Center AFE: AFE: AFE: 20378910 AFE: AF	122 National Parks Hwy artsbad, NM 88220 03-887-2946 Ernai: PLU 30 Big Sinks Battery Turn 03C1558016 Ernai: 03C1558016 Ernai: Cannor Whitman Tur starts the teney: free teney free to Ves No No Wet los free teney free to Ves No No Occrediton Factor Yes No No Correction Factor Yes No No Date Time cation Matrix Sampled Sampled	Parameters 6 8 8 1000 100 100 100 100 100 100 100 10	982200 982200	State of Project: Reporting: Level II	
PSTrUST TRRP Dener PT Dome: No DIV None: NO DIV None: NO DIV HyPO.: HP NaHSO.: NABIS Na,Sz0.; NaSO.; Na,Sz0.; NaSO.; NaHSO.: NABIS Na,Sz0.; NaSO.; Zo Acetater MaOH.:Za NaHSO.: NASO.; Zo Acetater MaOH.:Za NaHSO.: NASO.; Zo Acetater MaOH.:Za NaMPP2200353193 MAPP220035319 MAPP220035319 MAPP220035319 MAPP220035319 MA	Plantsbad, NM 88220     Ernait       03-837-2946     Ernait       PLU 30 Big Sinks Battery     Turm       03C1558016     Enait       03C1558016     Due Date       1     Term Blank:     Ves No       Cannor Whitman     TAT stats the       Cannor Whitman     Tatemperature Reading:       Caston     Matrix     Date       Caston     Matrix     Date       Caston     Matrix     Sampled	Caristerer Control Caris	985200	Reporting: Level IILevel II	
APT Cother Preservative C None: NO DIV Cool: Cool MeC H <sub>3</sub> SO <sub>4</sub> , H <sub>2</sub> NaO H <sub>3</sub> PO <sub>4</sub> : HP NaHSO <sub>4</sub> : NABIS Na <sub>3</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub> Na <sub>5</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub> Zh Acetater MaOH. Zh NaOH-MSOH. Zh NAOH-	03-837-2946     Email       PL U 30 Big Sinks Battery     Turn       03C1558016     Trimoutine       03C1558016     Thermometer ID:       Connor Whitman     Totate the trimoutine	Corestantial and a second and a second		Deliverables: EDD	
Preservati Nane: NO       Nane: NO       Cool: Cool       Ha, POa; HP       NaHSOa; NaBIS       NaSS, Op; NaSOa       NaOH+Ascorbic A       Sample Coil       NaOH+Ascorbic A       Cost Center ID:       NAPP22083       AFE:       Cost Center       2037681       AFE:       AFE:	PLU 30 Big Sinks Battery     Turn Around       03C1558016     Term Around       03C1558016     Due Date:       Connor Whitman     Txt starts the day received by       Connor Wei log     Wei log       Me log     Thermometer ID:       Ves     No       Ves     No       Ves     No       Ves     No       Ves     No       Attice     Sampled       Control of Sampled     Comp       Comp     Sampled		ANAL	YSIS REQUEST	
Nane: NO Cool: Cool H-CL: HC H-SO4; H- H-PO4: HP NarS,O5; NaSO5 NarS,O5; NaSO5 Zn Acestates/MaOH NaCH+Ascorbic A Sample Co Incident ID: hhrp22003 APP22003 A	03C1558016     I Routine     Ruth       Cannor Whitman     Due Date:       Cannor Whitman     TAT starts the day received by       Cannor Whitman     Net loby freewed by       Cannor Wei No     Wei loby freewed by       Cannor Yes     No       Yes     No       Yes     No       Yes     Oorrection Factor.       Yes     Oorrected Temperatures.       Catton     Matrix       Sampled     Sampled       Catton     Sampled				Preservative Codes
Cool: Cool HLS: HC HLS: HC HLS: HC HLS: HC NarS: Or, NaSO, NarS: Or, NaSO, NarS: Or, NaSO, NarS: Or, NaSO, NarDH-Ascortinc A Sample Cool Incident ID: APP22081 APP22081 APP22083 APP2205 APP22083 APP2205 APP2206 APP2206 APP2205 APP2	Due Date:         Due Date:           Connor Whitman         TAT starts the day received by table           T         Termp Blank:         Yes         Yes         No           At         Yes         No         Wet ibs: if received by 4:36pm           At         Yes         No         Wet ibs: if received by 4:36pm           At         Yes         No         Wet ibs: if received by 4:36pm           At         Yes         No         Wet ibs: if received by 4:36pm           At         Yes         No         Wet ibs: if received by 4:36pm           Yes         No         Thermometer ID         TWH           Yes         No         Thermometer ID         TWH           Yes         No         NA         Femperature Reacting         -O. C           Yes         No         NA         Sampled         Sampled         Comp           Cation         Matrix         Sampled         Sampled         Comp         Comp				
HCL: HC H_POc: HP NaHSOc: NABIS Na=S_Or_NASOS Na=S_Or_NASOS NaOH+Ascortic A Sample Co Sample Co Incident ID: nAPP2206 NAPP2206 APP2206 Cost Center 203789 AFE: 203	Connor Whitman     TAT starts the day received by the lab, interceived by 4-36pm       Termp Blank.     Yes. No     Wet los.     Yes. No       Att Yes.     No     Thermometer ID.     Tu/M.       Yes.     No     Ninherender ID.     O.       Yes.     No     No     Torrected Temperature.     O.       Cation     Matrix     Date     Time     Depth     Complexity				
	Terrip Blank:         Yes         No         Wet Ice:         Yes         No           ct:         Yes         No         Thermoneter ID:         T_WM OO:         T_WM OO:         2           Yes         No         NA         Temperature Reador:         -O.         2         2           Yes         No         NA         Temperature Reador:         -O.         2         2           Yes         No         NA         Temperature Reador:         -O.         2         2           Carteon         Matrix         Date         Time         0         4         6mb/				
	Att         Vest No         Vest No <thvest no<="" th=""> <thvest no<="" th=""> <thvest< td=""><td></td><td></td><td></td><td></td></thvest<></thvest></thvest>				
	Yes         No         N/A         Correction Factor:         -0.2         2           Yes         No         N/A         Temperature Reading:         -0.2         2           Corrected Temperature:         -0.4         Corrected Temperature:         -0.4         5           Cation         Matrix         Date         Time         Depth         Graft           Cation         Matrix         Sampled         Sampled         Complexity         Complexity				H <sub>3</sub> PO <sub>4</sub> : HP
2 P	Yes         No         NA         Femperature Reading:         -O.         O           Corrected Temperature:         -O.         -O.         O         O         O           Cation         Matrix         Date         Time         Depth         Graft	(65)			NaHSO4: NABIS
	Corrected Temperatures         C. 4           dentification         Matrix         Date         Time         Crativ           dentification         Matrix         Sampled         Sampled         Comp.	-			Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>
	Matrix Date Time Depth Gralv Sampled Sampled Comp	\$30	-		Zh Adelate+NaOH, Zh NaOH+Acmthin Ante: Sabr
Incid Cost AFE: AFE: I 245.1	Company Semipred Comp	# of	-		
AFE: APE: APE: APE: APE: APE: APP APE APE APE APE APE APE APE APE APE	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Cont	-		sample Comments
AFE: 0000 Cost Cente AFE: 20 20 AFE: 20 4a Sr Ti Sn 4a	2 41/24 1050 0-1				Incident ID:
AFE: 20 AFE: 20 AFE: 20 4a Sr TI Sn 4a Sn 4a Sr TI Sn 4a Sn 4 Sn 4 Sn 4 Sn 4 Sn 4 Sn 4 Sn 4 Sn 4	5. 311				nAPF2209137379, nAPP2208351954,
AFE: 20 AFE: 20 4a Sr TI Sn / 245.1 / 7470 / 245.1 / 7470	1120 .5				nAPP2206853301
AFE: 245.117470	1125				Cost Center
An Sr TI Sn 4a Sr TI Sn / 245.1 / 7470 / 1245.1 / 7470	. 1130				
4a Sr TI Sn 4a Sr 11 7470 / 245.117470	5. SEIL A 4	1			
4a Sr Ti Sn / 245.117470 irre)					
la Sr Ti Sn 1245.117470 irre)		1	A/ /		
Mount       BACKA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO <sub>2</sub> Na Sr Ti Sn         De analyzed       TCLP / SPLP 6010: BRCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U       Hg: 1531/245.1/7470         Newthment of tamples constitues a valid protriate order from client company to Exercities Xeneo, its antilates and subcentraction. It assigns standard terms and cenditions       Not the cost of samples and shall not assore any responsibility for any bases are exported increased and stating of 35 for each sample submitted to Exercite Xeneo, but not analyzed. These terms will be enforced unrises previously negative.         Additional Control of Acting of 35 for each sample submitted to Exerciting the form on the analyzed. These terms will be enforced unrises previously negative.       Date:/Time         Additional Control of Acting of 35 for each sample submitted to Exerciting them the set to control to the enforced unrise previously negative.       Date:/Time       Recinical by (Signature)       Received by, (Signature)         Additional Control of the C		-//			
(te)	cie Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCF	AI Sb As B RA Sb As	a Be B Cd Ca Cr Co Cu Ba Be Cd Cr Co Cu Pb	Fe Pb Mg Mn Mo Ni K Se Ag Si Mn Mo Ni Se Ag Ti U Har 1	4a Sr 1 245 1
(e)	ce: Signative of this document and relinquishment of samples constitutes a valid purchase order from client review. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for urobins Xenco. A minimum change of \$55.00 with the applied to each project and a change of \$5 for each same.	nt company to E or any losses or a mple submitted to	urofins Xence, its atfiliates and subcon expenses incurred by the client if such o Eurofins Xence, but not ansivzed. The	thatches. It assigns standard terms and conditions between any other biotexambances beyond the contri-	
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Released to Imaging: 7/15/2024 1:22:14 PM

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## Login Sample Receipt Checklist

Client: Ensolum

Login Number: 6096 List Number: 1 Creator: Lopez, Abraham

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	Did not receive all required containers.
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: 890-6096-1

14

14

Job Number: 890-6096-1 SDG Number: 03C1558016

List Source: Eurofins Midland

List Creation: 02/05/24 08:29 AM

## Login Sample Receipt Checklist

Client: Ensolum

Login Number: 6096 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").

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

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QUESTIONS

Action 359729

QUESTIONS				
Operator:	OGRID:			
XTO ENERGY, INC	5380			
6401 Holiday Hill Road	Action Number:			
Midland, TX 79707	359729			
	Action Type:			
	[C-141] Deferral Request C-141 (C-141-v-Deferral)			

# QUESTIONS

Incident ID (n#)	nAPP2208351954
Incident Name	NAPP2208351954 PLU 30 BIG SINKS TANK BATTERY @ 0
Incident Type	Oil Release
Incident Status	Deferral Request Received
Incident Facility	[fAPP2203544302] PLU 30 BIG SINKS

#### Location of Release Source

Please answer all the questions in this group.		
Site Name PLU 30 BIG SINKS TANK BATTERY		
Date Release Discovered	03/14/2022	
Surface Owner	Federal	

#### Incident Details

Please answer all the questions in this group.
Incident Type

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

#### Nature and Volume of Release

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission. Cause: Equipment Failure | Separator | Crude Oil | Released: 64 BBL | Recovered: 64 BBL | Crude Oil Released (bbls) Details Lost: 0 BBL Cause: Equipment Failure | Separator | Produced Water | Released: 16 BBL | Recovered: 16 Produced Water Released (bbls) Details BBL | Lost: 0 BBL Is the concentration of chloride in the produced water >10,000 mg/l No Condensate Released (bbls) Details Not answered. Natural Gas Vented (Mcf) Details Not answered. Natural Gas Flared (Mcf) Details Not answered. Other Released Details Not answered. Are there additional details for the questions above (i.e. any answer containing Not answered. Other, Specify, Unknown, and/or Fire, or any negative lost amounts)

District I

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

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QUESTIONS (continued)

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	359729
	Action Type:
	[C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Initial Response

Nature and Volume of Release (continued)		
	Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
	Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
	Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.
	With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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

I hereby agree and sign off to the above statement	Name: Amy Ruth Title: Coordinator SSHE Environmental Email: amy.ruth@exxonmobil.com
	Date: 06/28/2024

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

**QUESTIONS** (continued)

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	359729
	Action Type:
	[C-141] Deferral Request C-141 (C-141-v-Deferral)

#### QUESTIONS

Site Characterization

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date. What is the shallowest depth to groundwater beneath the area affected by the Date nd 500 (ft ) ....

release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

#### Remediation Plan

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.		
Requesting a remediation	plan approval with this submission	Yes
Attach a comprehensive report de	monstrating the lateral and vertical extents of soil contamination	associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.
Have the lateral and vertica	l extents of contamination been fully delineated	Yes
Was this release entirely co	ontained within a lined containment area	No
Soil Contamination Sampling	: (Provide the highest observable value for each, in mi	lligrams per kilograms.)
Chloride	(EPA 300.0 or SM4500 CI B)	1040
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	6680
GRO+DRO	(EPA SW-846 Method 8015M)	6070
BTEX	(EPA SW-846 Method 8021B or 8260B)	0.1
Benzene	(EPA SW-846 Method 8021B or 8260B)	0
	IMAC unless the site characterization report includes completed elines for beginning and completing the remediation.	d efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC,
On what estimated date wi	Il the remediation commence	04/15/2022
On what date will (or did) th	ne final sampling or liner inspection occur	05/02/2022
On what date will (or was)	he remediation complete(d)	02/01/2024
What is the estimated surfa	ce area (in square feet) that will be reclaimed	20000
What is the estimated volur	ne (in cubic yards) that will be reclaimed	800
What is the estimated surfa	ce area (in square feet) that will be remediated	1075
What is the estimated volur	ne (in cubic yards) that will be remediated	90
These estimated dates and measu	rements are recognized to be the best guess or calculation at th	e time of submission and may (be) change(d) over time as more remediation efforts are completed.
The OCD recognizes that propose	d remediation measures may have to be minimally adjusted in a	accordance with the physical realities encountered during remediation. If the responsible party has any need to

QUESTIONS, Page 3

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

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

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QUESTIONS, Page 4

Action 359729

QUESTIONS (continued)	
Operator: OGRID:	
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	359729
	Action Type:
	[C-141] Deferral Request C-141 (C-141-v-Deferral)

#### QUESTIONS

Remediation Plan (continued)

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.		
This remediation will (or is expected to) utilize the following processes to remediate	/ reduce contaminants:	
(Select all answers below that apply.)		
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes	
Which OCD approved facility will be used for off-site disposal	HALFWAY DISPOSAL AND LANDFILL [FEEM0112334510]	
OR which OCD approved well (API) will be used for off-site disposal	Not answered.	
OR is the off-site disposal site, to be used, out-of-state	Not answered.	
OR is the off-site disposal site, to be used, an NMED facility	Not answered.	
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	Not answered.	
(In Situ) Soil Vapor Extraction Not answered.		
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.) Not answered.		
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.	
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.	
Ground Water Abatement pursuant to 19.15.30 NMAC Not answered.		
OTHER (Non-listed remedial process) Not answered.		
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
I hereby agree and sign off to the above statement	Name: Amy Ruth Title: Coordinator SSHE Environmental Email: amy.ruth@exxonmobil.com Date: 06/28/2024	

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

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District IV

# **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Ea NIM 97505

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Action 359729

QUESTI	ONS (continued)
Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	359729
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)
QUESTIONS	
Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of	the following items must be confirmed as part of any request for deferral of remediation.
Requesting a deferral of the remediation closure due date with the approval of this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Is the remaining contamination in areas immediately under or around production equipment where remediation could cause a major facility deconstruction	Yes
Please list or describe the production equipment and how (re)moving the equipment would cause major facility deconstruction	The release occurred immediately adjacent to a tank battery containment and is surrounded by surface production equipment. The area cannot be accessed except with personnel and hand tools.
What is the remaining surface area (in square feet) that will still need to be remediated if a deferral is granted	1075
What is the remaining volume (in cubic yards) that will still need to be remediated if a deferral is granted	30
	ately under or around production equipment such as production tanks, wellheads and pipelines where may be deferred with division written approval until the equipment is removed during other operations, or wher
Enter the facility ID (f#) on which this deferral should be granted	PLU 30 BIG SINKS [fAPP2203544302]
Enter the well API (30-) on which this deferral should be granted	Not answered.
Contamination does not cause an imminent risk to human health, the environment, or groundwater	True
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed ef which includes the anticipated timelines for beginning and completing the remediation.	forts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMA(
to report and/or file certain release notifications and perform corrective actions for relea the OCD does not relieve the operator of liability should their operations have failed to a	mowledge and understand that pursuant to OCD rules and regulations all operators are required uses which may endanger public health or the environment. The acceptance of a C-141 report by adequately investigate and remediate contamination that pose a threat to groundwater, surface t does not relieve the operator of responsibility for compliance with any other federal, state, or
I hereby agree and sign off to the above statement	Name: Amy Ruth Title: Coordinator SSHE Environmental Email: amy.ruth@exxonmobil.com Date: 06/28/2024

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

QUESTIONS, Page 6

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**QUESTIONS** (continued)

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	359729
	Action Type:
	[C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

E

Sampling Event Information	
Last sampling notification (C-141N) recorded	308059
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	02/01/2024
What was the (estimated) number of samples that were to be gathered	10
What was the sampling surface area in square feet	2000

#### Remediation Closure Request

Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed. Requesting a remediation closure approval with this submission No

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

CONDITIONS

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	359729
	Action Type:
	[C-141] Deferral Request C-141 (C-141-v-Deferral)
CONDITIONS	

Created By	Condition	Condition Date
crystal.walker	Deferral is approved for designated deferral area depicted on Figure 4 of Application 359729. The remaining impacted soil is fully delineated. Per 19.15.29.12.C.(2). If the contamination is located in areas immediately under or around production equipment such as production tanks, wellheads and pipelines where remediation could cause a major facility deconstruction, the remediation, restoration and reclamation may be deferred with division written approved until the equipment is removed during other operations, or when the well or facility is plugged or abandoned, whichever comes first. Final remediation and reclamation 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.	7/15/2024

CONDITIONS

Action 359729