March 31, 2023

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

Re: Closure Request Addendum
Corvo Federal 4 CTB
Incident Number NAPP2217430297
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of COG Operating, LLC (COG), has prepared this *Closure Request Addendum* to provide an update to the depth to groundwater determination investigation and soil sampling activities performed at the Corvo Federal 4 CTB (Site). The purpose of groundwater determination invesigation and soil sampling activities was to address a denial of the *Closure Request,* dated November 1, 2022, by the New Mexico Oil Conservation Division (NMOCD). In the denial, NMOCD expressed concern that the depth to groundwater assessment was inadequate and the release had not been adequately delineated. Based on additional investigation of depth to groundwater, COG is requesting closure for Incident Number NAPP2217430297.

All of the release details regarding the incident, Site characterization, and remediation conducted can be referenced in the original *Closure Request*. NMOCD denied the *Closure Request* on November 29, 2022, for the following reason:

> *Closure Report Denied. The depth to groundwater has not been adequately determined. 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 in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater. Release has not been adequately delineated. Lateral samples should be delineated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. In addition, samples collected for lateral delineation should not be over 120 feet away from the release (SS04).*

Following a review of the comments provided, COG submitted clarifications and requested NMOCD reconsider approval of the *Closure Request* on December 9, 2022. In summary, the release was remediated to the strictest Table I Closure Criteria. In addition, delineation samples were collected outside of the excavation extent in a method that has previously been acceptable by NMOCD to confirm the release did not migrate off pad. All delineation samples are also compliant with the strictest Table I Closure Criteria. Therefore, COG respectfully requested reconsideration of approval of the *Closure Request*, submitted as is, based on the clarifications provided above; however, NMOCD has yet to respond.

ADDITIONAL DATA

While waiting for NMOCD's response, COG proactively accessed depth to groundwater beneath the Site. Depth to groundwater at the Site has been confirmed to be greater than 100 feet below ground surface (bgs) based on additional depth to water data, presented in the *Remediation Work Plan* for Incident Number NAPP2124346388 and approved by NMOCD on April 27, 2022. One boring (BH01) was drilled via air rotary in February of 2021 to a depth of 105 feet bg, located approximately 0.5 miles southeast of the Site.. Groundwater was not encountered while drilling and the boring was properly abandoned. The lithologic/soil sampling log is included in Appendix A. BH01 used for depth to groundwater determination is presented on Figure 1.

Based on NMOCD's request, one soil sample (SS04A) was collected on March 6, 2023, near the respective location of soil sample SS04 and in the direction of the release extent at a depth of 0.5 feet bgs, to assess the lateral extent of the release. The delineation soil sample was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips, respectively. The soil sample location was mapped utilizing a handheld Global Positioning System (GPS) unit and is depicted on Figure 2.

The soil sample was placed directly into a pre-cleaned glass jar, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil sample was transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following chemicals of conern (COCs): benzene, toluene, ethylbenezene, and total xylenes (BTEX) following United States Environmental Protection Agency (EPA) Method 8021B; total petroleum hydrocarbons (TPH)-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for soil sample SS04A indicated concentrations of all COCs were compliant with the strictest Table I Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included in Appendix B.

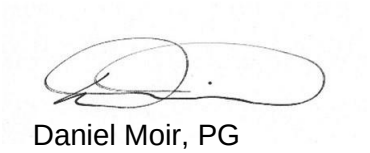
CLOSURE REQUEST

Laboratory analytical results for the additional lateral delineation soil sample indicated concentrations of all COCs were compliant with the strictest Table I Closure Criteria. Based on the confirmed depth to water greater than 105 feet bgs as presented in this addendum, COG respectfully requests closure for Incident Number NAPP2217430297. The Final C-141 is included in Appendix C.

If you have any questions or comments, please contact Ms. Kalei Jennings at (817) 683-2503 or kjennings@ensolum.com.

Sincerely,
Ensolum, LLC

Hadlie Green
Project Manager



Daniel Moir, PG
Senior Managing Geologist

cc: Charles Beauvais, ConocoPhillips Company
Jacob Laird, ConocoPhillips Company
Bureau of Land Management

Appendices:

Figure 1	Site Location Map
Figure 2	Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Lithologic / Soil Sampling Logs
Appendix B	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix C	Final C-141
Appendix D	NMOCD Notifications

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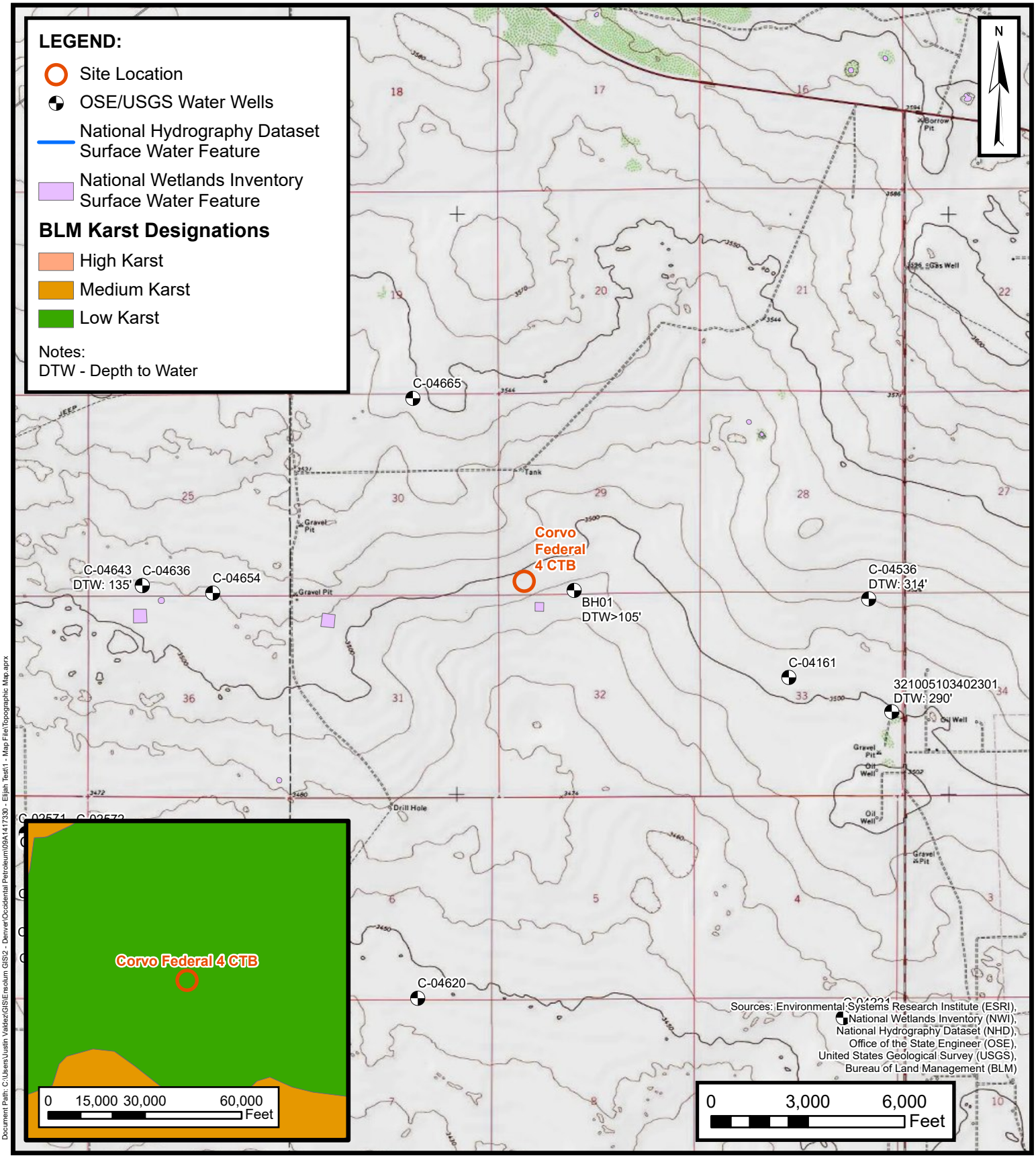
FIGURES



Document Path: C:\Users\Justin Valdez\GIS\Ensolum GIS\2 - Denver\Occidental Petroleum\09A1417330 - Elijah Test\1 - Map File\Topographic Map.aprx

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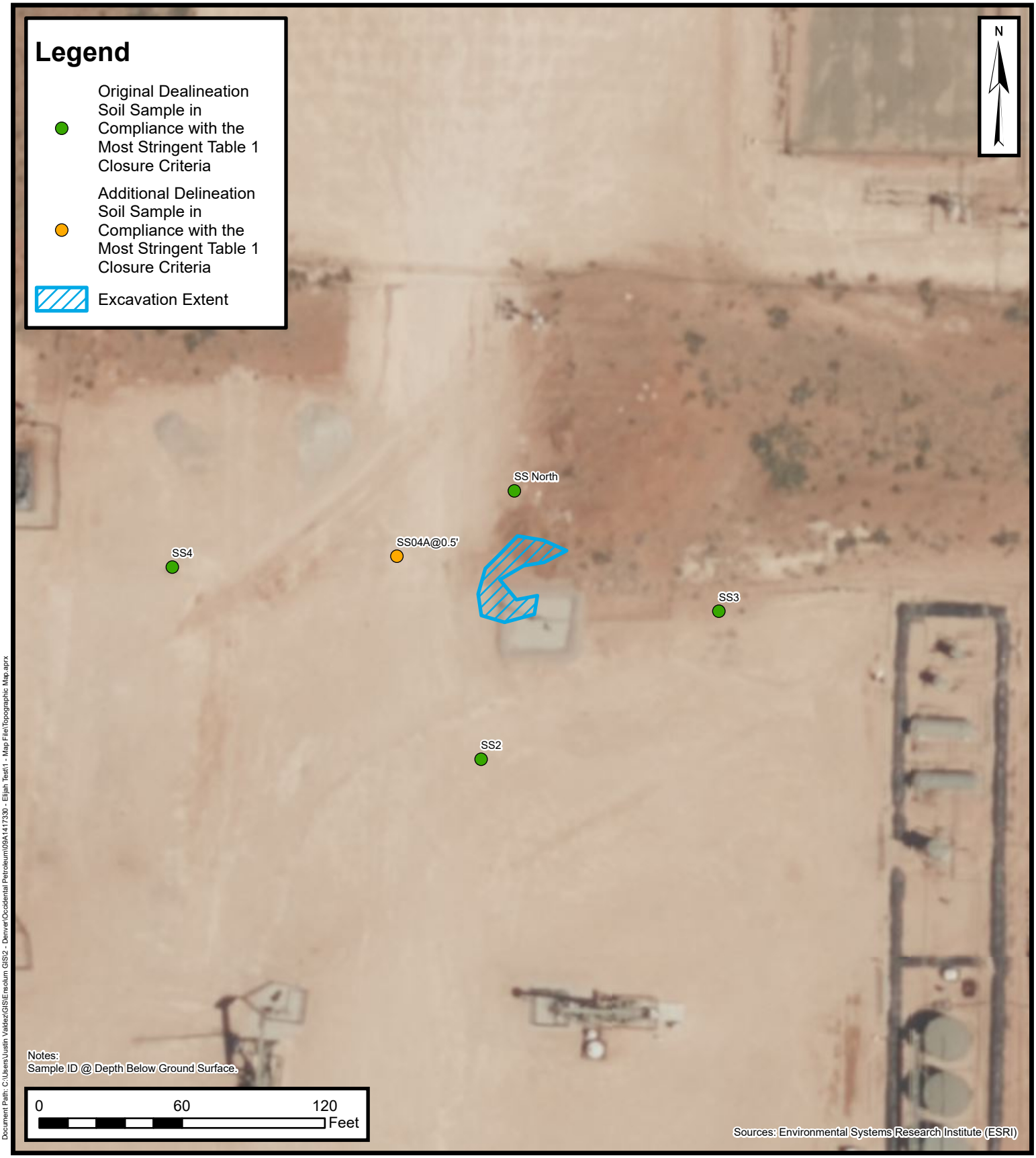
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

Corvo Federal 4 CTB
COG Operating, LLC
Unit M, Sec 29, T24S, R32E
Lea County, NM
Incident Number NAPP2217430297

FIGURE
1



Document Path: C:\Users\Justin Valdez\GIS\Ensolum GIS\2 - Denver\Occidental Petroleum\09A14417330 - Elijah Test\1 - Map File\Topographic Map.aprx

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Environmental, Engineering and Hydrogeologic Consultants

Soil Sample Locations

Corvo Federal 4 CTB
COG Operating, LLC
Unit M, Sec 29, T24S, R32E
Lea County, NM
Incident Number NAPP2217430297

FIGURE
2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Corvo Federal 4 CTB
GOG Operating, LLC
Lea 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 Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
Lateral Delineation Samples										
SS NORTH	07/11/2022	0.5	<0.0498	<0.0996	<50.0	95	<50.0	94.5	94.5	50.1
SS SOUTH (SS2)	07/11/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	296
SS EAST (SS3)	07/11/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	5.74
SS WEST (SS4)	07/11/2022	0.5	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	<5.03
SS04A	03/06/2023	0.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	86.0

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
NE - Not established
< - less than the laboratory reporting limit

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APPENDIX A

Lithologic Soil Sampling Logs

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: BH01 | Date: 2-9-2021
Site Name: Azores Fed #4H
RP or Incident Number: NAPP2124346388
WSP Job Number: 31402909.130

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: EC | Method: ~~Hollow Stem~~ Air Rotary
Lat/Long: 32.18139, -103.6989 | Field Screening: N/A | Hole Diameter: 6" | Total Depth: 165'

Comments: Depth to water boring, Lithology Remarks Only

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						1	SM	SAND, Fine - medium grain, silty, poorly graded, dry, Reddish Brown, Abundant caliche gravel, Trace clay, Low plasticity, cohesive. No stain, No Odor
						2		
						3		
						4		
						5		
						6		SAA/But trace caliche gravel (Same as above)
						7		
						8		
						9		
						10		SAA/But color change to Light brown,
						11		
						12		
						13		
						14		
						15		SAA
						16		
						17		
						18		
						19		
						20		SAA
						21		
						22		
						23		
						24		
						25		SAA But Abundant Caliche

wsp

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name:	Date:
Site Name:	
RP or Incident Number:	
WSP Job Number:	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: / Method:
Lat/Long: / Field Screening:	Hole Diameter: / Total Depth:
Comments:	

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						26	SM	
						27		
						28		
						29		
						30		Low plasticity, cohesive ↙ SAA/But, some clay, Reddish brown color, No silt present
						31	SC	
						32		
						33		
						34		
						35		SAA/But trace caliche gravel present.
						36		
						37		
						38		
						39		
						40		SAA/But Abundant gypsum crystals present.
						41		
						42		
						43		
						44		
						45		SAA/But only Fine grain sand, Trace gypsum crystals present.
						46		
						47		(possible mottling)
						48		sharp transition to clayey Sand. Fine grain, No caliche
						49		
						50		gravel present, grayish color

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name:	Date:
Site Name:	
RP or Incident Number:	
WSP Job Number:	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: / Method:
Lat/Long: / Field Screening:	Hole Diameter: / Total Depth:
Comments:	

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						51	SC	
						52		
						53		
						54		Dry, Low plasticity, cohesive
						55		SAND, Clayey, Fine grain, poorly graded Reddish brown, gray colored Sand also present (possible mottling), Trace gypsum crystals
						56		
						57		
						58		
						59		
						60		SAA
						61		
						62		
						63		
						64		
						65		SAA
						66		
						67		
						68		
						69		Clayey, Reddish brown
						70		SAND, Fine grain, Dry, poorly graded, Abundant clay, Low plasticity, Cohesive, Abundant gypsum crystals
						71		
						72		
						73		
						74		
						75		SAA

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name:	Date:
Site Name:	
RP or Incident Number:	
WSP Job Number:	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: / Method:
Lat/Long: / Field Screening:	Hole Diameter: / Total Depth:
Comments:	

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						76	SC	
						77		
						78		
						79		Low plasticity, cohesive
						80		SAND, Clayey, Fine grain, Dry, poorly graded, Reddish Brown, Abundant Gypsum crystals.
						81		
						82		
						83		
						84		
						85		SAA But Some clay, Low plasticity, non-cohesive. Not clayey sand.
						86	SM	
						87		
						88		
						89		
						90		SAA
						91		
						92		
						93		
						94		
						95		SAA
						96		
						97		Clayey SAND, Fine grain, poorly graded, Abundant clay, Low Plasticity, cohesive. Trace Gypsum Crystals.
						98		
						99		
						100	SC	

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name:	Date:
Site Name:	
RP or Incident Number:	
WSP Job Number:	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: / Method:
Lat/Long: / Field Screening:	Hole Diameter: / Total Depth:
Comments:	

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						101	SC	
						102		
						103		
						104		
						105		SAA But Abunchnt gypsum crystals
						106		Total Depth 105', @ 11:30
						107		
						108		
						109		
						110		
						112		
						113		
						114		
						115		
						116		
						117		
						118		
						119		
						120		
						121		
						122		
						123		
						124		
						125		

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APPENDIX B

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2540-1
Laboratory Sample Delivery Group: 03d2024061
Client Project/Site: Corvo Fed #4

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
7/18/2022 3:02:58 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.

Client: Ensolum
Project/Site: Corvo Fed #4

Laboratory Job ID: 890-2540-1
SDG: 03d2024061

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2540-1
Project/Site: Corvo Fed #4 SDG: 03d2024061

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

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

Case Narrative

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2540-1
SDG: 03d2024061

Job ID: 890-2540-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2540-1

Receipt
The sample was received on 7/12/2022 8:32 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 1.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-29796 and analytical batch 880-29885 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: Spike compounds were inadvertently omitted during the extraction process for the matrix spike duplicate (MSD); therefore, matrix spike recoveries are unavailable for preparation batch 880-29796 and analytical batch 880-29885. 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.

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-29652 and analytical batch 880-29696 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.

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-29756 and analytical batch 880-29890 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2540-1
SDG: 03d2024061

Client Sample ID: SS North

Date Collected: 07/11/22 13:30
Date Received: 07/12/22 08:32
Sample Depth: 0

Lab Sample ID: 890-2540-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0498	U	0.0498		mg/Kg		07/15/22 08:47	07/18/22 01:38	25
Toluene	<0.0498	U	0.0498		mg/Kg		07/15/22 08:47	07/18/22 01:38	25
Ethylbenzene	<0.0498	U	0.0498		mg/Kg		07/15/22 08:47	07/18/22 01:38	25
m-Xylene & p-Xylene	<0.0996	U	0.0996		mg/Kg		07/15/22 08:47	07/18/22 01:38	25
o-Xylene	<0.0498	U	0.0498		mg/Kg		07/15/22 08:47	07/18/22 01:38	25
Xylenes, Total	<0.0996	U	0.0996		mg/Kg		07/15/22 08:47	07/18/22 01:38	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*07/15/22 08:47*	*07/18/22 01:38*	*25*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*07/15/22 08:47*	*07/18/22 01:38*	*25*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0996	U	0.0996		mg/Kg			07/18/22 15:14	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**94.5**		50.0		mg/Kg			07/15/22 10:26	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/13/22 11:07	07/14/22 20:20	1
Diesel Range Organics (Over C10-C28)	**94.5**	***-**	50.0		mg/Kg		07/13/22 11:07	07/14/22 20:20	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/13/22 11:07	07/14/22 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*07/13/22 11:07*	*07/14/22 20:20*	*1*
o-Terphenyl	*75*		*70 - 130*	*07/13/22 11:07*	*07/14/22 20:20*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**50.1**		4.99		mg/Kg			07/16/22 21:50	1

Surrogate Summary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2540-1
SDG: 03d2024061

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2537-A-1-D MS	Matrix Spike	100	106
890-2537-A-1-E MSD	Matrix Spike Duplicate	77	90
890-2540-1	SS North	91	83
LCS 880-29796/1-A	Lab Control Sample	102	106
LCSD 880-29796/2-A	Lab Control Sample Dup	108	108
MB 880-29796/5-A	Method Blank	78	92

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**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-16861-A-1-B MS	Matrix Spike	89	83
880-16861-A-1-C MSD	Matrix Spike Duplicate	81	73
890-2540-1	SS North	78	75
LCS 880-29652/2-A	Lab Control Sample	120	102
LCSD 880-29652/3-A	Lab Control Sample Dup	124	108
MB 880-29652/1-A	Method Blank	86	95

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2540-1
SDG: 03d2024061

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-29796/5-A
Matrix: Solid
Analysis Batch: 29885

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 29796

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 18:01	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 18:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 18:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/15/22 08:47	07/17/22 18:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 18:01	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/15/22 08:47	07/17/22 18:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*07/15/22 08:47*	*07/17/22 18:01*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*07/15/22 08:47*	*07/17/22 18:01*	*1*

Lab Sample ID: LCS 880-29796/1-A
Matrix: Solid
Analysis Batch: 29885

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29796

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1156		mg/Kg		116	70 - 130		
Toluene			0.100	0.09972		mg/Kg		100	70 - 130		
Ethylbenzene			0.100	0.1045		mg/Kg		105	70 - 130		
m-Xylene & p-Xylene			0.200	0.2034		mg/Kg		102	70 - 130		
o-Xylene			0.100	0.1062		mg/Kg		106	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-29796/2-A
Matrix: Solid
Analysis Batch: 29885

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29796

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1151		mg/Kg		115	70 - 130	0	35
Toluene			0.100	0.08663		mg/Kg		87	70 - 130	14	35
Ethylbenzene			0.100	0.07643		mg/Kg		76	70 - 130	31	35
m-Xylene & p-Xylene			0.200	0.1457		mg/Kg		73	70 - 130	33	35
o-Xylene			0.100	0.07784		mg/Kg		78	70 - 130	31	35

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

Lab Sample ID: 890-2537-A-1-D MS
Matrix: Solid
Analysis Batch: 29885

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29796

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U F1	0.100	0.1089		mg/Kg		109	70 - 130		
Toluene	<0.00199	U F1	0.100	0.08023		mg/Kg		80	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2540-1
SDG: 03d2024061

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

Lab Sample ID: 890-2537-A-1-D MS
Matrix: Solid
Analysis Batch: 29885

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29796

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U F1	0.100	0.06821	F1	mg/Kg		68	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.1290	F1	mg/Kg		64	70 - 130
o-Xylene	<0.00199	U F1	0.100	0.06830	F1	mg/Kg		68	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-2537-A-1-E MSD
Matrix: Solid
Analysis Batch: 29885

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 29796

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Toluene	<0.00199	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzene	<0.00199	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00398	U F1	0.200	<0.00399	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene	<0.00199	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

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

Lab Sample ID: MB 880-29652/1-A
Matrix: Solid
Analysis Batch: 29696

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 29652

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/13/22 11:06	07/14/22 11:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/13/22 11:06	07/14/22 11:11	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/13/22 11:06	07/14/22 11:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*07/13/22 11:06*	*07/14/22 11:11*	*1*
o-Terphenyl	*95*		*70 - 130*	*07/13/22 11:06*	*07/14/22 11:11*	*1*

Lab Sample ID: LCS 880-29652/2-A
Matrix: Solid
Analysis Batch: 29696

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29652

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1173		mg/Kg		117	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1102		mg/Kg		110	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2540-1
SDG: 03d2024061

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

Lab Sample ID: LCS 880-29652/2-A
Matrix: Solid
Analysis Batch: 29696

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29652

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*120*		*70 - 130*
o-Terphenyl	*102*		*70 - 130*

Lab Sample ID: LCSD 880-29652/3-A
Matrix: Solid
Analysis Batch: 29696

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29652

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1173		mg/Kg		117	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	1142		mg/Kg		114	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*124*		*70 - 130*
o-Terphenyl	*108*		*70 - 130*

Lab Sample ID: 880-16861-A-1-B MS
Matrix: Solid
Analysis Batch: 29696

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29652

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	53.9		996	1119		mg/Kg		107	70 - 130
Diesel Range Organics (Over C10-C28)	833	*- F1	996	1277	F1	mg/Kg		45	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*89*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

Lab Sample ID: 880-16861-A-1-C MSD
Matrix: Solid
Analysis Batch: 29696

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 29652

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	53.9		998	1024		mg/Kg		97	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	833	*- F1	998	1145	F1	mg/Kg		31	70 - 130	11	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*81*		*70 - 130*
o-Terphenyl	*73*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2540-1
SDG: 03d2024061

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-29756/1-A
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/16/22 20:55	1

Lab Sample ID: LCS 880-29756/2-A
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	260.6		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-29756/3-A
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	261.6		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 880-16905-A-1-B MS
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	13.2	F1 F2	252	274.4		mg/Kg		104	90 - 110		

Lab Sample ID: 880-16905-A-1-C MSD
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	13.2	F1 F2	252	208.3	F1 F2	mg/Kg		77	90 - 110	27	20

QC Association Summary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2540-1
SDG: 03d2024061

GC VOA

Prep Batch: 29796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2540-1	SS North	Total/NA	Solid	5035	
MB 880-29796/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-29796/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-29796/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2537-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-2537-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 29885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2540-1	SS North	Total/NA	Solid	8021B	29796
MB 880-29796/5-A	Method Blank	Total/NA	Solid	8021B	29796
LCS 880-29796/1-A	Lab Control Sample	Total/NA	Solid	8021B	29796
LCSD 880-29796/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	29796
890-2537-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	29796
890-2537-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	29796

Analysis Batch: 29984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2540-1	SS North	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 29652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2540-1	SS North	Total/NA	Solid	8015NM Prep	
MB 880-29652/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-29652/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-29652/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-16861-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-16861-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 29696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2540-1	SS North	Total/NA	Solid	8015B NM	29652
MB 880-29652/1-A	Method Blank	Total/NA	Solid	8015B NM	29652
LCS 880-29652/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	29652
LCSD 880-29652/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	29652
880-16861-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	29652
880-16861-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	29652

Analysis Batch: 29844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2540-1	SS North	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 29756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2540-1	SS North	Soluble	Solid	DI Leach	
MB 880-29756/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-29756/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-29756/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2540-1
SDG: 03d2024061

HPLC/IC (Continued)

Leach Batch: 29756 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16905-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-16905-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 29890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2540-1	SS North	Soluble	Solid	300.0	29756
MB 880-29756/1-A	Method Blank	Soluble	Solid	300.0	29756
LCS 880-29756/2-A	Lab Control Sample	Soluble	Solid	300.0	29756
LCSD 880-29756/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	29756
880-16905-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	29756
880-16905-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	29756

Lab Chronicle

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2540-1
SDG: 03d2024061

Client Sample ID: SS North

Date Collected: 07/11/22 13:30
Date Received: 07/12/22 08:32

Lab Sample ID: 890-2540-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	29796	07/15/22 08:47	MR	XEN MID
Total/NA	Analysis	8021B		25			29885	07/18/22 01:38	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29984	07/18/22 15:14	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29844	07/15/22 10:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	29652	07/13/22 11:07	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29696	07/14/22 20:20	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	29756	07/14/22 12:54	SMC	XEN MID
Soluble	Analysis	300.0		1			29890	07/16/22 21:50	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2540-1
SDG: 03d2024061

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

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	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2540-1
SDG: 03d2024061

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI 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: Corvo Fed #4

Job ID: 890-2540-1
SDG: 03d2024061

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2540-1	SS North	Solid	07/11/22 13:30	07/12/22 08:32	0

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 4

Project Manager:	Kalei Jennings	Bill to: (if different)	
Company Name:	Ensolum	Company Name:	
Address:	3122 National Parks Hwy	Address:	
City, State ZIP:	Carlsbad NM 88220	City, State ZIP:	
Phone:	817-683-2503	Email:	

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Corvo Fed #4	Turn Around	☑ Routine ☐ Rush
Project Number:	03020406l	Due Date:	
Project Location:	Lea County	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Chris Brown		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TNM-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	2.0
Total Containers:		Corrected Temperature:	1.8

ANALYSIS REQUEST

890-2540 Chain of Custody

CHL BTEX TPH

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont
SS North	S	7-11-22	1330	0	G	1

Sample Comments

Inc ID
NAPP2217430297

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Amanda Stuff	7/12/22 0832			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220
Phone 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 890-837 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-2540-1
Address: 1211 W Florida Ave	Due Date Requested: 7/18/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: corvo fed #4	Project #: 89000094			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note.
			Preservation Code:										
SS North (890-2540-1)	7/11/22	13 30 Mountain		Solid			X	X	X	X	X	1	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central LLC.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Date/Time	Company		Date/Time	Company
Relinquished by:			Received by:	7/13/22 1100	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2540-1
SDG Number: 03d2024061

Login Number: 2540
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2540-1
SDG Number: 03d2024061

Login Number: 2540
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Midland
List Creation: 07/13/22 11:52 AM

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 <6mm (1/4").	N/A	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2541-1
Laboratory Sample Delivery Group: 03D2024061
Client Project/Site: Corvo Fed #4

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
7/18/2022 3:01:04 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.

Client: Ensolum
Project/Site: Corvo Fed #4

Laboratory Job ID: 890-2541-1
SDG: 03D2024061

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2541-1
SDG: 03D2024061

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

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

Case Narrative

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2541-1
SDG: 03D2024061

Job ID: 890-2541-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2541-1

Receipt
The sample was received on 7/12/2022 8:32 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 1.8°C

GC VOA
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 880-29756 and analytical batch 880-29890 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2541-1
SDG: 03D2024061

Client Sample ID: SS EAST

Date Collected: 07/11/22 13:40
Date Received: 07/12/22 08:32
Sample Depth: 0

Lab Sample ID: 890-2541-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/15/22 09:00	07/15/22 22:04	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/15/22 09:00	07/15/22 22:04	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/15/22 09:00	07/15/22 22:04	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/15/22 09:00	07/15/22 22:04	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/15/22 09:00	07/15/22 22:04	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/15/22 09:00	07/15/22 22:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*07/15/22 09:00*	*07/15/22 22:04*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*07/15/22 09:00*	*07/15/22 22:04*	*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			07/18/22 13:45	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/15/22 10:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/13/22 15:06	07/14/22 18:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/13/22 15:06	07/14/22 18:26	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/13/22 15:06	07/14/22 18:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*07/13/22 15:06*	*07/14/22 18:26*	*1*
o-Terphenyl	*97*		*70 - 130*	*07/13/22 15:06*	*07/14/22 18:26*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.74**		4.99		mg/Kg			07/16/22 21:58	1

Surrogate Summary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2541-1
SDG: 03D2024061

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-16938-A-3-D MS	Matrix Spike	108	94
880-16938-A-3-E MSD	Matrix Spike Duplicate	104	99
890-2541-1	SS EAST	124	100
LCS 880-29770/1-A	Lab Control Sample	105	91
LCSD 880-29770/2-A	Lab Control Sample Dup	116	101
MB 880-29770/5-A	Method Blank	97	96

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**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2541-1	SS EAST	87	97
890-2547-A-50-D MS	Matrix Spike	86	89
890-2547-A-50-E MSD	Matrix Spike Duplicate	72	76
LCS 880-29672/2-A	Lab Control Sample	97	110
LCSD 880-29672/3-A	Lab Control Sample Dup	113	126
MB 880-29672/1-A	Method Blank	88	102

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2541-1
SDG: 03D2024061

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-29770/5-A
Matrix: Solid
Analysis Batch: 29845

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 29770

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/14/22 16:20	07/15/22 14:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/14/22 16:20	07/15/22 14:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/14/22 16:20	07/15/22 14:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/14/22 16:20	07/15/22 14:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/14/22 16:20	07/15/22 14:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/14/22 16:20	07/15/22 14:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*07/14/22 16:20*	*07/15/22 14:37*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*07/14/22 16:20*	*07/15/22 14:37*	*1*

Lab Sample ID: LCS 880-29770/1-A
Matrix: Solid
Analysis Batch: 29845

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29770

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08786		mg/Kg		88	70 - 130		
Toluene			0.100	0.08880		mg/Kg		89	70 - 130		
Ethylbenzene			0.100	0.09443		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.1978		mg/Kg		99	70 - 130		
o-Xylene			0.100	0.1036		mg/Kg		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: LCSD 880-29770/2-A
Matrix: Solid
Analysis Batch: 29845

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29770

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09859		mg/Kg		99	70 - 130	12	35
Toluene			0.100	0.1026		mg/Kg		103	70 - 130	14	35
Ethylbenzene			0.100	0.1024		mg/Kg		102	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.2173		mg/Kg		109	70 - 130	9	35
o-Xylene			0.100	0.1163		mg/Kg		116	70 - 130	12	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-16938-A-3-D MS
Matrix: Solid
Analysis Batch: 29845

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29770

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.100	0.08357		mg/Kg		83	70 - 130		
Toluene	<0.00200	U	0.100	0.08946		mg/Kg		89	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2541-1
SDG: 03D2024061

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

Lab Sample ID: 880-16938-A-3-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 29845 — **Prep Batch: 29770**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.100	0.08724		mg/Kg		87	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.201	0.1898		mg/Kg		94	70 - 130
o-Xylene	<0.00200	U	0.100	0.1032		mg/Kg		103	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 880-16938-A-3-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 29845 — **Prep Batch: 29770**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0994	0.09057		mg/Kg		91	70 - 130	8	35
Toluene	<0.00200	U	0.0994	0.09063		mg/Kg		91	70 - 130	1	35
Ethylbenzene	<0.00200	U	0.0994	0.09024		mg/Kg		91	70 - 130	3	35
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1902		mg/Kg		95	70 - 130	0	35
o-Xylene	<0.00200	U	0.0994	0.1017		mg/Kg		102	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

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

Lab Sample ID: MB 880-29672/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 29692 — **Prep Batch: 29672**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/13/22 15:06	07/14/22 09:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/13/22 15:06	07/14/22 09:52	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/13/22 15:06	07/14/22 09:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*07/13/22 15:06*	*07/14/22 09:52*	*1*
o-Terphenyl	*102*		*70 - 130*	*07/13/22 15:06*	*07/14/22 09:52*	*1*

Lab Sample ID: LCS 880-29672/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 29692 — **Prep Batch: 29672**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	989.6		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)	1000	865.7		mg/Kg		87	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2541-1
SDG: 03D2024061

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

Lab Sample ID: LCS 880-29672/2-A
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29672

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: LCSD 880-29672/3-A
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29672

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1004		mg/Kg		100	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	1051		mg/Kg		105	70 - 130	19	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	126		70 - 130

Lab Sample ID: 890-2547-A-50-D MS
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29672

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1081		mg/Kg		104	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U F1	1000	749.4		mg/Kg		75	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	89		70 - 130

Lab Sample ID: 890-2547-A-50-E MSD
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 29672

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1289		mg/Kg		125	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	<50.0	U F1	999	641.8	F1	mg/Kg		64	70 - 130	15	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	72		70 - 130
o-Terphenyl	76		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2541-1
SDG: 03D2024061

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-29756/1-A
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/16/22 20:55	1

Lab Sample ID: LCS 880-29756/2-A
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	260.6		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-29756/3-A
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	261.6		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 880-16905-A-1-B MS
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	13.2	F1 F2	252	274.4		mg/Kg		104	90 - 110		

Lab Sample ID: 880-16905-A-1-C MSD
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	13.2	F1 F2	252	208.3	F1 F2	mg/Kg		77	90 - 110	27	20

QC Association Summary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2541-1
SDG: 03D2024061

GC VOA

Prep Batch: 29770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2541-1	SS EAST	Total/NA	Solid	5035	
MB 880-29770/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-29770/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-29770/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-16938-A-3-D MS	Matrix Spike	Total/NA	Solid	5035	
880-16938-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 29845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2541-1	SS EAST	Total/NA	Solid	8021B	29770
MB 880-29770/5-A	Method Blank	Total/NA	Solid	8021B	29770
LCS 880-29770/1-A	Lab Control Sample	Total/NA	Solid	8021B	29770
LCSD 880-29770/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	29770
880-16938-A-3-D MS	Matrix Spike	Total/NA	Solid	8021B	29770
880-16938-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	29770

Analysis Batch: 29951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2541-1	SS EAST	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 29672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2541-1	SS EAST	Total/NA	Solid	8015NM Prep	
MB 880-29672/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-29672/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-29672/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2547-A-50-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2547-A-50-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 29692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2541-1	SS EAST	Total/NA	Solid	8015B NM	29672
MB 880-29672/1-A	Method Blank	Total/NA	Solid	8015B NM	29672
LCS 880-29672/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	29672
LCSD 880-29672/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	29672
890-2547-A-50-D MS	Matrix Spike	Total/NA	Solid	8015B NM	29672
890-2547-A-50-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	29672

Analysis Batch: 29831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2541-1	SS EAST	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 29756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2541-1	SS EAST	Soluble	Solid	DI Leach	
MB 880-29756/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-29756/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-29756/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2541-1
SDG: 03D2024061

HPLC/IC (Continued)

Leach Batch: 29756 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16905-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-16905-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 29890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2541-1	SS EAST	Soluble	Solid	300.0	29756
MB 880-29756/1-A	Method Blank	Soluble	Solid	300.0	29756
LCS 880-29756/2-A	Lab Control Sample	Soluble	Solid	300.0	29756
LCSD 880-29756/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	29756
880-16905-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	29756
880-16905-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	29756

Lab Chronicle

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2541-1
SDG: 03D2024061

Client Sample ID: SS EAST

Date Collected: 07/11/22 13:40
Date Received: 07/12/22 08:32

Lab Sample ID: 890-2541-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	29770	07/15/22 09:00	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29845	07/15/22 22:04	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29951	07/18/22 13:45	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29831	07/15/22 10:13	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	29672	07/13/22 15:06	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29692	07/14/22 18:26	SM	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	29756	07/14/22 12:54	SMC	XEN MID
Soluble	Analysis	300.0		1			29890	07/16/22 21:58	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2541-1
SDG: 03D2024061

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

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	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2541-1
SDG: 03D2024061

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI 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: Corvo Fed #4

Job ID: 890-2541-1
SDG: 03D2024061

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2541-1	SS EAST	Solid	07/11/22 13:40	07/12/22 08:32	0

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Kalei Jennings	Bill to: (if different)	
Company Name:	Ensolum	Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Corral Fed #4	Turn Around	
Project Number:	03D 2024061	☑ Routine ☐ Rush	
Project Location:	Lea County	Due Date:	
Sampler's Name:	Chris Brown	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TNM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	2.0
Total Containers:		Corrected Temperature:	1.8

ANALYSIS REQUEST

Pres. Code

Parameters: CHL, BTEX, TPH

890-2541 Chain of Custody

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2SO_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont
SS East	G	7-11-22	1340	0	G	1

Sample Comments

INCIDENT NAPP2217432097

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuff	7/20/22 0832	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Eurofins Carlsbad
1089 N Canal St
Carlsbad NM 88220
Phone 575-988-3199 Fax 575-988-3199

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-837 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-2541-1
Address: 1211 W Florida Ave	Due Date Requested: 7/18/2022			
City: Midland	TAT Requested (days):			
State Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #			
Email	WO #:			
Project Name: corvo fed #4	Project #: 89000094			
Site	SSOW#			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G - Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8016NM_S_Prep (MOD) Full TPH	8016MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
SS EAST (890-2541-1)	7/11/22	13 40 Mountain		Solid			X	X	X	X	X	1	

Note Since laboratory accreditations are subject to change Eurofins Environment Testing South Central, LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Clue			JKRAMER	7/13/22 1100	
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.
Δ Yes Δ No		

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2541-1
SDG Number: 03D2024061

Login Number: 2541
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2541-1
SDG Number: 03D2024061

Login Number: 2541
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Midland
List Creation: 07/13/22 11:52 AM

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 <6mm (1/4").	N/A	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2542-1
Laboratory Sample Delivery Group: 03D2024061
Client Project/Site: Corvo Fed #4

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
7/19/2022 8:33:13 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.

Client: Ensolum
Project/Site: Corvo Fed #4

Laboratory Job ID: 890-2542-1
SDG: 03D2024061

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2542-1
SDG: 03D2024061

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

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

Case Narrative

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2542-1
SDG: 03D2024061

Job ID: 890-2542-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2542-1

Receipt
The sample was received on 7/12/2022 8:31 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 1.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-29773 and analytical batch 880-29894 was outside control limits. Sample matrix interference is suspected.

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 880-29756 and analytical batch 880-29890 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2542-1
SDG: 03D2024061

Client Sample ID: SS WEST

Date Collected: 07/11/22 13:45
Date Received: 07/12/22 08:31
Sample Depth: 0

Lab Sample ID: 890-2542-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/14/22 16:44	07/18/22 18:46	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/14/22 16:44	07/18/22 18:46	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/14/22 16:44	07/18/22 18:46	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		07/14/22 16:44	07/18/22 18:46	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/14/22 16:44	07/18/22 18:46	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		07/14/22 16:44	07/18/22 18:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*07/14/22 16:44*	*07/18/22 18:46*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*07/14/22 16:44*	*07/18/22 18:46*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			07/19/22 09:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/15/22 10:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/13/22 15:06	07/14/22 18:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/13/22 15:06	07/14/22 18:47	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/13/22 15:06	07/14/22 18:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*07/13/22 15:06*	*07/14/22 18:47*	*1*
o-Terphenyl	*92*		*70 - 130*	*07/13/22 15:06*	*07/14/22 18:47*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.03	U	5.03		mg/Kg			07/16/22 22:06	1

Surrogate Summary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2542-1
SDG: 03D2024061

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-16810-A-1-C MS	Matrix Spike	113	92
880-16810-A-1-D MSD	Matrix Spike Duplicate	87	96
890-2542-1	SS WEST	110	99
LCS 880-29773/1-A	Lab Control Sample	106	100
LCSD 880-29773/2-A	Lab Control Sample Dup	106	96
MB 880-29773/5-A	Method Blank	97	96

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**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2542-1	SS WEST	78	92
890-2547-A-50-D MS	Matrix Spike	86	89
890-2547-A-50-E MSD	Matrix Spike Duplicate	72	76
LCS 880-29672/2-A	Lab Control Sample	97	110
LCSD 880-29672/3-A	Lab Control Sample Dup	113	126
MB 880-29672/1-A	Method Blank	88	102

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2542-1
SDG: 03D2024061

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-29773/5-A
Matrix: Solid
Analysis Batch: 29894

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 29773

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/14/22 16:44	07/18/22 12:19	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/14/22 16:44	07/18/22 12:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/14/22 16:44	07/18/22 12:19	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/14/22 16:44	07/18/22 12:19	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/14/22 16:44	07/18/22 12:19	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/14/22 16:44	07/18/22 12:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*07/14/22 16:44*	*07/18/22 12:19*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*07/14/22 16:44*	*07/18/22 12:19*	*1*

Lab Sample ID: LCS 880-29773/1-A
Matrix: Solid
Analysis Batch: 29894

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29773

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09535		mg/Kg		95	70 - 130		
Toluene			0.100	0.09420		mg/Kg		94	70 - 130		
Ethylbenzene			0.100	0.09196		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene			0.200	0.1938		mg/Kg		97	70 - 130		
o-Xylene			0.100	0.1030		mg/Kg		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-29773/2-A
Matrix: Solid
Analysis Batch: 29894

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29773

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08621		mg/Kg		86	70 - 130	10	35
Toluene			0.100	0.09273		mg/Kg		93	70 - 130	2	35
Ethylbenzene			0.100	0.09255		mg/Kg		93	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1968		mg/Kg		98	70 - 130	2	35
o-Xylene			0.100	0.1055		mg/Kg		105	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 880-16810-A-1-C MS
Matrix: Solid
Analysis Batch: 29894

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29773

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	0.00256		0.100	0.07776		mg/Kg		75	70 - 130		
Toluene	0.00205	F1	0.100	0.08486		mg/Kg		82	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2542-1
SDG: 03D2024061

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

Lab Sample ID: 880-16810-A-1-C MS
Matrix: Solid
Analysis Batch: 29894

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29773

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.00345	F1	0.100	0.08141		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	0.0135	F1 F2	0.201	0.1739		mg/Kg		80	70 - 130
o-Xylene	0.00687	F1 F2	0.100	0.09279		mg/Kg		86	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 880-16810-A-1-D MSD
Matrix: Solid
Analysis Batch: 29894

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 29773

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.00256		0.0994	0.07907		mg/Kg		77	70 - 130	2	35
Toluene	0.00205	F1	0.0994	0.06554	F1	mg/Kg		64	70 - 130	26	35
Ethylbenzene	0.00345	F1	0.0994	0.05957	F1	mg/Kg		56	70 - 130	31	35
m-Xylene & p-Xylene	0.0135	F1 F2	0.199	0.1176	F1 F2	mg/Kg		52	70 - 130	39	35
o-Xylene	0.00687	F1 F2	0.0994	0.06403	F1 F2	mg/Kg		58	70 - 130	37	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

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

Lab Sample ID: MB 880-29672/1-A
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 29672

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/13/22 15:06	07/14/22 09:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/13/22 15:06	07/14/22 09:52	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/13/22 15:06	07/14/22 09:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*07/13/22 15:06*	*07/14/22 09:52*	*1*
o-Terphenyl	*102*		*70 - 130*	*07/13/22 15:06*	*07/14/22 09:52*	*1*

Lab Sample ID: LCS 880-29672/2-A
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29672

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	989.6		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)			1000	865.7		mg/Kg		87	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2542-1
SDG: 03D2024061

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

Lab Sample ID: LCS 880-29672/2-A
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29672

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: LCSD 880-29672/3-A
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29672

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1004		mg/Kg		100	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	1051		mg/Kg		105	70 - 130	19	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	126		70 - 130

Lab Sample ID: 890-2547-A-50-D MS
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29672

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1081		mg/Kg		104	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U F1	1000	749.4		mg/Kg		75	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	89		70 - 130

Lab Sample ID: 890-2547-A-50-E MSD
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 29672

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1289		mg/Kg		125	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	<50.0	U F1	999	641.8	F1	mg/Kg		64	70 - 130	15	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	72		70 - 130
o-Terphenyl	76		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2542-1
SDG: 03D2024061

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-29756/1-A
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/16/22 20:55	1

Lab Sample ID: LCS 880-29756/2-A
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	260.6		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-29756/3-A
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	261.6		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 880-16905-A-1-B MS
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	13.2	F1 F2	252	274.4		mg/Kg		104	90 - 110		

Lab Sample ID: 880-16905-A-1-C MSD
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	13.2	F1 F2	252	208.3	F1 F2	mg/Kg		77	90 - 110	27	20

QC Association Summary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2542-1
SDG: 03D2024061

GC VOA

Prep Batch: 29773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2542-1	SS WEST	Total/NA	Solid	5035	
MB 880-29773/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-29773/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-29773/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-16810-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-16810-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 29894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2542-1	SS WEST	Total/NA	Solid	8021B	29773
MB 880-29773/5-A	Method Blank	Total/NA	Solid	8021B	29773
LCS 880-29773/1-A	Lab Control Sample	Total/NA	Solid	8021B	29773
LCSD 880-29773/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	29773
880-16810-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	29773
880-16810-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	29773

Analysis Batch: 30032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2542-1	SS WEST	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 29672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2542-1	SS WEST	Total/NA	Solid	8015NM Prep	
MB 880-29672/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-29672/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-29672/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2547-A-50-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2547-A-50-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 29692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2542-1	SS WEST	Total/NA	Solid	8015B NM	29672
MB 880-29672/1-A	Method Blank	Total/NA	Solid	8015B NM	29672
LCS 880-29672/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	29672
LCSD 880-29672/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	29672
890-2547-A-50-D MS	Matrix Spike	Total/NA	Solid	8015B NM	29672
890-2547-A-50-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	29672

Analysis Batch: 29832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2542-1	SS WEST	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 29756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2542-1	SS WEST	Soluble	Solid	DI Leach	
MB 880-29756/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-29756/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-29756/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2542-1
SDG: 03D2024061

HPLC/IC (Continued)

Leach Batch: 29756 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16905-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-16905-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 29890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2542-1	SS WEST	Soluble	Solid	300.0	29756
MB 880-29756/1-A	Method Blank	Soluble	Solid	300.0	29756
LCS 880-29756/2-A	Lab Control Sample	Soluble	Solid	300.0	29756
LCSD 880-29756/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	29756
880-16905-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	29756
880-16905-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	29756

Lab Chronicle

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2542-1
SDG: 03D2024061

Client Sample ID: SS WEST
Date Collected: 07/11/22 13:45
Date Received: 07/12/22 08:31

Lab Sample ID: 890-2542-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	29773	07/14/22 16:44	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29894	07/18/22 18:46	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30032	07/19/22 09:21	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29832	07/15/22 10:13	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	29672	07/13/22 15:06	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29692	07/14/22 18:47	SM	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	29756	07/14/22 12:54	SMC	XEN MID
Soluble	Analysis	300.0		1			29890	07/16/22 22:06	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2542-1
SDG: 03D2024061

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

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	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: Corvo Fed #4

Job ID: 890-2542-1
SDG: 03D2024061

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI 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: Corvo Fed #4

Job ID: 890-2542-1
SDG: 03D2024061

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2542-1	SS WEST	Solid	07/11/22 13:45	07/12/22 08:31	0

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Kalei Jennings	Bill to: (if different)	
Company Name:	Ensolum	Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:		Email:	

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Corvo Fed #4	Turn Around	
Project Number:	03D2024061	☑ Routine ☐ Rush	
Project Location:	Lea County	Due Date:	
Sampler's Name:	Chris Brown	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	IR-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	2.0	
Total Containers:		Corrected Temperature:	1.8	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: 8021 8015 TPH
SS West	G	7-1-22	1345	0	G	1		

ANALYSIS REQUEST

890-2542 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: NaSO$_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Inc ID
NAPP2217430297

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stat	7/2/22 0831	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220
Phone. 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-837 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-2542-1
Address: 1211 W Florida Ave	Due Date Requested: 7/18/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: CORVO FED #4	Project #: 89000094			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N - None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8016NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note
			Preservation Code:										
SS WEST (890-2542-1)	7/11/22	13 45 Mountain		Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing South Central LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Date/Time	Company		Date/Time	Company
Relinquished by: Clve			Received by: Kramer	7 13 22 1100	
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2542-1
SDG Number: 03D2024061

Login Number: 2542
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2542-1
SDG Number: 03D2024061

Login Number: 2542
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Midland
List Creation: 07/13/22 11:52 AM

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 <6mm (1/4").	N/A	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2543-1
Laboratory Sample Delivery Group: 03D2024061
Client Project/Site: CORVO FED #4

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
7/21/2022 8:03:00 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.

Client: Ensolum
Project/Site: CORVO FED #4

Laboratory Job ID: 890-2543-1
SDG: 03D2024061

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: CORVO FED #4

Job ID: 890-2543-1
SDG: 03D2024061

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

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

Case Narrative

Client: Ensolum
Project/Site: CORVO FED #4

Job ID: 890-2543-1
SDG: 03D2024061

Job ID: 890-2543-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2543-1

Receipt
The sample was received on 7/12/2022 8:31 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 1.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-29817 and analytical batch 880-30096 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA
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 880-29756 and analytical batch 880-29890 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: CORVO FED #4

Job ID: 890-2543-1
SDG: 03D2024061

Client Sample ID: SS SOUTH

Date Collected: 07/11/22 13:35
Date Received: 07/12/22 08:31
Sample Depth: 0

Lab Sample ID: 890-2543-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 14:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 14:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 14:37	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/15/22 09:11	07/20/22 14:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 14:37	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/15/22 09:11	07/20/22 14:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*07/15/22 09:11*	*07/20/22 14:37*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*07/15/22 09:11*	*07/20/22 14:37*	*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			07/21/22 08:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/15/22 10:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/13/22 15:06	07/14/22 19:08	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/13/22 15:06	07/14/22 19:08	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/13/22 15:06	07/14/22 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*73*		*70 - 130*	*07/13/22 15:06*	*07/14/22 19:08*	*1*
o-Terphenyl	*84*		*70 - 130*	*07/13/22 15:06*	*07/14/22 19:08*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**296**		5.02		mg/Kg			07/16/22 22:29	1

Surrogate Summary

Client: Ensolum
Project/Site: CORVO FED #4

Job ID: 890-2543-1
SDG: 03D2024061

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2539-A-1-E MS	Matrix Spike	90	95
890-2539-A-1-F MSD	Matrix Spike Duplicate	106	89
890-2543-1	SS SOUTH	107	100
LCS 880-29817/1-A	Lab Control Sample	109	97
LCSD 880-29817/2-A	Lab Control Sample Dup	101	95
MB 880-29817/5-A	Method Blank	98	96

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**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2543-1	SS SOUTH	73	84
890-2547-A-50-D MS	Matrix Spike	86	89
890-2547-A-50-E MSD	Matrix Spike Duplicate	72	76
LCS 880-29672/2-A	Lab Control Sample	97	110
LCSD 880-29672/3-A	Lab Control Sample Dup	113	126
MB 880-29672/1-A	Method Blank	88	102

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: CORVO FED #4

Job ID: 890-2543-1
SDG: 03D2024061

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-29817/5-A
Matrix: Solid
Analysis Batch: 30096

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 29817

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 12:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 12:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 12:46	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/15/22 09:11	07/20/22 12:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 12:46	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/15/22 09:11	07/20/22 12:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*07/15/22 09:11*	*07/20/22 12:46*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*07/15/22 09:11*	*07/20/22 12:46*	*1*

Lab Sample ID: LCS 880-29817/1-A
Matrix: Solid
Analysis Batch: 30096

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29817

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1048		mg/Kg		105	70 - 130		
Toluene			0.100	0.1037		mg/Kg		104	70 - 130		
Ethylbenzene			0.100	0.1069		mg/Kg		107	70 - 130		
m-Xylene & p-Xylene			0.200	0.2278		mg/Kg		114	70 - 130		
o-Xylene			0.100	0.1203		mg/Kg		120	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: LCSD 880-29817/2-A
Matrix: Solid
Analysis Batch: 30096

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29817

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09444		mg/Kg		94	70 - 130	10	35
Toluene			0.100	0.09316		mg/Kg		93	70 - 130	11	35
Ethylbenzene			0.100	0.09138		mg/Kg		91	70 - 130	16	35
m-Xylene & p-Xylene			0.200	0.1945		mg/Kg		97	70 - 130	16	35
o-Xylene			0.100	0.1025		mg/Kg		103	70 - 130	16	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-2539-A-1-E MS
Matrix: Solid
Analysis Batch: 30096

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29817

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F1	0.0998	0.02974	F1	mg/Kg		29	70 - 130		
Toluene	0.0164	F1	0.0998	0.03203	F1	mg/Kg		16	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: CORVO FED #4

Job ID: 890-2543-1
SDG: 03D2024061

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

Lab Sample ID: 890-2539-A-1-E MS
Matrix: Solid
Analysis Batch: 30096

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29817

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.0194	F1	0.0998	0.03403	F1	mg/Kg		15	70 - 130
m-Xylene & p-Xylene	0.0239	F1	0.200	0.06705	F1	mg/Kg		22	70 - 130
o-Xylene	0.00435	F1	0.0998	0.03828	F1	mg/Kg		34	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-2539-A-1-F MSD
Matrix: Solid
Analysis Batch: 30096

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 29817

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1	0.100	0.02922	F1	mg/Kg		29	70 - 130	2	35
Toluene	0.0164	F1	0.100	0.03409	F1	mg/Kg		18	70 - 130	6	35
Ethylbenzene	0.0194	F1	0.100	0.03490	F1	mg/Kg		15	70 - 130	3	35
m-Xylene & p-Xylene	0.0239	F1	0.201	0.07730	F1	mg/Kg		27	70 - 130	14	35
o-Xylene	0.00435	F1	0.100	0.04542	F1	mg/Kg		41	70 - 130	17	35

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

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

Lab Sample ID: MB 880-29672/1-A
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 29672

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/13/22 15:06	07/14/22 09:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/13/22 15:06	07/14/22 09:52	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/13/22 15:06	07/14/22 09:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*07/13/22 15:06*	*07/14/22 09:52*	*1*
o-Terphenyl	*102*		*70 - 130*	*07/13/22 15:06*	*07/14/22 09:52*	*1*

Lab Sample ID: LCS 880-29672/2-A
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29672

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	989.6		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)			1000	865.7		mg/Kg		87	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: CORVO FED #4

Job ID: 890-2543-1
SDG: 03D2024061

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

Lab Sample ID: LCS 880-29672/2-A
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29672

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: LCSD 880-29672/3-A
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29672

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1004		mg/Kg		100	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	1051		mg/Kg		105	70 - 130	19	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	126		70 - 130

Lab Sample ID: 890-2547-A-50-D MS
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29672

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1081		mg/Kg		104	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U F1	1000	749.4		mg/Kg		75	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	89		70 - 130

Lab Sample ID: 890-2547-A-50-E MSD
Matrix: Solid
Analysis Batch: 29692

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 29672

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1289		mg/Kg		125	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	<50.0	U F1	999	641.8	F1	mg/Kg		64	70 - 130	15	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	72		70 - 130
o-Terphenyl	76		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: CORVO FED #4

Job ID: 890-2543-1
SDG: 03D2024061

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-29756/1-A
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/16/22 20:55	1

Lab Sample ID: LCS 880-29756/2-A
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	260.6		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-29756/3-A
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	261.6		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 880-16905-A-1-B MS
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	13.2	F1 F2	252	274.4		mg/Kg		104	90 - 110		

Lab Sample ID: 880-16905-A-1-C MSD
Matrix: Solid
Analysis Batch: 29890

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	13.2	F1 F2	252	208.3	F1 F2	mg/Kg		77	90 - 110	27	20

QC Association Summary

Client: Ensolum
Project/Site: CORVO FED #4

Job ID: 890-2543-1
SDG: 03D2024061

GC VOA

Prep Batch: 29817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2543-1	SS SOUTH	Total/NA	Solid	5035	
MB 880-29817/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-29817/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-29817/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2539-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-2539-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2543-1	SS SOUTH	Total/NA	Solid	8021B	29817
MB 880-29817/5-A	Method Blank	Total/NA	Solid	8021B	29817
LCS 880-29817/1-A	Lab Control Sample	Total/NA	Solid	8021B	29817
LCSD 880-29817/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	29817
890-2539-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	29817
890-2539-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	29817

Analysis Batch: 30196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2543-1	SS SOUTH	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 29672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2543-1	SS SOUTH	Total/NA	Solid	8015NM Prep	
MB 880-29672/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-29672/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-29672/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2547-A-50-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2547-A-50-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 29692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2543-1	SS SOUTH	Total/NA	Solid	8015B NM	29672
MB 880-29672/1-A	Method Blank	Total/NA	Solid	8015B NM	29672
LCS 880-29672/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	29672
LCSD 880-29672/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	29672
890-2547-A-50-D MS	Matrix Spike	Total/NA	Solid	8015B NM	29672
890-2547-A-50-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	29672

Analysis Batch: 29833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2543-1	SS SOUTH	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 29756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2543-1	SS SOUTH	Soluble	Solid	DI Leach	
MB 880-29756/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-29756/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-29756/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: CORVO FED #4

Job ID: 890-2543-1
SDG: 03D2024061

HPLC/IC (Continued)

Leach Batch: 29756 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16905-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-16905-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 29890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2543-1	SS SOUTH	Soluble	Solid	300.0	29756
MB 880-29756/1-A	Method Blank	Soluble	Solid	300.0	29756
LCS 880-29756/2-A	Lab Control Sample	Soluble	Solid	300.0	29756
LCSD 880-29756/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	29756
880-16905-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	29756
880-16905-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	29756

Lab Chronicle

Client: Ensolum
Project/Site: CORVO FED #4

Job ID: 890-2543-1
SDG: 03D2024061

Client Sample ID: SS SOUTH
Date Collected: 07/11/22 13:35
Date Received: 07/12/22 08:31

Lab Sample ID: 890-2543-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	29817	07/15/22 09:11	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30096	07/20/22 14:37	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30196	07/21/22 08:55	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29833	07/15/22 10:13	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	29672	07/13/22 15:06	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29692	07/14/22 19:08	SM	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	29756	07/14/22 12:54	SMC	XEN MID
Soluble	Analysis	300.0		1			29890	07/16/22 22:29	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: CORVO FED #4

Job ID: 890-2543-1
SDG: 03D2024061

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

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	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: CORVO FED #4

Job ID: 890-2543-1
SDG: 03D2024061

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI 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: CORVO FED #4

Job ID: 890-2543-1
SDG: 03D2024061

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2543-1	SS SOUTH	Solid	07/11/22 13:35	07/12/22 08:31	0

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Kaki Jennings	Bill to: (if different)	
Company Name:	Ensolum	Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Corro Fed #4	Turn Around	Pres. Code
Project Number:	03D2024061	☑ Routine ☐ Rush	
Project Location:	Lea County	Due Date:	
Sampler's Name:	Chris Bowman	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IRM-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	2.0
Total Containers:		Corrected Temperature:	1.8

ANALYSIS REQUEST

Parameters: CHL, BTEX, TPH

890-2543 Chain of Custody

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2SO_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont
SS South	S	7-11-22	1335	0	G	1

Sample Comments

INC ID
NAPP2217430297

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuff	7/12/22 0832	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220
Phone 575-988-3199 Fax 575-988-3199

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer, Jessica	Carrier Tracking No(s)	COC No: 890-837 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Jessica Kramer@et eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-2543-1
Address: 1211 W Florida Ave,	Due Date Requested: 7/18/2022			
City: Midland	TAT Requested (days):			
State Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: CORVO FED #4	Project #: 89000094			
Site	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
SS SOUTH (890-2543-1)	7/11/22	13 35 Mountain		Solid			X	X	X	X	X	1	

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Y	Trizma
		Z	other (specify)

Other:

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing South Central LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:			Received by: Kramer	7/13/22 1100	
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2543-1
SDG Number: 03D2024061

Login Number: 2543
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2543-1
SDG Number: 03D2024061

Login Number: 2543
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Midland
List Creation: 07/13/22 11:52 AM

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 <6mm (1/4").	N/A	

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 3/19/2023 4:58:03 PM

JOB DESCRIPTION

Conoco Phillips/COG
SDG NUMBER Lea County, NM

JOB NUMBER

880-25621-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

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

Generated
3/19/2023 4:58:03 PM

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

Client: Ensolum
Project/Site: Conoco Phillips/COG

Laboratory Job ID: 880-25621-1
SDG: Lea County, NM

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 880-25621-1
Project/Site: Conoco Phillips/COG SDG: Lea County, NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
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

Case Narrative

Client: Ensolum
Project/Site: Conoco Phillips/COG

Job ID: 880-25621-1
SDG: Lea County, NM

Job ID: 880-25621-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-25621-1

Receipt
The sample was received on 3/8/2023 10:03 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 5.0°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS04A (880-25621-1).

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 880-48166 and analytical batch 880-48177 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 for preparation batch 880-48301 and analytical batch 880-48400 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.The associated samples are: SS04A (880-25621-1), (890-4249-A-61-H), (890-4249-A-61-I MS) and (890-4249-A-61-J MSD).

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: Conoco Phillips/COG

Job ID: 880-25621-1
SDG: Lea County, NM

Client Sample ID: SS04A

Date Collected: 03/06/23 12:21
Date Received: 03/08/23 10:03
Sample Depth: 0.5

Lab Sample ID: 880-25621-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		03/16/23 09:16	03/17/23 12:19	1
Toluene	<0.00198	U	0.00198		mg/Kg		03/16/23 09:16	03/17/23 12:19	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		03/16/23 09:16	03/17/23 12:19	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		03/16/23 09:16	03/17/23 12:19	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		03/16/23 09:16	03/17/23 12:19	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		03/16/23 09:16	03/17/23 12:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*03/16/23 09:16*	*03/17/23 12:19*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*03/16/23 09:16*	*03/17/23 12:19*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			03/19/23 17:28	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			03/10/23 17:58	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		03/08/23 17:08	03/09/23 18:27	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/08/23 17:08	03/09/23 18:27	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/08/23 17:08	03/09/23 18:27	1
Total TPH	<49.9	U	49.9		mg/Kg		03/08/23 17:08	03/09/23 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*115*		*70 - 130*	*03/08/23 17:08*	*03/09/23 18:27*	*1*
o-Terphenyl	*116*		*70 - 130*	*03/08/23 17:08*	*03/09/23 18:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**86.0**		5.02		mg/Kg			03/12/23 04:38	1

Surrogate Summary

Client: Ensolum
Project/Site: Conoco Phillips/COG

Job ID: 880-25621-1
SDG: Lea County, NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
		BFB1	DFBZ1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
880-25621-1	SS04A	114	89								

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**

		Percent Surrogate Recovery (Acceptance Limits)									
		1CO1	OTPH1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
880-25621-1	SS04A	115	116								
LCS 880-48166/2-A	Lab Control Sample	108	102								
LCSD 880-48166/3-A	Lab Control Sample Dup	102	97								
MB 880-48166/1-A	Method Blank	143 S1+	147 S1+								

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Conoco Phillips/COG

Job ID: 880-25621-1
SDG: Lea County, NM

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

Lab Sample ID: MB 880-48166/1-A
Matrix: Solid
Analysis Batch: 48177

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48166

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/08/23 17:08	03/09/23 08:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/08/23 17:08	03/09/23 08:37	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/08/23 17:08	03/09/23 08:37	1
Total TPH	<50.0	U	50.0		mg/Kg		03/08/23 17:08	03/09/23 08:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*143*	*S1+*	*70 - 130*	*03/08/23 17:08*	*03/09/23 08:37*	*1*
o-Terphenyl	*147*	*S1+*	*70 - 130*	*03/08/23 17:08*	*03/09/23 08:37*	*1*

Lab Sample ID: LCS 880-48166/2-A
Matrix: Solid
Analysis Batch: 48177

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48166

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	943.7		mg/Kg		94	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1105		mg/Kg		110	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*102*		*70 - 130*

Lab Sample ID: LCSD 880-48166/3-A
Matrix: Solid
Analysis Batch: 48177

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 48166

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	997.4		mg/Kg		100	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	1050		mg/Kg		105	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-48301/1-A
Matrix: Solid
Analysis Batch: 48400

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/12/23 03:26	1

QC Sample Results

Client: Ensolum
Project/Site: Conoco Phillips/COG

Job ID: 880-25621-1
SDG: Lea County, NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-48301/2-A
Matrix: Solid
Analysis Batch: 48400

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	270.8		mg/Kg		108	90 - 110

Lab Sample ID: LCSD 880-48301/3-A
Matrix: Solid
Analysis Batch: 48400

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	271.6		mg/Kg		109	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Conoco Phillips/COG

Job ID: 880-25621-1
SDG: Lea County, NM

GC VOA

Analysis Batch: 48641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25621-1	SS04A	Total/NA	Solid	8021B	48716

Prep Batch: 48716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25621-1	SS04A	Total/NA	Solid	5035	

Analysis Batch: 48938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25621-1	SS04A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 48166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25621-1	SS04A	Total/NA	Solid	8015NM Prep	
MB 880-48166/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-48166/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-48166/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 48177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25621-1	SS04A	Total/NA	Solid	8015B NM	48166
MB 880-48166/1-A	Method Blank	Total/NA	Solid	8015B NM	48166
LCS 880-48166/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	48166
LCSD 880-48166/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	48166

Analysis Batch: 48374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25621-1	SS04A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 48301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25621-1	SS04A	Soluble	Solid	DI Leach	
MB 880-48301/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-48301/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-48301/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 48400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25621-1	SS04A	Soluble	Solid	300.0	48301
MB 880-48301/1-A	Method Blank	Soluble	Solid	300.0	48301
LCS 880-48301/2-A	Lab Control Sample	Soluble	Solid	300.0	48301
LCSD 880-48301/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	48301

Lab Chronicle

Client: Ensolum
Project/Site: Conoco Phillips/COG

Job ID: 880-25621-1
SDG: Lea County, NM

Client Sample ID: SS04A

Date Collected: 03/06/23 12:21
Date Received: 03/08/23 10:03

Lab Sample ID: 880-25621-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			48716	MNR	EET MID	03/16/23 09:16
Total/NA	Analysis	8021B		1	48641	MNR	EET MID	03/17/23 12:19
Total/NA	Analysis	Total BTEX		1	48938	AJ	EET MID	03/19/23 17:28
Total/NA	Analysis	8015 NM		1	48374	SM	EET MID	03/10/23 17:58
Total/NA	Prep	8015NM Prep			48166	AJ	EET MID	03/08/23 17:08
Total/NA	Analysis	8015B NM		1	48177	SM	EET MID	03/09/23 18:27
Soluble	Leach	DI Leach			48301	KS	EET MID	03/10/23 10:23
Soluble	Analysis	300.0		1	48400	SMC	EET MID	03/12/23 04:38

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Conoco Phillips/COG

Job ID: 880-25621-1
SDG: Lea County, NM

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
8015B NM	8015NM Prep	Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: Conoco Phillips/COG

Job ID: 880-25621-1
SDG: Lea County, NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	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

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:

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

Sample Summary

Client: Ensolum
Project/Site: Conoco Phillips/COG

Job ID: 880-25621-1
SDG: Lea County, NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-25621-1	SS04A	Solid	03/06/23 12:21	03/08/23 10:03	0.5

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: 25621

www.xenco.com Page 1 of 1

Project Manager	Hadlie Green	Bill to (if different)	Hadlie Green
Company Name	Ensolum, LLC	Company Name	Ensolum, LLC
Address	601 N Marienfeld Street, Suite 400	Address	
City, State ZIP	Midland, TX 79701	City, State ZIP	
Phone	432-557-8895	Email	Hgreen@ensolum.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project: NM
Reporting Level II ☒ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables EDD ☒ ADaPT ☐ Other

Project Name	Corvo Federal 4 CTB (COP)	Turn Around	
Project Number	03D2024061	☑ Routine ☐ Rush	
Project Location	Lea County, NM	Due Date	5 DAY
Sampler's Name	Hadlie Green	TAT starts the day received by the lab if received by 4 30pm	
PO #:	03D2024061		

SAMPLE RECEIPT				
Temp Blank.	Yes (No)	Wet Ice	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID	IR8	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor	-.30	
Sample Custody Seals.	Yes No (N/A)	Temperature Reading	5.3	
Total Containers.		Corrected Temperature	5.0	

ANALYSIS REQUEST

Preservative Codes

None NO DI Water H_2O
Cool Cool MeOH Me
HCL HC HNO_3 HN
H_2SO_4 H_2 NaOH Na
H_3PO_4 HP
$NaHSO_4$ NABIS
$Na_2S_2O_3$ $NaSO_3$
Zn Acetate+NaOH Zn
NaOH+Ascorbic Acid SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	TPH 8015	Chloride 300	BTEX 8021	Sample Comments
SS04A	SL	3/6/2023	12 21	0 5	Grab/	1		X	X	X	1 - 4 oz jar

880-25621 Chain of Custody

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg 1631 / 245 1 / 7470 / 7471

Notice Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by (Signature)	Received by (Signature)	Date/Time	Relinquished by (Signature)	Received by (Signature)	Date/Time
1 Hadlie Green		3/8/23 1003	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 880-25621-1
SDG Number: Lea County, NM

Login Number: 25621
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

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 <6mm (1/4").	N/A	

ENSOLUM

APPENDIX C

Final C-141

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

State of New Mexico
Energy Minerals and Natural Resources 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	OGRID
Contact Name	Contact Telephone
Contact email	Incident # *(assigned by OCD)*
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# *(if applicable)*

Unit Letter	Section	Township	Range	County

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)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release		

Form C-141
Page 2

State of New Mexico
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? ☐ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

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

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

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

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Jocelyn Harimon Date: 07/05/2022

L48 Spill Volume Estimate Form

Facility Name & Number:	Ccorvo fed 4 CTB
Asset Area:	NDBE
Release Discovery Date & Time:	6/10/2022 9:40
Release Type:	Oil Mixture
Provide any known details about the event:	FLARE FIRER OIL CAME OUT OF FLARE

Spill Calculation - Subsurface Spill - Rectangle

Was the release on pad or off-pad?	See reference table below
Has it rained at least a half inch in the last 24 hours?	See reference table below

Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Depth (in.)	Soil Spilled-Fluid Saturation	Estimated volume of each area (bbl.)	Total Estimated Volume of Spill (bbl.)	Percentage of Oil if Spilled Fluid is a Mixture	Total Estimated Volume of Spilled Oil (bbl.)	Total Estimated Volume of Spilled Liquid other than Oil (bbl.)
Rectangle A	30.0	25.0	0.05	10.50%	0.556	0.058	5.00%	0.003	0.055
Rectangle B					0.000	0.000		0.000	0.000
Rectangle C					0.000	0.000		0.000	0.000
Rectangle D					0.000	0.000		0.000	0.000
Rectangle E					#VALUE!	#VALUE!		#VALUE!	#VALUE!
Rectangle F					0.000	0.000		0.000	0.000
Rectangle G					0.000	0.000		0.000	0.000
Rectangle H					0.000	0.000		0.000	0.000
Rectangle I					0.000	0.000		0.000	0.000
					0.000	0.000		0.000	0.000
					Total Volume Release:	0.922		0.088	0.834

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 122657

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 122657
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	7/5/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2217430297
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 feet bgs
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☒ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

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

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Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2217430297
District RP	
Facility ID	
Application ID	

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: Jacob Laird Title: Environmental Engineer

Signature: Jacob Laird Date: 3/31/2023

email: Jacob.Laird@conocophillips.com Telephone: 575-703-5482

OCD Only

Received by: Jocelyn Harimon Date: 04/12/2023

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State of New Mexico
Oil Conservation Division

Incident ID	NAPP2217430297
District RP	
Facility ID	
Application ID	

Closure

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

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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

Printed Name: Jacob Laird Title: Environmental Engineer

Signature: Jacob Laird Date: 3/31/2023

email: Jacob.Laird@conocophillips.com Telephone: 575-703-5482

OCD Only

Received by: Jocelyn Harimon Date: 04/12/2023

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

Closure Approved by: Jennifer Nobui Date: 05/15/2023

Printed Name: Jennifer Nobui Title: Environmental Specialist A

ENSOLUM

APPENDIX D

NMOCD Notifications

From: Enviro, OCD, EMNRD
To: Hadlie Green
Cc: Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD
Subject: RE: [EXTERNAL] ConocoPhillips Company - Sampling Notification (Week of 02/27/2023)
Date: Friday, February 24, 2023 2:45:13 PM
Attachments: image006.png
image007.png
image008.png
image009.png

[**EXTERNAL EMAIL**]

Hadie,

Please be aware that notification requirements are **two business days**, per rule. You may proceed on your schedule. This, and all correspondence, should be included in the closure report to insure inclusion in the project file.

JH

Jocelyn Harimon ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
http:// **www.emnrd.nm.gov**

From: Hadlie Green <hgreen@ensolum.com>
Sent: Friday, February 24, 2023 11:39 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] ConocoPhillips Company - Sampling Notification (Week of 02/27/2023)

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

All,

ConocoPhillips Company (COP) plans to complete sampling activities at the following site the week of February 27, 2023.

- Vast State 002H / NAPP2231148750
- Corvo Federal 4 CTB / NAPP2217430297

Thank you,

Hadlie Green
Staff Geologist
432-557-8895
hgreen@ensolum.com
Ensolum, LLC

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 206922

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 206922
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Approved.	5/15/2023