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	NAPP2224236187
District RP	
Facility ID	
Application ID	

# **Release Notification**

### **Responsible Party**

Responsible Party XTO Energy	OGRID 5380	
Contact Name Garrett Green	Contact Telephone 575-200-0729	
Contact email garrett.green@exxonmobil.com       Incident # (assigned by OCD)		
Contact mailing address 3104 E. Greene Street, Carlsbad, New Mexico, 88220		

### **Location of Release Source**

Latitude 32.31651°

Site Name Nash Unit 36	Site Type Production Well
Date Release Discovered 08/17/2022	API# (if applicable)

Unit Letter	Section	Township	Range	County
K	12	238	29E	Eddy

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

### Nature and Volume of Release

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

▼ Crude Oil	Volume Released (bbls) 7.09	Volume Recovered (bbls) 5.76
▼ Produced Water	Volume Released (bbls) 51.99	Volume Recovered (bbls) 42.24
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	Yes 🗶 No
Condensate	Volume Released (bbls)	Volume Recovered (bbls)
🗌 Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release Worn third-p	equipment caused the stuffing box to release fluids to w barty contractor has been retained for remediation purpos	ell pad. A vacuum truck recovered all free fluids. A ses.

eived by OCD: 2/13/202	State of New Mexico		Page 2
m C-141		Incident ID	NAPP2224236187
e 2	Oil Conservation Division	District RP	
		Facility ID	
		Application ID	
Was this a major	If YES, for what reason(s) does the responsible part	ty consider this a major release?	
release as defined by 19.15.29.7(A) NMAC?	A release greater than 25 barrels.		
🗴 Yes 🗌 No			
If YES, was immediate n	otice given to the OCD? By whom? To whom? Wh	en and by what means (phone, o	email, etc)?
Yes, by Jake Foust to ocd	.enviro@state.nm.us, Mike Bratcher, and Robert Han	nlet on 08/18/2022 via email.	
· •			

### **Initial Response**

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

 $\mathbf{x}$  The source of the release has been stopped.

NA

★ The impacted area has been secured to protect human health and the environment.

Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have <u>not</u> been undertaken, explain why:

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

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

Printed Name:	Title:
Signature: <u>Satt Succ</u> email: <u>garrett.green@exxonmobil.com</u>	Date: <u>8/29/2022</u> Telephone: <u>575-200-0729</u>
OCD Only	
Received by: Jocelyn Harimon	Date:08/30/2022

Location:	Nash Unit 36		
Spill Date:	8/17/2022		
	Area 1		
Approximate A	rea = 82	97.00	sq. ft.
Average Satura	tion (or depth) of spill =	3.00	inches
Average Porosi	ty Factor =	0.03	
	VOLUME OF LEAK		
Total Crude Oil	=	7.09	bbls
Total Produced	Water =	51.99	bbls
	TOTAL VOLUME OF LEAK		
Total Crude Oi	=	7.09	bbls
Total Produced	Water =	51.99	bbls
	TOTAL VOLUME RECOVERED		
Total Crude Oil	=	5.76	bbls
Total Produced	l Water =	42.24	bbls

District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

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

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

CONDITIONS

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	139363
	Action Type:
	[C-141] Release Corrective Action (C-141)
CONDITIONS	

#### CONDITIONS

Created By Condition Condition Date 8/31/2022 jharimon None

Page Seof 129

.

Action 139363

Received by OCD: 2/13/2023 2:36:26 PM Form C-141 State of New Mexico

Oil Conservation Division

	Page 5 of 129
Incident ID	NAPP2224236187
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?	<u>&lt;50</u> (ft bgs)
Did this release impact groundwater or surface water?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	🛛 Yes 🗌 No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	🛛 Yes 🗌 No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	🗌 Yes 🛛 No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	🗌 Yes 🛛 No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	🗌 Yes 🛛 No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of a wetland?	🗌 Yes 🛛 No
Are the lateral extents of the release overlying a subsurface mine?	🗌 Yes 🛛 No
Are the lateral extents of the release overlying an unstable area such as karst geology?	🛛 Yes 🗌 No
Are the lateral extents of the release within a 100-year floodplain?	🗌 Yes 🛛 No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	🗌 Yes 🔀 No

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

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

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data

Page 3

- Data table of soil contaminant concentration data
- $\square$  Depth to water determination
- Determination of water sources and significant watercourses within <sup>1</sup>/<sub>2</sub>-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

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

<b>Received by OCD: 2/13/2023</b> 2	State of New Mexico			Page 6 of 12
			Incident ID	NAPP2224236187
Page 4	Oil Conservation Division		District RP	
			Facility ID	
			Application ID	
regulations all operators are requ public health or the environment failed to adequately investigate a addition, OCD acceptance of a C and/or regulations. Printed Name:Garrett Green	Sum Date	ns and perform co bes not relieve the coundwater, surfa sibility for comp numental Coordin :2/13/202	prrective actions for rele e operator of liability sh ce water, human health liance with any other fe	eases which may endanger ould their operations have or the environment. In deral, state, or local laws
OCD Only Received by: Jocely	n Harimon	Date:02/	/13/2023	

Received by OCD: 2/13/2023 2:36:26 PM State of New Mexico

**Oil Conservation Division** 

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

	Page 7 of 12	29
Incident ID	NAPP2224236187	
District RP		
Facility ID		

Application ID

# **Remediation Plan**

Detailed description of proposed remediation technique Scaled sitemap with GPS coordinates showing delineation points Estimated volume of material to be remediated  $\boxtimes$ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)  $\square$ Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation. Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction. Extents of contamination must be fully delineated. Contamination does not cause an imminent risk to human health, the environment, or groundwater. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. Printed Name: Garrett Green Title: Environmental Coordinator \_\_\_\_\_ Date: \_\_\_\_2/23/2023\_\_\_\_\_ Signature: email: garrett.green@exxonmobil.com Telephone: 575-200-0729 **OCD Only** Jocelyn Harimon 02/13/2023 Received by: Date: Approved Approved with Attached Conditions of Approval Denied Deferral Approved Signature: Date:

Received by OCD: 2/13/2023 2:36:26 PM Form C-141 State of New Mexico

Page 5

Oil Conservation Division

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

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100	14	~							

Incident ID	NAPP2224236187
District RP	
Facility ID	
Application ID	

# **Remediation Plan**

Detailed description of proposed remediation technique Scaled sitemap with GPS coordinates showing delineation points Estimated volume of material to be remediated Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)  $\square$ Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation. Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction. Extents of contamination must be fully delineated. Contamination does not cause an imminent risk to human health, the environment, or groundwater. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. Printed Name: Garrett Green Title: Environmental Coordinator Date: \_\_\_\_\_2/23/2023\_\_\_\_\_ Signature: email: garrett.green@exxonmobil.com Telephone: 575-200-0729 **OCD Only** Jocelyn Harimon 02/13/2023 Received by: Date: Deferral Approved Approved X Approved with Attached Conditions of Approval Denied Robert Hamlet Date: 6/14/2023 Signature:

# **ENSOLUM**

February 13, 2023

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

Re: Remediation Work Plan Nash Unit 36 Incident Number NAPP2224236187 Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *Remediation Work Plan* (*Work Plan*) to document the site assessment activities completed to date and propose a work plan to address impacted soil identified at the Nash Unit 36 (Site). The purpose of the site assessment activities was to delineate the extent of impacted soil resulting from a release of crude oil and produced water at the Site and to assess background chloride concentrations due to the proximity to a salt lake. The following *Work Plan* documents naturally occuring chloride concentrations comparable to those observed within the release extent and proposes excavation of hydrocarbon-impacted soil within the top 1 foot to 2 feet of the release extent.

### SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit K, Section 12, Township 23 South, Range 29 East, in Eddy County, New Mexico (32.31651°, -103.94173°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On August 17, 2022, worn equipment caused the stuffing box to release 7.09 barrels (bbls) of crude oil and 51.99 bbls produced water onto the well pad surface. A vacuum truck was dispatched to the Site and recovered approximately 5.76 bbls of crude oil and 42.24 bbls of produced water. XTO immediately reported the release to the NMOCD via email on August 18, 2022 and submitted a Release Notification Form C-141 (Form C-141) on August 29, 2022. The release was assigned Incident Number nAPP2224236187.

### SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is less than 50 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well C-4594, located approximately 0.78 miles southeast of the Site. The groundwater well has a reported depth to groundwater of 27 feet bgs and a total depth

XTO Energy, Inc. Remediation Work Plan Nash Unit 36

of 38 feet bgs. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a salt lake, located approximately 120 feet north and west of the Site. The Site is within 200 feet from a lakebed, sinkhole, or playa lake but greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is underlain by unstable geology (high potential karst designation area).

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH): 100 mg/kg
- Chloride: 600 mg/kg

### SITE ASSESSMENT AND DELINEATION ACTIVITIES

On September 28, 2022, Ensolum personnel conducted a site visit to evaluate the release extent based on information provided on the Form C-141 and visual observations. Ensolum personnel collected five soil samples (SS01 through SS05) within the release extent from a depth of 0.5 feet bgs. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach<sup>®</sup> chloride QuanTab<sup>®</sup> test strips. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed and a photographic log is included in Appendix B.

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

On November 18, 2022, Ensolum personnel returned to the Site to complete additional delineation to assess the vertical extent of soil impacts and to investigate naturally occurring chloride concentrations in the area. Delination pothole PH01 was advanced near SS04 within the release extent. Delineation potholes PH02 through PH06, collected in as near as possible to the release but in undisturbed areas around the well pad, were advanced via backhoe to a maximum depth of 4 feet bgs. Discrete soil samples were collected from each pothole at depths ranging from 1-foot bgs to 4 feet bgs. Soil from the potholes was field screened for VOCs and chloride. Field screening results and observations were logged on lithologic/soil sampling logs, which are included in Appendix C. The soil samples were handled and analyzed as described above at Eurofins in Carlsbad, New Mexico. The soil sample locations are depicted on Figure 2.



XTO Energy, Inc. Remediation Work Plan Nash Unit 36

### LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all soil samples soil samples collected within the release extent, except for SS04, contained TPH concentrations exceeding the Closure Criteria. Chloride concentrations exceeding 600 mg/kg were not detected in surface samples. The chloride concentration in soil sample PH01A, collected from 2 feet bgs within the release extent, was 1,240 mg/kg.

Laboratory analytical results for the delineation soil samples collected in undisturbed areas outside of the well pad indicated that chloride concentrations range from 3,050 mg/kg in PH02A to 14,600 mg/kg in PH004. Laboratory Analytical Reports & Chain-of-Custody Documentation are presented in Appendix D. NMOCD notifications are presented in Appendix E.

### **PROPOSED REMEDIATION WORK PLAN**

The delineation soil sampling results indicate naturally occurring elevated chloride concentrations are present in undisturbed soils, likely a result of the proximal salt lake. Based on these analytical results, XTO proposes a background chloride concentration of 14,600 mg/kg, which rules out chloride as a constituent of concern (COC) for this release.

Hydrocarbon-impacted soil was identified within the release extent and XTO proposes the following remediation activities:

- Excavation of impacted soil to a depth of approximately 2 feet bgs.
- Excavation will proceed until confirmation soil samples confirm benzene and TPH concentrations are compliant with the Closure Criteria. Confirmation soil samples will be 5-point composite samples representing at most 200 square feet in area. Samples will be collected from the floor and sidewalls of the excavation. Confirmation samples will be analyzed for benzene and TPH only.
- An estimated 730 cubic yards of impacted soil will be excavated. The excavated soil will be transported and disposed of at a New Mexico approved landfill facility for disposal.
- The excavation will be backfilled and recontoured to match pre-existing conditions.

XTO will complete the excavation and soil sampling activities within 90 days of the date of approval of this Work Plan by the NMOCD.

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

Sincerely, Ensolum, LLC

Mouissey

Tacoma Morrissey, MS Senior Geologist

Ushley L. ager

Ashley Ager, PG, MS Program Director



XTO Energy, Inc. Remediation Work Plan Nash Unit 36

### cc: Garrett Green, XTO Shelby Pennington, XTO BLM

Appendices:

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



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**FIGURES** 

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# TABLES

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# **ENSOLUM**

	TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS Nash Unit 36 XTO Energy, Inc. Eddy County, New Mexico													
Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)				
NMOCD Table 1 C	Closure Criteria (	NMAC 19.15.29)	10	50	NE	NE	NE	NE	100	600				
							Maximum Natu	ally Occurring Chlo	ride Concentration	14,600				
				Delii	neation Soil Sa	nples			I					
SS01	09/28/2022	0.5	<0.00201	<0.00402	<250	18,700	3,280	18,700	22,000	312				
SS02	09/28/2022	0.5	<0.00198	<0.00396	<249	15,300	2,360	15,300	17,700	119				
SS03	09/28/2022	0.5	<0.00199	0.0964	<250	9,120	1,670	9,120	10,800	208				
SS04	09/28/2022	0.5	<0.00200	<0.00399	<49.9	68.1	<49.9	68.1	68.1	145				
SS05	09/28/2022	0.5	<0.00199	<0.00398	<250	12,200	1,860	12,200	14,100	128				
PH01	11/18/2022	1	NA	NA	NA	NA	NA	NA	NA	476				
PH01A	11/18/2022	2	NA	NA	NA	NA	NA	NA	NA	1,240				
PH02	11/18/2022	1	NA	NA	NA	NA	NA	NA	NA	4,430				
PH02A	11/18/2022	2	NA	NA	NA	NA	NA	NA	NA	3,050				
PH02B	11/18/2022	3	NA	NA	NA	NA	NA	NA	NA	6,460				
PH02C	11/18/2022	4	NA	NA	NA	NA	NA	NA	NA	4,860				
PH03	11/18/2022	1	NA	NA	NA	NA	NA	NA	NA	7,870				
PH03A	11/18/2022	2	NA	NA	NA	NA	NA	NA	NA	7,520				
PH03B	11/18/2022	3	NA	NA	NA	NA	NA	NA	NA	4,730				
PH04	11/18/2022	1	NA	NA	NA	NA	NA	NA	NA	14,600				
PH05	11/18/2022	1	NA	NA	NA	NA	NA	NA	NA	10,100				
PH05A	11/18/2022	2	NA	NA	NA	NA	NA	NA	NA	5,160				
PH05B	11/18/2022	3	NA	NA	NA	NA	NA	NA	NA	7,330				
PH05C	11/18/2022	4	NA	NA	NA	NA	NA	NA	NA	7,650				
PH06	11/18/2022	1	NA	NA	NA	NA	NA	NA	NA	3,440				
PH06A	11/18/2022	2	NA	NA	NA	NA	NA	NA	NA	4,410				
PH06B	11/18/2022	3	NA	NA	NA	NA	NA	NA	NA	4,110				

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics TPH: Total Petroleum Hydrocarbon

NA: Not Analyzed

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

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

Grey text indicate soil sample removed during excavation activities

\* indicates soil in the top 4 feet of pasture to be reclaimed

Ensolum

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# APPENDIX A

**Referenced Well Records** 

PAGE 1 OF 2



# WELL RECORD & LOG

05E 011 MAR 30 2022 MB:55

# OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

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ION	OSE POD NO POD3 (BH	I-7)	,		WELL TAG ID NO. n/a			OSE FILE NO() C-4594	S).			
OCAT	WELL OWN		<sup>S)</sup> attn:Adrian Baker					PHONE (OPTIC (432)-236-3	,			
GENERAL AND WELL LOCATION	WELL OWN 6401 Holid		ig address Dr.					CITY Midland			TATE exas 79707	ZIP
Q	WELL		D	EGREES	MINUTES	SECON	DS					
ILA	LOCATIO	N L	ATITUDE	32	18	35.3	87 N	* ACCURACY	REQUIRED: O	NE TENTH	OF A SECOND	
ERA	(FROM GP	PS) LO	DNGITUDE	103	55	51.1	8 W	* DATUM REC	QUIRED: WGS	84		
GEN	DESCRIPTIO	ON RELAT	ING WELL LOCATION TO	O STREET ADDR	RESS AND COMMON	LANDMA	ARKS – PLS	S (SECTION, TO	WNSHJIP, RAM	GE) WHERI	E AVAILABLE	
			S R29E, NMPM									
	LICENSE NO		NAME OF LICENSEE						NAME OF W	ELL DRILL	ING COMPANY	
1.1	124	49		1	Jackie D. Atkins				Atl	ins Engine	ering Associates, I	nc.
	DRILLING S 2/21/2		DRILLING ENDED 2/21/2022	DEPTH OF CO	MPLETED WELL (F1 38	Г)		LE DEPTH (FT) ±38	DEPTH WA	TER FIRST F	ENCOUNTERED (FT) 27	
z	COMPLETE	D WELL IS:	ARTESIAN	DRY HOI	E 🖌 SHALLO	W (UNCO	NFINED)		I WATER LEVE PLETED WELL		DATE STATIC	
TIO	DRILLING F	LUID:	AIR	MUD	ADDITIV	ES – SPEC	IFY:					
& CASING INFORMATION	DRILLING M	TETHOD:	ROTARY HAM	MER CABI	LE TOOL 🔽 OTH	ER – SPEC	IFY: H	Iollow Stem	Auger	CHECK HE	RE IF PITLESS ADAI D	PTER IS
INF	DEPTH	(feet bgl)	BORE HOLE	CASING	MATERIAL AND	D/OR	CA	ASING	CASIN	G	ASING WALL SLOT	
DNG	FROM	то	DIAM	(include	GRADE each casing string,	and	CONN	NECTION	INSIDE D		THICKNESS	SIZE
ASI			(inches)		sections of screen)			YPE ling diameter)	(inche	s)	(inches)	(inches)
	0	28	±6.5	2" S	CH 40 PVC Riser		Flush T	hread 2 TPI	2.067		0.154	
2. DRILLING	28	38	±6.5	2" SC	CH 40 PVC Screen	l	Flush T	hread 2 TPI	2.067		0.154	0.010
DR												
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**       Shane Eldridge, Cameron Pruitt         THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:         Jack Atkina       Jackie D. Atkins         SIGNATURE OF DRILLER / PRINT SIGNEE NAME       DATE         FOR OSE INTERNAL USE       WR-20 WELL RECORD & LOG (Version 01/28/2022)         FILE NO.       C-USGU	DE						5		1	U			
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CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:	v	Sha	ne Eldrid	lge, Camer	on Pruitt								
SIGNATURE OF DRILLER / PRINT SIGNEE NAME     DATE       FOR OSE INTERNAL USE     WR-20 WELL RECORD & LOG (Version 01/28/2022)       FILE NO.     C - 4594       POD NO.     POD 3       TRN NO.     FQ122	TIRE	TH CO AN	RRECT R	ECORD OF	F THE ABOVE I	DESCRIBED HOLE AN	D THAT HE OR SHE WILL	L FILE THIS	ND BELIEF, T WELL RECOF	HE FORE D WITH	GOING I THE STA	S A TRUE AND ATE ENGINEER	
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					jU		POD NO. PDD2				LUG (Ver	sion 01/28/2022)	
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# APPENDIX B

Photographic Log

Released to Imaging: 6/14/2023 10:26:27 AM





APPENDIX C

Lithologic Soil Sampling Logs

[							Sample Name: PH01	Date: 11/18/22	
			C			R A	Site Name: Nash Unit 36	, ,	
			3	OL			Incident Number: nAPP222423618	87	
							Job Number: 03C1558117		
	LITHOLO	DGI	C / SOIL S	AMPLING	LOG		Logged By: Connor Whitman	Method: Backhoe	
Coordinates: 32	2.31651,-1	03.9	41732				Hole Diameter: ~3'	Total Depth: 2'	
						PID for chloride and vapor, respect factors included.	tively. Chloride test		
Moisture Content Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
				1	0				
М	0	N	PH01	+ + + + +	- 1	SP	Very fine, red sand		
М	0	Ν	PH01A	+	2	SW	Very fine, red sand/caliche		
					3 4 5 6 7 8 9 10 11 11				

									Sample Name: PH02	Date: 11/18/22
				N	C	ΟΙ		R A	Site Name: Nash Unit 36	
					2				Incident Number: nAPP2224236	187
									Job Number: 03C1558117	
			lithol	OGI	c / soil s	SAMPLING	LOG		Logged By: Connor Whitman	Method: Backhoe
			.31651,-						Hole Diameter: ~3'	Total Depth: 4'
				-					PID for chloride and vapor, respe factors included.	ctively. Chloride test
Moisture	<u>Content</u> Chloride	(mdd)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic De	escriptions
						1	0			
						_	- _			
Μ	8,1	64	0	Ν	PH02	+	1	SP	Very fine, red silty sand	
Μ	5,4	99	0	Ν	PH02A	+	2	SP	Very fine, red silty sand	
М	11,1	10	0	Ν	PH02B	+ + +	3	SW	Clavev caliche	
М	6,9	88	0	Ν	PH02C	+ + + +	4	SP	Very fine, red sand/calyey	caliche
						+ + +	5			
						+	6			
						+ + + +	- - 7			
						+ + + +	8			
						+ + +	- - 9			
							10			
						+	_			
						+	11			
							12			

								Sample Name: PH03	Date: 11/18/22
				C				Site Name: Nash Unit 36	
					ΟΙ			Incident Number: nAPP22242361	187
								Job Number: 03C1558117	
		LITHOL	.OGI		SAMPLING	LOG		Logged By: Connor Whitman	Method: Backhoe
Coor	dinates: 3	2.31651,-						Hole Diameter: ~3'	Total Depth: 4'
			-					PID for chloride and vapor, respective factors included.	ctively. Chloride test
Moisture	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic De	escriptions
					L	0			
					-	-			
М	9,290	0	N	PH03		1	SW	Fine brown sand/silty calic	he
м	6,776	0	N	PH03A	-	2	SW	Fine brown sand/silty calic	he
М	7,341	0	N	РНОЗВ	-	3	SW	Clavev gravel	
					-	4		Saturated Soil	
					-	- 5			
					-	6			
					-	7			
					-	8			
					-	9			
					-	10			
					-	11			
					-	12			

								Sample Name: PH04	Date: 11/18/22		
				C				Site Name: Nash Unit 36			
				3	ΟΙ			Incident Number: nAPP222423618	37		
								Job Number: 03C1558117			
		LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: Connor Whitman	Method: Backhoe		
		2.31651,-						Hole Diameter: ~3'	Total Depth: 4'		
								PID for chloride and vapor, respect factors included.	ively. Chloride test		
Moisture Content (ppm)Moisture Content 								Lithologic Descriptions			
					I	0					
м	28,817	0	N	PH04	+ + + + +	1	SP	Very fine brown sand/silty c	aliche		
					+	2		Saturated Soil			
					+	_					
					-	3					
					-	_					
					+	4					
					+ +	_					
					+	5					
						- -					
					+	6					
					+	7					
						- ·					
					-	8					
					+	-					
						9					
					+	10					
						11					
					+	_					
					-	12					

								Sample Name: PH05	Date: 11/18/22
			N	C	Ο		R A	Site Name: Nash Unit 36	
								Incident Number: nAPP2224236	187
								Job Number: 03C1558117	
		LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: Connor Whitman	Method: Backhoe
	dinates: 32							Hole Diameter: ~3'	Total Depth: 4'
			-					PID for chloride and vapor, respe factors included.	ctively. Chloride test
Moisture	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic D	escriptions
					4	0			
					+	_			
М	8,820	0.2	Ν	PH05	+	1	SP	Very fine brown sand/calid	che
М	15,265	0.2	N	PH05A		2	CCHE	Clayey caliche	
					+				
М	9,520	0.2	N	PH05B	+	3	CCHE	Clavey caliche	
	-,				+				
М	8,820	0.2		PH05C		4	CCHE	Clayey caliche	
						-			
						5			
					+	6			
					+	_			
					+	7			
						_			
					+	8			
						9			
						=			
						10			
					+ +	-			
						11			
						-			
					<u> </u>	12			

									Sample Name: PH06	Date: 11/18/22
				N	C			ВЛ	Site Name: Nash Unit 36	
					3	ΟΙ			Incident Number: nAPP22242361	87
									Job Number: 03C1558117	
			lithol	OGI	C / SOIL S	SAMPLING	LOG		Logged By: Connor Whitman	Method: Backhoe
			2.31651,-						Hole Diameter: ~3'	Total Depth: 3'
									PID for chloride and vapor, respec factors included.	tively. Chloride test
Moisture	<u>Content</u> Chloride	(mdd)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic De	scriptions
						Ц	0			
						-	-			
М	5,9	964	0.1	Ν	PH06	-	1	SP	Verv fine brown sand/calic	he
М	5,9	964	0	Ν	PH06A	+	2	SP	Very fine brown sand/calic	he
М	5,9	964	0	N	PH06B	+	3	SP	Verv fine brown sand/calic	he
						-	4			
						+ + +	5			
						+ + +	6			
						+ + +	7			
						+	8			
						- - -	9			
						-	10			
						+ + +	11			
						-	12			



# APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

Received by OCD: 2/13/2023 2:36:26 PM

----- Links

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# Environment Testing America

# **ANALYTICAL REPORT**

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

### Laboratory Job ID: 890-3106-1

Laboratory Sample Delivery Group: 03E1558117 Client Project/Site: NASH UNIT 36

## For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Tacoma Morrissey

RAMER

Authorized for release by: 10/11/2022 4:18:13 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.

SDG: 03E1558117

Laboratory Job ID: 890-3106-1

# **Table of Contents**

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	5
Client Sample Results	6
Surrogate Summary	10
QC Sample Results	11
QC Association Summary	15
Lab Chronicle	17
Certification Summary	19
Method Summary	20
Sample Summary	21
Chain of Custody	22
Receipt Checklists	23



Page 33 of 129

ceived by O	CD: 2/13/2023 2:36:26 PM	Page 33 of 12	29
	Definitions/Glossary		
Client: Enso Project/Site:	lum NASH UNIT 36	Job ID: 890-3106-1 SDG: 03E1558117	
Qualifiers			3
GC VOA Qualifier	Qualifier Description		4
*+	LCS and/or LCSD is outside acceptance limits, high biased.		
F1	MS and/or MSD recovery exceeds control limits.		5
F2	MS/MSD RPD exceeds control limits		
S1-	Surrogate recovery exceeds control limits, low biased.		6
U	Indicates the analyte was analyzed for but not detected.		
GC Semi VC	A		
Qualifier	Qualifier Description		
*1	LCS/LCSD RPD exceeds control limits.		8
F1	MS and/or MSD recovery exceeds control limits.		
S1-	Surrogate recovery exceeds control limits, low biased.		0
S1+	Surrogate recovery exceeds control limits, high biased.		
U	Indicates the analyte was analyzed for but not detected.		
HPLC/IC			
Qualifier	Qualifier Description		
F1	MS and/or MSD recovery exceeds control limits.		
U	Indicates the analyte was analyzed for but not detected.		

	 	_	 	-
-				

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)

Job ID: 890-3106-1

### **Definitions/Glossary**

Client: Ensolum			
Project/Site: NASH UNIT 36			

SDG: 03E1558117

Glossary (C	Continued)
Abbreviation	These commonly used abbreviations may or may not be present in this report.

TNTC

Too Numerous To Count

Eurofins Carlsbad

Job ID: 890-3106-1 SDG: 03E1558117

#### Job ID: 890-3106-1

#### Laboratory: Eurofins Carlsbad

#### Narrative

Job Narrative 890-3106-1

#### Receipt

The samples were received on 9/29/2022 8:35 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.4°C

#### GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-36450 and analytical batch 880-36624 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: o-Xylene biased high in LCSD. Since only an acceptable LCS is required per the method, the data has been qualified and reported.(LCSD 880-36450/2-A)

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

#### GC Semi VOA

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (890-3104-A-1-B MS) and (890-3104-A-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: SS01 (890-3106-1), SS02 (890-3106-2), SS03 (890-3106-3) and SS05 (890-3106-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-35819 and analytical batch 880-35738 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-35819 and analytical batch 880-35738 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 880-36006 and analytical batch 880-36264 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.

RL

0.00201

0.00201

0.00201

0.00402

0.00201

0.00402

Limits

70 - 130

70 - 130

RL

0.00402

Job ID: 890-3106-1 SDG: 03E1558117

### **Client Sample ID: SS01**

Project/Site: NASH UNIT 36

Date Collected: 09/28/22 14:00 Date Received: 09/29/22 08:35

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

Method: TAL SOP Total BTEX - Total BTEX Calculation

Result Qualifier

<0.00201 U

<0.00201 U

<0.00201 U

<0.00402 U

<0.00402 U

%Recovery

<0.00201 U\*+

73

97

<0.00402 U

Result Qualifier

Qualifier

Sample Depth: 0.5

Client: Ensolum

Analyte

Benzene

Toluene

o-Xylene

Surrogate

Analyte

Total BTEX

Ethylbenzene

Xylenes, Total

m-Xylene & p-Xylene

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

Lab Sample ID: 890-3106-1

Analyzed

10/11/22 14:10

10/11/22 14:10

10/11/22 14:10

10/11/22 14:10

10/11/22 14.10

10/11/22 14:10

Analyzed

10/11/22 14:10

10/11/22 14:10

Analyzed

10/11/22 15:00

Matrix: Solid

	5
Dil Fac 1	6
1	
1	
1 1	8
Dil Fac	9
1 1	
Dil Fac	
1	
Dil Fac	13

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	22000		250	mg/Kg			10/03/22 11:45	1
Method: SW846 8015B NM - Diese	el Range Orga	inics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<250	U *1	250	mg/Kg		09/30/22 14:01	10/01/22 03:02	5
Diesel Range Organics (Over C10-C28)	18700		250	mg/Kg		09/30/22 14:01	10/01/22 03:02	5
Oll Range Organics (Over C28-C36)	3280		250	mg/Kg		09/30/22 14:01	10/01/22 03:02	5
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	79		70 - 130			09/30/22 14:01	10/01/22 03:02	5
o-Terphenyl	434	S1+	70 - 130			09/30/22 14:01	10/01/22 03:02	5

Unit

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

Unit

mg/Kg

D

D

Prepared

10/08/22 13:26

10/08/22 13:26

10/08/22 13:26

10/08/22 13:26

10/08/22 13:26

10/08/22 13:26

Prepared

10/08/22 13:26

10/08/22 13:26

Prepared

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	312		4.98	mg/Kg			10/06/22 12:25	1
Client Sample ID: SS02						Lab Sa	mple ID: 890-	3106-2

#### Date Collected: 09/28/22 14:05 Date Received: 09/29/22 08:35 Sample Depth: 0.5

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		10/08/22 13:26	10/11/22 15:32	1
Toluene	<0.00198	U	0.00198	mg/Kg		10/08/22 13:26	10/11/22 15:32	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		10/08/22 13:26	10/11/22 15:32	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		10/08/22 13:26	10/11/22 15:32	1
o-Xylene	<0.00198	U *+	0.00198	mg/Kg		10/08/22 13:26	10/11/22 15:32	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		10/08/22 13:26	10/11/22 15:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	76		70 - 130			10/08/22 13:26	10/11/22 15:32	1

**Eurofins Carlsbad** 

### Released to Imaging: 6/14/2023 10:26:27 AM

Matrix: Solid
# **Client Sample Results**

Job ID: 890-3106-1 SDG: 03E1558117

Matrix: Solid

5

Lab Sample ID: 890-3106-2

# **Client Sample ID: SS02**

Date Collected: 09/28/22 14:05 Date Received: 09/29/22 08:35

Project/Site: NASH UNIT 36

Sample Depth: 0.5

Client: Ensolum

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

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1,4-Difluorobenzene (Surr)	85		70 - 130			10/08/22 13:26	10/11/22 15:32	
Method: TAL SOP Total BTEX - T	otal BTEX Calo	ulation						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00396	U	0.00396	mg/Kg			10/11/22 15:00	
Method: SW846 8015 NM - Diese	I Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	17700		249	mg/Kg			10/03/22 11:45	
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Casalina Danga Organiaa	<249	U *1	249	mg/Kg		09/30/22 14:01	10/01/22 03:24	
0 0				0 0			10/01/22 00:21	
(GRO)-C6-C10	15300		249			09/30/22 14:01	10/01/22 03:24	
(GRO)-C6-C10 Diesel Range Organics (Over	15300		249	mg/Kg		09/30/22 14:01		
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	15300 2360		249 249			09/30/22 14:01 09/30/22 14:01		:
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)		Qualifier		mg/Kg			10/01/22 03:24	
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	2360	Qualifier	249	mg/Kg		09/30/22 14:01	10/01/22 03:24 10/01/22 03:24	

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	119	5.05	mg/Kg			10/06/22 12:31	1

# **Client Sample ID: SS03**

Date Collected: 09/28/22 14:15 Date Received: 09/29/22 08:35 Sample Depth: 0.5

# Lab Sample ID: 890-3106-3

Matrix: Solid

Method: SW846 8021B - Volatile	organic Comp	ounds (GC)	)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	< 0.00199	U	0.00199	mg/Kg		10/08/22 13:26	10/11/22 15:53	1
Toluene	0.0192		0.00199	mg/Kg		10/08/22 13:26	10/11/22 15:53	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/08/22 13:26	10/11/22 15:53	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/08/22 13:26	10/11/22 15:53	1
o-Xylene	0.0772	*+	0.00199	mg/Kg		10/08/22 13:26	10/11/22 15:53	1
Xylenes, Total	0.0772		0.00398	mg/Kg		10/08/22 13:26	10/11/22 15:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		70 - 130			10/08/22 13:26	10/11/22 15:53	1
1,4-Difluorobenzene (Surr)	71		70 - 130			10/08/22 13:26	10/11/22 15:53	1
- Method: TAL SOP Total BTEX -	Total BTEX Calo	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.0964		0.00398	mg/Kg			10/11/22 15:00	1
- Method: SW846 8015 NM - Dies	el Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	10800		250	mg/Kg			10/03/22 11:45	1

Eurofins Carlsbad

# **Client Sample Results**

Job ID: 890-3106-1 SDG: 03E1558117

Matrix: Solid

Lab Sample ID: 890-3106-3

# Client Sample ID: SS03

Project/Site: NASH UNIT 36

Date Collected: 09/28/22 14:15 Date Received: 09/29/22 08:35

Sample Depth: 0.5

Client: Ensolum

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<250	U *1	250	mg/Kg		09/30/22 14:01	10/01/22 03:45	Ę
Diesel Range Organics (Over C10-C28)	9120		250	mg/Kg		09/30/22 14:01	10/01/22 03:45	Ę
Oll Range Organics (Over C28-C36)	1670		250	mg/Kg		09/30/22 14:01	10/01/22 03:45	ę
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	93		70 - 130			09/30/22 14:01	10/01/22 03:45	
o-Terphenyl	193	S1+	70 - 130			09/30/22 14:01	10/01/22 03:45	1

# Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	208		4.96	mg/Kg			10/06/22 12:48	1

# Client Sample ID: SS04

# Date Collected: 09/28/22 14:20

# Date Received: 09/29/22 08:35

Sample Depth: 0.5

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/08/22 13:26	10/11/22 16:13	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/08/22 13:26	10/11/22 16:13	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/08/22 13:26	10/11/22 16:13	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/08/22 13:26	10/11/22 16:13	1
o-Xylene	<0.00200	U *+	0.00200	mg/Kg		10/08/22 13:26	10/11/22 16:13	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/08/22 13:26	10/11/22 16:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		70 - 130			10/08/22 13:26	10/11/22 16:13	1
1,4-Difluorobenzene (Surr)	72		70 - 130			10/08/22 13:26	10/11/22 16:13	1
- Method: TAL SOP Total BTEX - T	otal BTEX Cal	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			10/11/22 15:00	1
Method: SW846 8015 NM - Diese	Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	68.1		49.9	mg/Kg			10/03/22 11:45	1
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
			· · ·	11	D	Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	Unit			Analyzou	Dirrac
	Result <49.9		49.9 <b>RL</b>	mg/Kg		09/30/22 14:01	10/01/22 02:41	1
Gasoline Range Organics (GRO)-C6-C10	<49.9		49.9	mg/Kg		09/30/22 14:01	10/01/22 02:41	1
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over						<u> </u>		1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	<49.9	U *1	49.9	mg/Kg		09/30/22 14:01	10/01/22 02:41	1 1
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<49.9 68.1	U *1	49.9	mg/Kg		09/30/22 14:01 09/30/22 14:01	10/01/22 02:41 10/01/22 02:41	Dil Fac
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	<49.9 68.1 <49.9	U *1	49.9 49.9 49.9	mg/Kg		09/30/22 14:01 09/30/22 14:01 09/30/22 14:01	10/01/22 02:41 10/01/22 02:41 10/01/22 02:41	1

		Clier	it Sample Re	sults				
Client: Ensolum							Job ID: 890	
Project/Site: NASH UNIT 36							SDG: 03E	1558117
Client Sample ID: SS04						Lab San	nple ID: 890-	3106-4
Date Collected: 09/28/22 14:20								ix: Solid
Date Received: 09/29/22 08:35								
Sample Depth: 0.5								
<u> </u>								
Method: MCAWW 300.0 - Anion					_	- ·		
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	145		4.98	mg/Kg			10/06/22 12:54	1
Client Sample ID: SS05						Lab San	nple ID: 890-	3106-5
Date Collected: 09/28/22 14:25							Matri	ix: Solid
Date Received: 09/29/22 08:35								
Sample Depth: 0.5								
			<b>`</b>					
Method: SW846 8021B - Volatile Analyte		Qualifier	) RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	-	0.00199	0mt mg/Kg		10/08/22 13:26	10/11/22 16:34	1
Toluene	< 0.00199		0.00199	mg/Kg		10/08/22 13:26	10/11/22 16:34	1
Ethylbenzene	< 0.00199		0.00199	mg/Kg		10/08/22 13:26	10/11/22 16:34	1
m-Xylene & p-Xylene	<0.00199		0.00398	mg/Kg		10/08/22 13:26	10/11/22 16:34	י 1
o-Xylene	<0.00390		0.00199	mg/Kg		10/08/22 13:26	10/11/22 16:34	1
Xylenes, Total	< 0.00398		0.00398	mg/Kg		10/08/22 13:26	10/11/22 16:34	1
	~0.00390	0	0.00398	ilig/Rg		10/00/22 13.20	10/11/22 10.34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	66	S1-	70 - 130			10/08/22 13:26	10/11/22 16:34	1
1,4-Difluorobenzene (Surr)	103		70 - 130			10/08/22 13:26	10/11/22 16:34	1
Method: TAL SOP Total BTEX -			5	1114		Durant	Ameliana	D!!
		Qualifier		<u>Unit</u>	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00398	mg/Kg			10/11/22 15:00	I
	el Range Organ	ics (DRO) (	GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	14100		250	mg/Kg			10/03/22 11:45	1
_								
Method: SW846 8015B NM - Die			(GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<250	U *1	250	mg/Kg		09/30/22 14:01	10/01/22 04:07	5
(GRO)-C6-C10 Diesel Range Organics (Over	12200		250	mg/Kg		09/30/22 14:01	10/01/22 04:07	5
C10-C28)	12200		200	ing/itg		55/00/22 17.01	10/0 1/22 04.07	5
Oll Range Organics (Over C28-C36)	1860		250	mg/Kg		09/30/22 14:01	10/01/22 04:07	5
0	<i></i>	0	1 : : 4 -			Duran (	Amel	D.1 F
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	108	S1+	70 - 130 70 - 130			09/30/22 14:01	10/01/22 04:07 10/01/22 04:07	5
o-Terphenyl	239	S1+	70 - 130			09/30/22 14:01	10/01/22 04.07	5
Method: MCAWW 300.0 - Anior	is, Ion Chromato	ography - S	oluble					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

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

				Percent Surrogate Recovery (Acceptance Lim
		BFB1	DFBZ1	
Sample ID	Client Sample ID	(70-130)	(70-130)	
105-A-1-C MS	Matrix Spike	85	101	
105-A-1-D MSD	Matrix Spike Duplicate	82	100	
106-1	SS01	73	97	
06-2	SS02	76	85	
106-3	SS03	79	71	
106-4	SS04	83	72	
06-5	SS05	66 S1-	103	
0-36450/1-A	Lab Control Sample	111	99	
880-36450/2-A	Lab Control Sample Dup	122	106	
380-36450/5-A	Method Blank	88	91	

# rogate Legent

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Μ	a	tri	х:	S	oli	id

		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3104-A-1-B MS	Matrix Spike	69 S1-	61 S1-
890-3104-A-1-C MSD	Matrix Spike Duplicate	71	61 S1-
890-3106-1	SS01	79	434 S1+
890-3106-2	SS02	109	292 S1+
890-3106-3	SS03	93	193 S1+
890-3106-4	SS04	93	94
890-3106-5	SS05	108	239 S1+
LCS 880-35819/2-A	Lab Control Sample	106	110
LCSD 880-35819/3-A	Lab Control Sample Dup	94	98
MB 880-35819/1-A	Method Blank	108	116

# Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Prep Type: Total/NA

5 6

Prep Type: Total/NA

# **QC Sample Results**

Job ID: 890-3106-1 SDG: 03E1558117

Prep Type: Total/NA

**Client Sample ID: Method Blank** 

Project/Site: NASH UNIT 36 Method: 8021B - Volatile Organic Compounds (GC)

	Lab Sample ID: MB 880	-36450/5-A
--	-----------------------	------------

Matrix: Solid Analysis Batch: 36624

Client: Ensolum

Analysis Batch: 36624							Prep Batch	n: 36450
	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	< 0.00200	U	0.00200	mg/Kg		10/08/22 13:26	10/11/22 10:43	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/08/22 13:26	10/11/22 10:43	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/08/22 13:26	10/11/22 10:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/08/22 13:26	10/11/22 10:43	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/08/22 13:26	10/11/22 10:43	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/08/22 13:26	10/11/22 10:43	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130			10/08/22 13:26	10/11/22 10:43	1
1,4-Difluorobenzene (Surr)	91		70 - 130			10/08/22 13:26	10/11/22 10:43	1

# Lab Sample ID: LCS 880-36450/1-A Matrix: Solid

# Analysis Batch: 36624

	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	0.100	0.08634		mg/Kg		86	70 - 130
Toluene	0.100	0.08646		mg/Kg		86	70 - 130
Ethylbenzene	0.100	0.08708		mg/Kg		87	70 - 130
m-Xylene & p-Xylene	0.200	0.1903		mg/Kg		95	70 - 130
o-Xylene	0.100	0.1090		mg/Kg		109	70 - 130

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	111		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

# Lab Sample ID: LCSD 880-36450/2-A

# Matrix: Solid

	Analysis Batch: 36624							Prep	Batch:	36450
		Spike	LCSD	LCSD				%Rec		RPD
	Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
	Benzene	0.100	0.09637		mg/Kg		96	70 - 130	11	35
	Toluene	0.100	0.09772		mg/Kg		98	70 - 130	12	35
	Ethylbenzene	0.100	0.1077		mg/Kg		108	70 - 130	21	35
	m-Xylene & p-Xylene	0.200	0.2381		mg/Kg		119	70 - 130	22	35
	o-Xylene	0.100	0.1334	*+	mg/Kg		133	70 - 130	20	35
I										

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

# Lab Sample ID: 890-3105-A-1-C MS

## Matrix: Solid .....

Analysis Batch: 36624									Prep	o Batch: 36450
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	< 0.00202	U F1 F2	0.0998	0.01209	F1	mg/Kg		12	70 - 130	
Toluene	<0.00202	U F1 F2	0.0998	0.007769	F1	mg/Kg		8	70 - 130	

sbad

Prep Type: Total/NA

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

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 36450

Prep Type: Total/NA

Eurofins	Carls

**Client Sample ID: Matrix Spike** 

Lab Sample ID: 890-3105-A-1-C MS

# **QC Sample Results**

MS MS

0.008280 F1

0.01613 F1

0.01470 F1

MSD MSD

**Result Qualifier** 

Unit

mg/Kg

mg/Kg

mg/Kg

Spike

Added

0.0998

0.200

0.0998

Limits

70 - 130

70 - 130

Spike

Project/Site: NASH UNIT 36

Analysis Batch: 36624

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

Analysis Batch: 36624

Lab Sample ID: 890-3105-A-1-D MSD

Matrix: Solid

Analyte

o-Xylene

Surrogate

Matrix: Solid

Ethylbenzene

m-Xylene & p-Xylene

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

Sample Sample

<0.00202 U F1 F2

<0.00403 U F1 F2

<0.00202 U\*+ F1

85

101

Sample Sample

%Recovery

F2 MS MS

Qualifier

**Result Qualifier** 

Page	42	of 1.	29

Job ID: 890-3106-1 SDG: 03E1558117

Prep Type: Total/NA

Prep Batch: 36450

**Client Sample ID: Matrix Spike** 

%Rec

Limits

70 - 130

70 - 130

70 - 130

%Rec

8

8

15

D

# 7

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

be: Total/NA	
atch: 36450	
RPD	

		Prep	Batch:	36450
		%Rec		RPD
D	%Rec	Limits	RPD	Limit

Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	<0.00202	U F1 F2	0.0996	0.003787	F1 F2	mg/Kg		4	70 - 130	105	35	2
Toluene	<0.00202	U F1 F2	0.0996	0.002329	F1 F2	mg/Kg		2	70 - 130	108	35	
Ethylbenzene	<0.00202	U F1 F2	0.0996	0.002969	F1 F2	mg/Kg		3	70 _ 130	94	35	2
m-Xylene & p-Xylene	<0.00403	U F1 F2	0.199	0.006455	F1 F2	mg/Kg		3	70 - 130	86	35	
o-Xylene	<0.00202	U *+ F1	0.0996	0.004802	F1 F2	mg/Kg		5	70 - 130	102	35	
		F2										
	MSD	MSD										

	10150 10	150	
Surrogate	%Recovery G	Qualifier	Limits
4-Bromofluorobenzene (Surr)	82		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

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

Lab Sample ID: MB 880-35819/1-A								Client Sa	mple ID: Metho	d Blank
Matrix: Solid									Prep Type: 1	Total/N/
Analysis Batch: 35738									Prep Batch	n: 35819
	MB	MB								
Analyte	Result	Qualifier	RL		Unit		D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg	)		09/30/22 14:01	09/30/22 19:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg	)		09/30/22 14:01	09/30/22 19:10	
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg	9		09/30/22 14:01	09/30/22 19:10	
	МВ	МВ								
Surrogate	%Recovery	Qualifier	Limits					Prepared	Analyzed	Dil Fa
1-Chlorooctane	108		70 _ 130					09/30/22 14:01	09/30/22 19:10	
o-Terphenyl	116		70 - 130					09/30/22 14:01	09/30/22 19:10	
Lab Sample ID: LCS 880-35819/2-A							С	lient Sample I	D: Lab Control	Sample
Matrix: Solid									Prep Type: 1	Fotal/NA
Analysis Batch: 35738									Prep Batch	n: 35819
-			Spike	LCS	LCS				%Rec	
Analyte			hebhA	Rosult	Qualifier	Unit		D %Rec	l imits	

Analyte Added Result Qualifier Unit %Rec Limits 1000 1130 113 70 - 130 Gasoline Range Organics mg/Kg (GRO)-C6-C10

# **QC Sample Results**

Client: Ensolum Project/Site: NASH UNIT 36

# Job ID: 890-3106-1 SDG: 03E1558117

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

Lab Sample ID: LCS 880-35 Matrix: Solid	819/2-A						Client	t Sample	ID: Lab Co Prep 1	ontrol Sa Type: Tot	
Analysis Batch: 35738										Batch:	
			Spike	1.05	LCS				%Rec	Daten.	0001
Analyte			Added		Qualifier	Unit	D	%Rec	Limits		
Diesel Range Organics (Over			1000	983.8	guanito	mg/Kg		98	70 - 130		
C10-C28)			1000	505.0		ing/itg		50	70 - 100		
Currente		LCS	Limite								
Surrogate 1-Chlorooctane	%Recovery 106	Qualifier									
	100		70 - 130 70 - 130								
o-Terphenyl	110		70 - 730								
Lab Sample ID: LCSD 880-3	35819/3-A					Clie	nt Sam	nple ID:	Lab Contro	ol Sample	e Duj
Matrix: Solid								· · · ·		· Type: Tot	
Analysis Batch: 35738										Batch:	
-			Spike	LCSD	LCSD				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limi
Gasoline Range Organics			1000	805.1	*1	mg/Kg		81	70 - 130	34	2
(GRO)-C6-C10								_			
Diesel Range Organics (Over C10-C28)			1000	871.5		mg/Kg		87	70 - 130	12	2
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	94		70 - 130								
o-Terphenyl	98		70 - 130								
Lab Sample ID: 890-3104-A	-1-B MS							Client	Sample ID	: Matrix	Spike
Matrix: Solid										Type: To	
Analysis Batch: 35738										Batch:	
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	998	887.3		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)	563	F1	998	954.4	F1	mg/Kg		39	70 - 130		
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	69	S1-	70 - 130								
o-Terphenyl	61	S1-	70 _ 130								
Lab Sample ID: 890-3104-A	-1-C MSD					CI	ient Sa	ample IC	): Matrix S	pike Dun	licat
Matrix: Solid										Type: To	
Analysis Batch: 35738										Batch:	
	Sample	Sample	Spike	MSD	MSD				%Rec		RPI
Analyte	-	Qualifier	Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limi
Gasoline Range Organics (GRO)-C6-C10	<50.0		999	976.8		mg/Kg		96	70 - 130	10	2
Diesel Range Organics (Over C10-C28)	563	F1	999	983.3	F1	mg/Kg		42	70 - 130	3	2
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane			70 - 130								

Client: Ensolum

Project/Site: NASH UNIT 36

# **QC Sample Results**

Job ID: 890-3106-1 SDG: 03E1558117

# Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36006/1-A										Client S	ample ID:		
Matrix: Solid											Prep	Type: S	oluble
Analysis Batch: 36264													
		MB											
Analyte			Qualifier			Un	-	D	Pi	epared	Analyz		Dil Fac
Chloride	<	\$.00	U		5.00	mg	J/Kg				10/06/22	11:38	
Lab Sample ID: LCS 880-36006/2-A								Cli	ent	Sample	ID: Lab Co	ontrol S	ample
Matrix: Solid											Prep	Type: S	olubl
Analysis Batch: 36264													
-				Spike	LC	LCS					%Rec		
Analyte				Added	Resu	t Qualifier	r Unit		D	%Rec	Limits		
Chloride				250	241.	3	mg/Kg			97	90 - 110		
Lab Sample ID: LCSD 880-36006/3	-0						CI	ient S	am	nle ID <sup>.</sup> I	Lab Contro	l Samnl	e Dui
Matrix: Solid	^						•					Type: S	
Analysis Batch: 36264											TTOP	1900.0	orabi
				Spike	LCSI	LCSD					%Rec		RPI
Analyte				Added	Resu	t Qualifier	r Unit		D	%Rec	Limits	RPD	Limi
Chloride				250	258.	)	mg/Kg		_	103	90 - 110	7	2
										Client	Sample ID	: Matrix	Spik
Lab Sample ID: 880-19869-A-1-B M	IS												
the second se	IS										Prep	Type: S	olubl
Matrix: Solid	IS										Prep	Type: S	oluble
Matrix: Solid	IS Sample	Samı	ple	Spike	M	6 MS					Prep %Rec	Type: S	oluble
Matrix: Solid Analysis Batch: 36264				Spike Added		5 MS t Qualifier	r Unit		D	%Rec		Type: S	olubl
Matrix: Solid Analysis Batch: 36264 Analyte	Sample	Quali				t Qualifier	r <u>Unit</u> mg/Kg		<u>D</u>	%Rec 100	%Rec	Type: S	olubl
Matrix: Solid Analysis Batch: 36264 Analyte Chloride	Sample Result 840	Quali		Added	Resu	t Qualifier	mg/Kg	Clien	_	100	%Rec Limits 90 - 110		
Matrix: Solid Analysis Batch: 36264 Analyte Chloride Lab Sample ID: 880-19869-A-1-C M	Sample Result 840	Quali		Added	Resu	t Qualifier	mg/Kg	Clien	_	100	%Rec Limits 90 - 110 D: Matrix Sp	 Dike Dup	Dicate
Matrix: Solid Analysis Batch: 36264 Analyte Chloride Lab Sample ID: 880-19869-A-1-C M Matrix: Solid	Sample Result 840	Quali		Added	Resu	t Qualifier	mg/Kg	Clien	_	100	%Rec Limits 90 - 110 D: Matrix Sp		
Analysis Batch: 36264 Analyte Chloride Lab Sample ID: 880-19869-A-1-C M Matrix: Solid	Sample Result 840	Quali F1	ifier	Added	Resu 109	t Qualifier	mg/Kg	Clien	_	100	%Rec Limits 90 - 110 D: Matrix Sp	 Dike Dup	olicate
Lab Sample ID: 880-19869-A-1-B M Matrix: Solid Analysis Batch: 36264 Analyte Chloride Lab Sample ID: 880-19869-A-1-C M Matrix: Solid Analysis Batch: 36264 Analyte	Sample Result 840	Quali F1	ifier	Added 250	Resu 109 MSI	t Qualifier	mg/Kg	Clien	_	100	%Rec Limits 90 - 110 9: Matrix Sp Prep	 Dike Dup	Dicate

# **QC Association Summary**

Client: Ensolum Project/Site: NASH UNIT 36

5

Job ID: 890-3106-1 SDG: 03E1558117

# **GC VOA**

# Prep Batch: 36450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3106-1	SS01	Total/NA	Solid	5035	
890-3106-2	SS02	Total/NA	Solid	5035	
890-3106-3	SS03	Total/NA	Solid	5035	
890-3106-4	SS04	Total/NA	Solid	5035	
890-3106-5	SS05	Total/NA	Solid	5035	
MB 880-36450/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36450/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36450/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3105-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3105-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

# Analysis Batch: 36624

Lab Control Sample	Iotal/INA	Solid	5035		
Lab Control Sample Dup	Total/NA	Solid	5035		8
Matrix Spike	Total/NA	Solid	5035		
Matrix Spike Duplicate	Total/NA	Solid	5035		9
Client Sample ID	Prep Type	Matrix	Method	Prep Batch	
SS01	Total/NA	Solid	8021B	36450	
SS02	Total/NA	Solid	8021B	36450	
SS03	Total/NA	Solid	8021B	36450	
SS04	Total/NA	Solid	8021B	36450	
SS05	Total/NA	Solid	8021B	36450	
Method Blank	Total/NA	Solid	8021B	36450	13
Lab Control Sample	Total/NA	Solid	8021B	36450	
Lab Control Sample Dup	Total/NA	Solid	8021B	36450	
Matrix Spike	Total/NA	Solid	8021B	36450	
Matrix Spike Duplicate	Total/NA	Solid	8021B	36450	
-	Matrix Spike Matrix Spike Duplicate Client Sample ID SS01 SS02 SS03 SS04 SS05 Method Blank Lab Control Sample Lab Control Sample Dup Matrix Spike	Lab Control Sample DupTotal/NAMatrix SpikeTotal/NAMatrix Spike DuplicateTotal/NAClient Sample IDPrep TypeSS01Total/NASS02Total/NASS03Total/NASS04Total/NASS05Total/NASS05Total/NALab Control Sample DupTotal/NALab Control Sample DupTotal/NAMatrix SpikeTotal/NA	Lab Control Sample DupTotal/NASolidMatrix SpikeTotal/NASolidMatrix Spike DuplicateTotal/NASolidClient Sample IDPrep TypeMatrixSS01Total/NASolidSS02Total/NASolidSS03Total/NASolidSS04SolidSolidSS05Total/NASolidSS05Total/NASolidSS05Total/NASolidLab Control SampleTotal/NASolidLab Control Sample DupTotal/NASolidMatrix SpikeTotal/NASolid	Lab Control Sample DupTotal/NASolid5035Matrix SpikeTotal/NASolid5035Matrix Spike DuplicateTotal/NASolid5035Client Sample IDPrep TypeMatrixMethodSS01Total/NASolid8021BSS02Total/NASolid8021BSS03Total/NASolid8021BSS04Total/NASolid8021BSS05Total/NASolid8021BSS05Total/NASolid8021BSS05Total/NASolid8021BLab Control SampleTotal/NASolid8021BLab Control Sample DupTotal/NASolid8021BMatrix SpikeTotal/NASolid8021B	Lab Control Sample DupTotal/NASolid5035Matrix SpikeTotal/NASolid5035Matrix Spike DuplicateTotal/NASolid5035Client Sample IDPrep TypeMatrixMethodPrep BatchSS01Total/NASolid8021B36450SS02Total/NASolid8021B36450SS03Total/NASolid8021B36450SS04Total/NASolid8021B36450SS05Total/NASolid8021B36450Method BlankTotal/NASolid8021B36450Lab Control SampleTotal/NASolid8021B36450Lab Control Sample DupTotal/NASolid8021B36450Matrix SpikeTotal/NASolid8021B36450Matrix SpikeTotal/NASolid8021B36450Solid8021B364503645036450Matrix SpikeTotal/NASolid8021B36450

# Analysis Batch: 36692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3106-1	SS01	Total/NA	Solid	Total BTEX	
890-3106-2	SS02	Total/NA	Solid	Total BTEX	
890-3106-3	SS03	Total/NA	Solid	Total BTEX	
890-3106-4	SS04	Total/NA	Solid	Total BTEX	
890-3106-5	SS05	Total/NA	Solid	Total BTEX	

# GC Semi VOA

# Analysis Batch: 35738

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-3106-1	SS01	Total/NA	Solid	8015B NM	35819
890-3106-2	SS02	Total/NA	Solid	8015B NM	35819
890-3106-3	SS03	Total/NA	Solid	8015B NM	35819
890-3106-4	SS04	Total/NA	Solid	8015B NM	35819
890-3106-5	SS05	Total/NA	Solid	8015B NM	35819
MB 880-35819/1-A	Method Blank	Total/NA	Solid	8015B NM	35819
LCS 880-35819/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	35819
LCSD 880-35819/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	35819
890-3104-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	35819
890-3104-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	35819
Prep Batch: 35819					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3106-1	SS01	Total/NA	Solid	8015NM Prep	
890-3106-2	SS02	Total/NA	Solid	8015NM Prep	

# **QC Association Summary**

Client: Ensolum Project/Site: NASH UNIT 36

# GC Semi VOA (Continued)

# Prep Batch: 35819 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3106-3	SS03	Total/NA	Solid	8015NM Prep	
890-3106-4	SS04	Total/NA	Solid	8015NM Prep	
890-3106-5	SS05	Total/NA	Solid	8015NM Prep	
MB 880-35819/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-35819/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-35819/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3104-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3104-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

# Analysis Batch: 35983

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-3106-1	SS01	Total/NA	Solid	8015 NM	
890-3106-2	SS02	Total/NA	Solid	8015 NM	
890-3106-3	SS03	Total/NA	Solid	8015 NM	
890-3106-4	SS04	Total/NA	Solid	8015 NM	
890-3106-5	SS05	Total/NA	Solid	8015 NM	

# HPLC/IC

# Leach Batch: 36006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3106-1	SS01	Soluble	Solid	DI Leach	
890-3106-2	SS02	Soluble	Solid	DI Leach	
890-3106-3	SS03	Soluble	Solid	DI Leach	
890-3106-4	SS04	Soluble	Solid	DI Leach	
890-3106-5	SS05	Soluble	Solid	DI Leach	
MB 880-36006/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36006/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36006/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-19869-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-19869-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

# Analysis Batch: 36264

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-3106-1	SS01	Soluble	Solid	300.0	36006
890-3106-2	SS02	Soluble	Solid	300.0	36006
890-3106-3	SS03	Soluble	Solid	300.0	36006
890-3106-4	SS04	Soluble	Solid	300.0	36006
890-3106-5	SS05	Soluble	Solid	300.0	36006
MB 880-36006/1-A	Method Blank	Soluble	Solid	300.0	36006
LCS 880-36006/2-A	Lab Control Sample	Soluble	Solid	300.0	36006
LCSD 880-36006/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36006
880-19869-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	36006
880-19869-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36006

Page 46 of 129

# Job ID: 890-3106-1 SDG: 03E1558117

9

Job ID: 890-3106-1 SDG: 03E1558117

# Lab Sample ID: 890-3106-1 Matrix: Solid

Lab Sample ID: 890-3106-2

Matrix: Solid

Matrix: Solid

Date Collected: 09/28/22 14:00 Date Received: 09/29/22 08:35

Project/Site: NASH UNIT 36

**Client Sample ID: SS01** 

Client: Ensolum

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	36450	10/08/22 13:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36624	10/11/22 14:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36692	10/11/22 15:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			35983	10/03/22 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	35819	09/30/22 14:01	DM	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	35738	10/01/22 03:02	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36006	10/03/22 14:32	KS	EET MID
Soluble	Analysis	300.0		1			36264	10/06/22 12:25	СН	EET MID

# **Client Sample ID: SS02**

# Date Collected: 09/28/22 14:05

Date Received: 09/29/22 08:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	36450	10/08/22 13:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36624	10/11/22 15:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36692	10/11/22 15:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			35983	10/03/22 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	35819	09/30/22 14:01	DM	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	35738	10/01/22 03:24	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	36006	10/03/22 14:32	KS	EET MID
Soluble	Analysis	300.0		1			36264	10/06/22 12:31	СН	EET MID

# **Client Sample ID: SS03**

# Date Collected: 09/28/22 14:15

Date Received: 09/29/22 08:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	36450	10/08/22 13:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36624	10/11/22 15:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36692	10/11/22 15:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			35983	10/03/22 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	35819	09/30/22 14:01	DM	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	35738	10/01/22 03:45	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	36006	10/03/22 14:32	KS	EET MID
Soluble	Analysis	300.0		1			36264	10/06/22 12:48	СН	EET MID

# **Client Sample ID: SS04** Date Collected: 09/28/22 14:20 Date Received: 09/29/22 08:35

## Dil Batch Batch Initial Final Batch Prepared or Analyzed Method Number Prep Type Туре Run Factor Amount Amount Analyst Lab Total/NA 5035 36450 10/08/22 13:26 MNR Prep EET MID 5.01 g 5 mL Total/NA Analysis 8021B 1 5 mL 5 mL 36624 10/11/22 16:13 MNR EET MID Total BTEX 36692 10/11/22 15:00 EET MID Total/NA Analysis 1 SM

**Eurofins Carlsbad** 

Page 47 of 129

Lab Sample ID: 890-3106-4

Lab Sample ID: 890-3106-3

Matrix: Solid

Job ID: 890-3106-1 SDG: 03E1558117

# Lab Sample ID: 890-3106-4 Matrix: Solid

Lab Sample ID: 890-3106-5

Matrix: Solid

Date Collected: 09/28/22 14:20 Date Received: 09/29/22 08:35

Project/Site: NASH UNIT 36

**Client Sample ID: SS04** 

Client: Ensolum

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			35983	10/03/22 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	35819	09/30/22 14:01	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35738	10/01/22 02:41	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36006	10/03/22 14:32	KS	EET MID
Soluble	Analysis	300.0		1			36264	10/06/22 12:54	СН	EET MID

# Client Sample ID: SS05 Date Collected: 09/28/22 14:25

# Date Received: 09/29/22 08:35

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	36450	10/08/22 13:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36624	10/11/22 16:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36692	10/11/22 15:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			35983	10/03/22 11:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	35819	09/30/22 14:01	DM	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	35738	10/01/22 04:07	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	36006	10/03/22 14:32	KS	EET MID
Soluble	Analysis	300.0		1			36264	10/06/22 13:00	CH	EET MID

# Laboratory References:

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

0-3106-1 1558117 -**3106-4** 

Laboratory: Eurofins Midland

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

hority		Program	Identification Number	Expiration Date
xas	N	NELAP	T104704400-22-24	06-30-23
The following analytes	are included in this report, b	out the laboratory is not certif	ied by the governing authority. This list ma	ay include analytes for w
the agency does not o		Matrix	Δnalvte	
Analysis Method	fer certification . Prep Method	Matrix	Analyte	
6 ,		Matrix Solid Solid	Analyte Total TPH Total BTEX	

10

SDG: 03E1558117

Client: Ensolum Project/Site: NASH UNIT 36 Job ID: 890-3106-1 SDG: 03E1558117

lethod	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
otal BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
800.0	Anions, Ion Chromatography	MCAWW	EET MID
6035	Closed System Purge and Trap	SW846	EET MID
015NM Prep	Microextraction	SW846	EET MID
)I Leach	Deionized Water Leaching Procedure	ASTM	EET MID

ASTM = ASTM International

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

Laboratory References:

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

Page 50 of 129

Client: Ensolum Project/Site: NASH UNIT 36 Job ID: 890-3106-1 SDG: 03E1558117

ab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth	
90-3106-1	SS01	Solid	09/28/22 14:00	09/29/22 08:35	0.5	
90-3106-2	SS02	Solid	09/28/22 14:05	09/29/22 08:35	0.5	
90-3106-3	SS03	Solid	09/28/22 14:15	09/29/22 08:35	0.5	
90-3106-4	SS04	Solid	09/28/22 14:20	09/29/22 08:35	0.5	
90-3106-5	SS05	Solid	09/28/22 14:25	09/29/22 08:35	0.5	

Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199 ffferent) Garrett Green Name: XTO Energy	www.xenco.com Work Order (	w.xenco.com Page of f
	Work O	Inder Comments
	Program: USIIPSI [] PAT	Program: UST/PST 🗌 PRP 🗌 Brownfields 🗌 RRC 🗍 Superfund 🗌
3104 E. Green St.	State of Project:	
Carlsbad, NM 88220	Reporting: Level II Level III L PST/UST TRRP	
Garrett.Green@ExxonMobil.com	Deliverables: EDD	ADaPT Other:
ANALYSIS RE	QUEST	Preservative Codes
		None: NO DI Water: H <sub>2</sub> O
		Cool: Cool MeOH: Me
		H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH: Na
		H <sub>3</sub> PO <sub>4</sub> : HP
		NaHSO4: NABIS
		Na2S2O3: NASO3
	Custody	ACEIAIE+NACH. 211
. (80		
BTE		Sample Comments
×		Incident ID:
×		nAPP2224236187
×		Cost Center:
×		1137151001
×		AFE:
B Cd Ca Cr Co Cu Fe	Mn Mo Ni K Se Ag	SiO <sub>2</sub> Na Sr TI Sn U V Zn
3e Cd Cr Co Cu Pb Mn Mo	i Se Ag TI U	Hg: 1631 / 245.1 / 7470 / 7471
ns Xenco, its affiliates and subcontractor naes incurred by the client if such losses rofins Xenco, but not analyzed. These ten	It assigns standard terms and conditians due to circumstances beyond the constances beyond the constant will be enforced unless previously needed.	ions Introl gotlated.
Relinquished by: (Signa	ture) Received by: (S	ignature) Date/Time
8 57		
-		
A S B a Be Be A S B a Be A S B a Be A S B a Be A S A S B A B B Be A S A S A S A S A S A S A S A S A S A	ANALYSIS RE ANALYSIS RE B Cd Ca Cr Co Cu Fe Pt e Cd Cr Co Cu Pb Mn Mo e Cd Cr Co Cu Pb Mn Mo re Xanco, Its affiliates and subcontractor sex sex incurred by the client if such losses form free by: (Signa	ANALYSIS REQUEST ANALYSIS REQUEST ANALYSIS REQUEST B90-3106 Chain of Custody B90-3106 Chain of Custody B90-3106 Chain of Custody Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Cr Co Cu Pb Mn Mo Ni Se Ag TI U Cr Co Cu Pb Mn Mo Ni Se Ag TI U Cr Co Cu Pb Mn Mo Ni Se Ag TI U Relinquished by: (Signature) Received b

Chain of Custody

14

Job Number: 890-3106-1 SDG Number: 03E1558117

List Source: Eurofins Carlsbad

# Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3106 List Number: 1 Creator: Clifton, Cloe

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

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

14

Job Number: 890-3106-1 SDG Number: 03E1558117

List Source: Eurofins Midland

List Creation: 09/30/22 10:28 AM

# Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3106 List Number: 2 Creator: Rodriguez, Leticia

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

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

Received by OCD: 2/13/2023 2:36:26 PM



**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 12/7/2022 4:28:00 PM

# JOB DESCRIPTION

Nash 36 SDG NUMBER 03E1558117

# **JOB NUMBER**

880-22178-1

Eurofins Midland 1211 W. Florida Ave Midland TX 79701





Received by OCD: 2/13/2023 2:36:26 PM

# **Eurofins Midland**

Job Notes

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

# Authorization

RAMER

Generated 12/7/2022 4:28:00 PM

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

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

12/7/2022

SDG: 03E1558117

Page 57 of 129

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
QC Sample Results	7
QC Association Summary	8
Lab Chronicle	9
Certification Summary	10
Method Summary	11
Sample Summary	12
Chain of Custody	13
Receipt Checklists	14

Contains No Free Liquid

Detection Limit (DoD/DOE)

Estimated Detection Limit (Dioxin)

Limit of Detection (DoD/DOE)

Method Detection Limit

Minimum Level (Dioxin)

Most Probable Number

Not Calculated

Negative / Absent

Positive / Present

Presumptive

**Quality Control** 

Method Quantitation Limit

Practical Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

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

Limit of Quantitation (DoD/DOE)

**Dilution Factor** 

Duplicate Error Ratio (normalized absolute difference)

Decision Level Concentration (Radiochemistry)

EPA recommended "Maximum Contaminant Level"

Minimum Detectable Concentration (Radiochemistry)

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

Minimum Detectable Activity (Radiochemistry)

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

CNF

DER

DL

DLC EDL

LOD

LOQ

MCL MDA

MDC

MDL

MPN

MQL

NC

ND

NEG

POS

PQL

PRES

QC

RER

RPD

TEF

TEQ

TNTC

RL

ML

Dil Fac

DL, RA, RE, IN

Client: Ensolu	Im Job ID: 880-22178-1	
Project/Site: N	Nash 36 SDG: 03E1558117	
Qualifiers		3
HPLC/IC		
Qualifier	Qualifier Description	
F1	MS and/or MSD recovery exceeds control limits.	
U	Indicates the analyte was analyzed for but not detected.	5
Glossary		6
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	0
CFU	Colony Forming Unit	O

**Eurofins Midland** 

Released to Imaging: 6/14/2023 10:26:27 AM

5

# Job ID: 880-22178-1

Client: Ensolum Project/Site: Nash 36

# Laboratory: Eurofins Midland

# Narrative

Job Narrative 880-22178-1

# Receipt

The samples were received on 12/1/2022 11:17 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

# HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-40957 and analytical batch 880-41087 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

## **Client Sample Results** Client: Ensolum Job ID: 880-22178-1 Project/Site: Nash 36 SDG: 03E1558117 **Client Sample ID: PH01** Lab Sample ID: 880-22178-1 Date Collected: 11/18/22 10:00 Matrix: Solid Date Received: 12/01/22 11:17 Sample Depth: 1' Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble Result Qualifier Dil Fac Analyte RL Unit D Analyzed Prepared 5.01 12/07/22 12:48 Chloride 476 F1 mg/Kg 1 **Client Sample ID: PH01A** Lab Sample ID: 880-22178-2 Date Collected: 11/18/22 10:05 Matrix: Solid Date Received: 12/01/22 11:17 Sample Depth: 2' Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble Analyte Result Qualifier RL Unit D Dil Fac Prepared Analyzed 49.6 12/07/22 13:12 1240 10 Chloride mg/Kg

**Eurofins Midland** 

Client: Ensolum

Project/Site: Nash 36

# **QC Sample Results**

# Job ID: 880-22178-1 SDG: 03E1558117

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40957/1-A											Client S	ample ID:		
Matrix: Solid												Prep	Type: S	olubl
Analysis Batch: 41087														
	_	MB							_	_				
Analyte			Qualifier		RL		Ur	-	<u>D</u>	P	repared	Analy		Dil Fa
Chloride	<	\$.00	U		5.00		m	g/Kg				12/07/22	12:24	
Lab Sample ID: LCS 880-40957/2-A									Cli	ent	Sample	ID: Lab C	ontrol S	ampl
Matrix: Solid												Prep	Type: S	olubl
Analysis Batch: 41087														
-				Spike		LCS	LCS					%Rec		
Analyte				Added		Result	Qualifie	r Unit		D	%Rec	Limits		
Chloride				250		243.8		mg/Kg		_	98	90 - 110		
Lab Sample ID: LCSD 880-40957/3-	Δ							CI	ient S	am	nle ID:	Lab Contro	ol Samol	le Dur
Matrix: Solid													Type: S	
Analysis Batch: 41087												1100	1,1,00.0	orabi
				Spike		LCSD	LCSD					%Rec		RP
Analyte				Added		Result	Qualifie	r Unit		D	%Rec	Limits	RPD	Lim
Chloride				250		263.6		mg/Kg		_	105	90 - 110	8	2
Lab Sample ID: 880-22178-1 MS												Client Sa	mple ID:	: PH0 <sup>.</sup>
Matrix: Solid													· Type: S	
Analysis Batch: 41087														
	Sample	Samp	ole	Spike		MS	MS					%Rec		
Analyte	Result	Quali	fier	Added		Result	Qualifie	r Unit		D	%Rec	Limits		
Chloride	476	F1		251		682.9	F1	mg/Kg			82	90 - 110		
Lab Sample ID: 880-22178-1 MSD												Client Sa	mple ID:	: PH0
Matrix: Solid													Type: S	
Analysis Batch: 41087														
-	Sample	Samp	ole	Spike		MSD	MSD					%Rec		RP
Analyte	Result	Quali	fier	Added		Result	Qualifie	r Unit		D	%Rec	Limits	RPD	Lim

Eurofins Midland

5 6

# **QC Association Summary**

Client: Ensolum Project/Site: Nash 36

Page 62 of 129

5 6 7

Job ID: 880-22178-1 SDG: 03E1558117

# HPLC/IC

# Leach Batch: 40957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22178-1	PH01	Soluble	Solid	DI Leach	
380-22178-2	PH01A	Soluble	Solid	DI Leach	
MB 880-40957/1-A	Method Blank	Soluble	Solid	DI Leach	
_CS 880-40957/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
_CSD 880-40957/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
380-22178-1 MS	PH01	Soluble	Solid	DI Leach	
880-22178-1 MSD	PH01	Soluble	Solid	DI Leach	

## Lab Sample ID Method **Client Sample ID** Prep Type Matrix Prep Batch 880-22178-1 PH01 300.0 Soluble Solid 40957 880-22178-2 PH01A Soluble Solid 300.0 40957 MB 880-40957/1-A Method Blank Soluble Solid 300.0 40957 LCS 880-40957/2-A Lab Control Sample Soluble Solid 300.0 40957 LCSD 880-40957/3-A Lab Control Sample Dup Soluble Solid 300.0 40957 300.0 880-22178-1 MS PH01 Soluble Solid 40957 880-22178-1 MSD PH01 Soluble Solid 300.0 40957

Eurofins Midland

# Lab Chronicle

Job ID: 880-22178-1
SDG: 03E1558117

Matrix: Solid

Matrix: Solid

8

Lab Sample ID: 880-22178-1

Lab Sample ID: 880-22178-2

# Client Sample ID: PH01 Date Collected: 11/18/22 10:00

Client: Ensolum Project/Site: Nash 36

Date Received: 12/01/22 11:17

_	Batch	Batch		Dilution	Batch			Prepared
Prep Туре	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Soluble	Leach	DI Leach			40957	SMC	EET MID	12/03/22 13:46
Soluble	Analysis	300.0		1	41087	СН	EET MID	12/07/22 12:48

# Client Sample ID: PH01A Date Collected: 11/18/22 10:05 Date Received: 12/01/22 11:17

	Batch	Batch		Dilution	Batch			Prepared
Ргер Туре	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Soluble	Leach	DI Leach			40957	SMC	EET MID	12/03/22 13:46
Soluble	Analysis	300.0		10	41087	СН	EET MID	12/07/22 13:12

# Laboratory References:

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

Eurofins Midland

**Released to Imaging: 6/14/2023 10:26:27 AM** 

	Accreditation/C	Certification Summary			
Client: Ensolum Project/Site: Nash 36				b ID: 880-22178-1 SDG: 03E1558117	
Laboratory: Eurofins M	<b>idland</b> d below are applicable to this report.				
_ Authority	Program	Identification Number	Expiration Date		
Texas	NELAP	T104704400-22-24	06-30-23		

# **Method Summary**

Client: Ensolum Project/Site: Nash 36 Job ID: 880-22178-1 SDG: 03E1558117

Method	Method Description	Protocol	Laboratory	
300.0	Anions, Ion Chromatography	MCAWW	EET MID	_
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID	
Protocol Re	eferences:			
ASTM =	ASTM International			
MCAWV	N = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 19	83 And Subsequent Revisions.		

# Protocol References:

# Laboratory References:

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

Eurofins Midland

Client: Ensolum Project/Site: Nash 36 Page 66 of 129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-22178-1	PH01	Solid	11/18/22 10:00	12/01/22 11:17	1'
880-22178-2	PH01A	Solid	11/18/22 10:05	12/01/22 11:17	2'

		0	0					G
		4		Z				ω
			12.1.22 11:17 2		( () 8 (	(2-		1 Crim
Date/Time	Received by (Signature)	Relinquished by: (Signature)	Date/Time	ure)	Received by (Signature)	A R	(Signature)	Relinquished by
	enforced unless previously negotiated	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	submitted to Eurofins Xen	ge of \$5 for each sample	o each project and a cha	00 will be applied t	ium charge of \$85.(	of Eurofins Xenco A minim
	riscumstances beyond the number	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 exponses incurred by the client if each losses are due to reinconcerned the cost of samples and shall not assume any responsibility for any losses or exponses incurred by the client if each losses are due to reinconcerned the cost of samples and shall not assume any responsibility for any losses or exponses incurred by the client if each losses are due to reinconcerned the cost of samples and shall not assume any responsibility for any losses or exponses incurred by the client if each losses are due to reinconcerned the cost of samples and shall not assume any responsibility for any losses or exponses incurred by the client if each losses are due to reinconcerned the cost of samples and shall not assume any responsibility for any losses or exponses incurred by the client if each losses are due to reinconcerned the cost of samples and shall not assume any responsibility for any losses or exponses incurred by the client if each losses are due to reinconcerned to cost of the cost of	ompany to Eurofins Xenco, v losses or expenses inclu	hase order from client c any responsibility for a	es constitutes a valid pur ples and shall not assum	iishment of sample or the cost of sam	cument and relinguing will be liable only for	Notice Signature of this do of service. Eurofins Xenco
170 / 7471	ie Ag TIU Hg 1631/2451/7470/	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag	. Sb As Ba Be Co	1LP 6010 8RCRA	TCLP / SPLP 6010	e analyzed	d Metal(s) to b	Circle Method(s) and Metal(s) to be analyzed
Sn U V Zn	Mn Mo Ni K Se Ag SiO2 Na Sr TI S	Ca Cr Co Cu Fe Pb Mg	Sb As Ba Be B Cd	Texas 11 Al	8RCRA 13PPM	020:	0 200.8 / 6020:	Total 200.7 / 6010
		880-22178 Chain of Custody						
			2					
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						/		
	AFE	7				/		
1137151001							Λ	
ter	Cost Center							$\left  \right $
57	nAPP2224236187		x x x	2' Grab/ 1	11/18/2022 10 05	S 11/18		PHOTA
0	Incident ID		× × ×	1' Grab/ 1	11/18/2022 10 00			PH01
Sample Comments	Sam		Ι	Sec. Sec.	Sampled Sampled			
			.OR (80	Grab/ # of	Date Time	Matric Da	fication	Samnle Identification
NaOH+Ascorbic Acid SAPC	NaOH+As				Corrected Temperature	Correc		Total Containers.
Zn Acetate+NaOH Zn	Zn Acetate			ې لا	Temperature Reading	NIA	. Yes No	Sample Custody Seals.
laSO3	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> NaSO <sub>3</sub>		PA 3	L	Correction Factor	N/A	Yes No	Cooler Custody Seals.
IABIS	NaHSO4 NABIS		300	T-NM-007	Thermometer ID:	No Therm	, Yes	Samples Received Intact
	H <sub>3</sub> PO <sub>4</sub> HP		0)	res No nete	Yes No Wet Ice	<u> </u>		SAMPLE RECEIPT
NaOH Na	H <sub>2</sub> S0/ H <sub>2</sub>			the lab if received by 4 30pm	the lab if rec			PO#
				a day received by	TAT starts th	Connor Whitman	Conne	Sampler's Name
					Due Date			Project Location
DI Water: H <sub>2</sub> O	None		6 Y	Rush Code	✓ Routine	03E1558117	03E	Project Number
Preservative Codes	a de la constante de la consta La constante de la constante de	ANALYSIS REQUEST		Turn Around	Tum	Nash 36	z	Project Name
Other	Deliverables EDD ADaPT C C	Deli	<u>cconMobil com</u>	Garrett Green@ExxonMobil com	Email		303-887-2946	Phone 3
RRP Leve	Reporting Level II CLevel III PST/UST TRRP Level IV		Carlsbad NM 88220	City, State ZIP	and a second	38220	Carlsbad NM 88220	City, State ZIP
	State of Project	Stat	3104 E Green St.	Address	a mana mana mangana na	Parks Hwy	3122 National Parks Hwy	Address 3
RC Superfu	Program UST/PST PRP Brownfields RRC Superfund	Prog	XTO Energy	Company Name.			Ensolum	Company Name E
	ğ		Garrett Green	Bill to (if different)			Kalei Jennings	Project Manager K
of	www.xenco.com Page	שע ואוא (ערט) שטט-טושש	1980 - THE LOUD WE TOOL CALIBRAT INN (272) 200-0188					
9	Work Order No:	onio TX (210) 509-3334 ck TX (806) 794-1296 	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) 302 7550 Contended NM (575) 000 3100	Midland TX EL Paso T Hobbs N			J. File	
してし		Houston TX (281) 240-4200 Dallas TX (214) 902-0300	X (281) 240-4200 Dalla	Houston	00 173 179	nat National	¥	6

# 12/7/2022

Page 67 of 129

Seurofins

12

# Chain of Custody

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

Job Number: 880-22178-1 SDG Number: 03E1558117

List Source: Eurofins Midland

# Login Sample Receipt Checklist

Client: Ensolum

# Login Number: 22178 List Number: 1 Creator: Kramer, Jessica

Login Number: 22178			List Source: Eurofins Midland	_
List Number: 1				5
Creator: Kramer, Jessica				
Question	Answer	Comment		6
The cooler's custody seal, if present, is intact.	N/A			
Sample custody seals, if present, are intact.	N/A			7
The cooler or samples do not appear to have been compromised or tampered with.	True			8
Samples were received on ice.	True			
Cooler Temperature is acceptable.	True			9
Cooler Temperature is recorded.	True			10
COC is present.	True			10
COC is filled out in ink and legible.	True			11
COC is filled out with all pertinent information.	True			
Is the Field Sampler's name present on COC?	True			12
There are no discrepancies between the containers received and the COC.	True			
Samples are received within Holding Time (excluding tests with immediate HTs)	True			13
Sample containers have legible labels.	True			
Containers are not broken or leaking.	True			
Sample collection date/times are provided.	True			
Appropriate sample containers are used.	True			
Sample bottles are completely filled.	True			
Sample Preservation Verified.	True			
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True			
Containers requiring zero headspace have no headspace or bubble is	N/A			

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

Received by OCD: 2/13/2023 2:36:26 PM



**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 12/7/2022 4:28:34 PM

# JOB DESCRIPTION

Nash 36 SDG NUMBER 03E1558117

# **JOB NUMBER**

880-22181-1

JOB D G NUM J

Eurofins Midland 1211 W. Florida Ave Midland TX 79701

See page two for job notes and contact information.

Received by OCD: 2/13/2023 2:36:26 PM

# **Eurofins Midland**

Job Notes

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

# Authorization

RAMER

Generated 12/7/2022 4:28:34 PM

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

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

SDG: 03E1558117

Laboratory Job ID: 880-22181-1

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
QC Sample Results	7
QC Association Summary	8
Lab Chronicle	9
Certification Summary	10
Method Summary	11
Sample Summary	12
Chain of Custody	13
Receipt Checklists	14

**Released to Imaging: 6/14/2023 10:26:27 AM** 

# **Definitions/Glossary**

Client: Ensolu Project/Site: N		Job ID: 880-22181-1 SDG: 03E1558117	2
Qualifiers		GDG: 03E1000117	
Quaimers			3
HPLC/IC			
Qualifier	Qualifier Description		
U	Indicates the analyte was analyzed for but not detected.		
Glossary			5
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		0
CNF	Contains No Free Liquid		Ο
DER	Duplicate Error Ratio (normalized absolute difference)		
Dil Fac	Dilution Factor		9
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)		13
MDC	Minimum Detectable Concentration (Radiochemistry)		
MDL	Method Detection Limit		
ML	Minimum Level (Dioxin)		
MPN	Most Probable Number		
MQL	Method Quantitation Limit		
NC	Not Calculated		
ND	Not Detected at the reporting limit (or MDL or EDL if shown)		
NEG	Negative / Absent		
POS	Positive / Present		
PQL	Practical Quantitation Limit		
PRES	Presumptive		
QC	Quality Control		
RER	Relative Error Ratio (Radiochemistry)		
RL	Reporting Limit or Requested Limit (Radiochemistry)		
RPD	Relative Percent Difference, a measure of the relative difference between two points		
TEF	Toxicity Equivalent Factor (Dioxin)		
TEQ	Toxicity Equivalent Quotient (Dioxin)		
TNTC	Too Numerous To Count		
## Job ID: 880-22181-1 SDG: 03E1558117

## Job ID: 880-22181-1

Project/Site: Nash 36

Client: Ensolum

## Laboratory: Eurofins Midland

#### Narrative

Job Narrative 880-22181-1

#### Receipt

The sample was received on 12/1/2022 11:17 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice.

#### HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-40957 and analytical batch 880-41087 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 Sa	mple Res	sults					
Client: Ensolum Project/Site: Nash 36							Job ID: 880- SDG: 03E <sup>-</sup>		2
Client Sample ID: PH04 Date Collected: 11/18/22 13:00						Lab San	nple ID: 880-2 Matri	2181-1 ix: Solid	
Date Received: 12/01/22 11:17 Sample Depth: 1									4
Method: MCAWW 300.0 - Anions Analyte	<mark>s, Ion Chromatogra</mark> Result Qua		RL	Unit	D	Prepared	Analyzed	Dil Fac	5
Chloride	<u>44600</u>		251	mg/Kg		Frepared	12/07/22 14:09	50	
									8
									9
									13

Eurofins Midland

Client: Ensolum

Project/Site: Nash 36

## **QC Sample Results**

## Job ID: 880-22181-1 SDG: 03E1558117

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40957/1-A Matrix: Solid										C	lient S	ample ID: Prep	Method Type: S	
Analysis Batch: 41087														
	MB	MB												
Analyte	Result	Qualifier		RL		ι	Jnit		D	Prep	pared	Analy	zed	Dil Fac
Chloride	<5.00	U		5.00		r	ng/Kg					12/07/22	12:24	1
Lab Sample ID: LCS 880-40957/2-A									Clie	ent S	ample	ID: Lab C	ontrol S	ample
Matrix: Solid												Prep	Type: S	oluble
Analysis Batch: 41087														
			Spike		LCS	LCS						%Rec		
Analyte			Added		Result	Qualif	ier	Unit	[	D %	%Rec	Limits		
Chloride			250		243.8			mg/Kg			98	90 - 110		
Lab Sample ID: LCSD 880-40957/3-A								Clie	ent Sa	ampl	le ID: I	_ab Contro	ol Samp	le Dup
Matrix: Solid												Prep	Type: S	oluble
Analysis Batch: 41087														
			Spike		LCSD	LCSD						%Rec		RPD
Analyte			Added		Result	Qualif	ier	Unit	[	D %	%Rec	Limits	RPD	Limit
Chloride			250		263.6			mg/Kg			105	90 - 110	8	20

Eurofins Midland

 2181-1
 2

 558117
 2

 3
 3

 Blank
 4

 Soluble
 5

 Dil Fac
 6

 1
 6

 Sample
 7

 Soluble
 9

 He Dup
 10

 Soluble
 11

Client: Ensolum Project/Site: Nash 36 Job ID: 880-22181-1

SDG: 03E1558117

## HPLC/IC

### Leach Batch: 40957

each Batch: 40957					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
880-22181-1	PH04	Soluble	Solid	DI Leach	
MB 880-40957/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-40957/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
	Lab Cantual Canada Dun	Soluble	Solid	DI Leach	
LCSD 880-40957/3-A	Lab Control Sample Dup	Soluble	Solid	Di Ledon	
nalysis Batch: 41087			Matrix	Method	Prep Batch
		Prep Type Soluble			Prep Batch 40957
nalysis Batch: 41087 Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	
nalysis Batch: 41087 Lab Sample ID 880-22181-1	Client Sample ID PH04	Prep Type Soluble	Matrix Solid	<u>Method</u> 300.0	40957

12/7/2022

Page 76 of 129

## Lab Chronicle

Job ID: 880-22181-1
SDG: 03E1558117

Matrix: Solid

5

## **Client Sample ID: PH04** Date Collected: 11/18/22 13:00

Client: Ensolum Project/Site: Nash 36

Date Received: 12/01/22 11:17

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Soluble	Leach	DI Leach			40957	SMC	EET MID	12/03/22 13:46
Soluble	Analysis	300.0		50	41087	СН	EET MID	12/07/22 14:09

#### Laboratory References:

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

Lab Sample ID: 880-22181-1

#### Eurofins Midland

	Accreditation/0	Certification Summary		1
Client: Ensolum Project/Site: Nash 36			Job ID: 880 SDG: 03E	
Laboratory: Eurofins Mi The accreditations/certifications listed				3
Γ		Identification Number	Evaluation Data	4
Authority Texas	Program NELAP	T104704400-22-24	Expiration Date 06-30-23	
				5
				8
				9
				13

## **Method Summary**

Client: Ensolum Project/Site: Nash 36 Job ID: 880-22181-1 SDG: 03E1558117

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

#### Protocol References:

ASTM = ASTM International

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

#### Laboratory References:

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

Eurofins Midland

## **Sample Summary**

Client: Ensolum Project/Site: Nash 36 Job ID: 880-22181-1 SDG: 03E1558117

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth	
880-22181-1	PH04	Solid	11/18/22 13:00	12/01/22 11:17	1	4
						5
						8
						9
						11
						13

Revised Date: 08/25/2020 Rev 2020.2	7	5						- S
		4			0			
		2	121.122 11:17	12	S		(	The I
Date/Time	Received by (Signature)	Relinguished by (Signature)	Date/Time	(4	Received by (Signature)	Receive	(Jnature)	Relinquished by (Signature)
	forced unless previously negotiated.	or Eurorins Xenco. A minimum charge of \$55 or 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.	ubmitted to Eurofins Xe	of \$5 for each sample :	project and a charge	applied to each	charge of \$85.00 Will be	oi Euroins Aenco. A minimum
	standard terms and conditions	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 contro	npany to Eurofins Xencc losses or expenses incu	se order from client co y responsibility for any	litutes a valid purcha I shall not assume a	of samples consist of samples and	ent and relinquishment be liable only for the co	Notice Signature of this docum of service. Eurofins Xenco will
7470 / 7471	Ag TI U Hg 1631/2451/7470/	Cd Cr Co Cu Pb Mn Mo Ni Se Ag	Sb As Ba Be C	9 6010 8RCRA	ICLP / SPLP 6010	/zea	etai(s) to be analy	Circle Method(s) and Metal(s) to be analyzed
Sn U V Zn	Mo Ni K Se Ag	Cd Ca Cr Co Cu Fe Pb Mg Mn	As Ba Be B	11 AI S	8RCRA 13PPM		200.8 / 6020:	Total 200.7 / 6010
		880-22181 Chain of Custody						
							-	
	AFE							
1137151001							/	
enter	Cost Center							
36187	nAPP2224236187			_				
Ē	Incident ID		× × ×	1 grab/ 1	1 00	11/18/2022	S	PH04
			CI TF		naidiiree	Campion		
Sample Comments	Sa		HLOF PH (80 TEX (	Depth Grab/ # of			tion Matrix	Sample Identification
NaOH+Ascorbic Acid SAPC	NaOH+A		015)		mperature	Corrected Temperature		Total Containers.
Zn Acetate+NaOH Zn	Zn Aceta			<u>در</u> بر	_	Temperature Reading	Yes No N/A	Sample Custody Seals.
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> NaSO <sub>3</sub>	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		PA	1		Correction Factor	1	Cooler Custody Seals.
NaHSO4 NABIS	NaHSO <sub>4</sub>		300	T_NM.001		Thermometer ID	Yes No	Samples Received Intact:
	H <sub>3</sub> PO <sub>4</sub> HP		0)	Yes No	Wet Ice	Yes No	Temp Blank.	SAMPLE RECEIPT
	H <sub>2</sub> S04 H <sub>2</sub>			I	the lab if received by 4 30pm			PO#
	HCL HC			ay received by	TAT starts the d	man	Connor Whitman	Sampler's Name
	Cool Cool				Due Date			Project Location.
10 DI Water: H <sub>2</sub> O	None			Rush Code	√ Routine	17	03E1558117	Project Number
Preservative Codes		ANALYSIS REQUEST			Turn Around		Nash 36	Project Name:
Other:	Deliverables EDD ADaPT D	Delive	conMobil.com	Garrett Green@ExxonMobil.com	Email G		303-887-2946	Phone 303
	Reporting Level II C Level III PST/UST TRRP		Carlsbad NM 88220	City, State ZIP	0		Carlsbad, NM 88220	City, State ZIP Car
	State of Project	State	3104 E Green St	Address	A	łwy	3122 National Parks Hwy	Address 312
RRC Superfund	Program · UST/PST PRP Brownfields RRC	Prog	XTO Energy	Company Name:	0		Ensolum	Company Name Ens
	ğ		Garrett Green	Bill to (if different)	B		Kaleı Jennings	Project Manager Kal
e of	www.xenco.com Page			والمراجع وال				
<b>******26</b> *		Hobbs NM (575) 392 7550 Carlsbad NM (575) 988-3199	Hobbs NM (575) 392 7550 Carlsbad NM (575) 988-3199	Hobbs NM (				
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29	MARY OFAN NA	35 17 (214) EDD 3334	idiand TX (432) 704-5440 San Antonio TX (214) 802-0300	Midland TX /	ų.	ی د د	1	4
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5 12 13

Chain of Custody

Job Number: 880-22181-1 SDG Number: 03E1558117

List Source: Eurofins Midland

## Login Sample Receipt Checklist

Client: Ensolum

#### Login Number: 22181 List Number: 1 Creator: Kramer, Jessica

Login Number: 22181			List Source: Eurofins Midland	
List Number: 1				5
Creator: Kramer, Jessica				
Question	Answer	Comment		6
The cooler's custody seal, if present, is intact.	N/A			
Sample custody seals, if present, are intact.	N/A			7
The cooler or samples do not appear to have been compromised or tampered with.	True			8
Samples were received on ice.	True			
Cooler Temperature is acceptable.	True			9
Cooler Temperature is recorded.	True			10
COC is present.	True			IU
COC is filled out in ink and legible.	True			11
COC is filled out with all pertinent information.	True			
Is the Field Sampler's name present on COC?	True			12
There are no discrepancies between the containers received and the COC.	True			
Samples are received within Holding Time (excluding tests with immediate HTs)	True			13
Sample containers have legible labels.	True			
Containers are not broken or leaking.	True			
Sample collection date/times are provided.	True			
Appropriate sample containers are used.	True			
Sample bottles are completely filled.	True			
Sample Preservation Verified.	True			
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True			
Containers requiring zero headspace have no headspace or bubble is	N/A			

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

Received by OCD: 2/13/2023 2:36:26 PM



**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 12/7/2022 4:28:47 PM

## JOB DESCRIPTION

Nash 36 SDG NUMBER 03E1558117

## **JOB NUMBER**

880-22182-1

Eurofins Midland 1211 W. Florida Ave Midland TX 79701





Received by OCD: 2/13/2023 2:36:26 PM

## **Eurofins Midland**

Job Notes

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

## Authorization

RAMER

Generated 12/7/2022 4:28:47 PM

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

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

Page 85 of 129

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
QC Sample Results	7
QC Association Summary	8
Lab Chronicle	9
Certification Summary	10
Method Summary	11
Sample Summary	12
Chain of Custody	13
Receipt Checklists	14

## **Definitions/Glossary**

Client: Ensolu Project/Site: N		Job ID: 880-22182-1 SDG: 03E1558117	2
Qualifiers			3
HPLC/IC			
Qualifier	Qualifier Description		
U	Indicates the analyte was analyzed for but not detected.		
Glossary			5
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		8
CNF	Contains No Free Liquid		0
DER	Duplicate Error Ratio (normalized absolute difference)		0
Dil Fac	Dilution Factor		3
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)		13
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

5

### Job ID: 880-22182-1 SDG: 03E1558117

#### Job ID: 880-22182-1

Project/Site: Nash 36

Client: Ensolum

#### Laboratory: Eurofins Midland

#### Narrative

Job Narrative 880-22182-1

#### Receipt

The samples were received on 12/1/2022 11:17 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

#### HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-40957 and 880-40957 and analytical batch 880-41087 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 Res	sults				
Client: Ensolum Project/Site: Nash 36							Job ID: 880- SDG: 03E	
Client Sample ID: PH03 Date Collected: 11/18/22 12:30 Date Received: 12/01/22 11:17						Lab San	nple ID: 880-2 Matr	2182-1 ix: Solid
Method: MCAWW 300.0 - Anions, I	on Chromato	graphy - Solu	ıble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7870		99.0	mg/Kg			12/07/22 14:17	20
Client Sample ID: PH03A						Lab San	nple ID: 880-2	2182-2
Date Collected: 11/18/22 12:35 Date Received: 12/01/22 11:17							Matr	ix: Solid
Method: MCAWW 300.0 - Anions, lo	on Chromato	ography - Solu	uble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7520		101	mg/Kg			12/07/22 14:25	20
Client Sample ID: PH03B						Lab San	nple ID: 880-2	2182-3
Date Collected: 11/18/22 12:40							•	ix: Solid
Date Received: 12/01/22 11:17								
Method: MCAWW 300.0 - Anions, Io	on Chromato	graphy - Solu	uble					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4730		50.4	mg/Kg			12/07/22 14:34	10

Eurofins Midland

Client: Ensolum

Project/Site: Nash 36

5 6 7

## **QC Sample Results**

Job ID: 880-22182-1 SDG: 03E1558117

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40957/1-A										Client S	ample ID:	Method	Blank
Matrix: Solid											Prep	Type: S	Soluble
Analysis Batch: 41087													
	МВ	МВ											
Analyte	Result	Qualifier		RL		U	nit	D	P	repared	Analy	zed	Dil Fa
Chloride	<5.00	U		5.00		m	ng/Kg				12/07/22	12:24	
Lab Sample ID: LCS 880-40957/2-A								(	lien	t Sample	ID: Lab C	ontrol S	Sample
Matrix: Solid											Prep	Type: S	Soluble
Analysis Batch: 41087													
-			Spike		LCS	LCS					%Rec		
Analyte			Added		Result	Qualifie	er Unit		D	%Rec	Limits		
Chloride			250		243.8		mg/l	g		98	90 _ 110		
Lab Sample ID: LCSD 880-40957/3-A								Clien	t San	nple ID: I	Lab Contro	ol Samp	le Du
Matrix: Solid											Prep	Type: S	olubl
Analysis Batch: 41087													
			Spike		LCSD	LCSD					%Rec		RP
Analyte			Added		Result	Qualifie	er Unit		D	%Rec	Limits	RPD	Lim
Chloride			250		263.6		mg/l	'n		105	90 - 110	8	20

Eurofins Midland

## **QC** Association Summary

Client: Ensolum Project/Site: Nash 36 Job ID: 880-22182-1 SDG: 03E1558117

## HPLC/IC

## Leach Batch: 40957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-22182-1	PH03	Soluble	Solid	DI Leach	
380-22182-2	PH03A	Soluble	Solid	DI Leach	
380-22182-3	PH03B	Soluble	Solid	DI Leach	
MB 880-40957/1-A	Method Blank	Soluble	Solid	DI Leach	
CS 880-40957/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
.CSD 880-40957/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

#### Analysis Batch: 41087

ab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
80-22182-1	PH03	Soluble	Solid	DI Leach	
80-22182-2	PH03A	Soluble	Solid	DI Leach	
880-22182-3	PH03B	Soluble	Solid	DI Leach	
AB 880-40957/1-A	Method Blank	Soluble	Solid	DI Leach	
CS 880-40957/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
CSD 880-40957/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
nalysis Batch: 41087	,				
ab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
80-22182-1	PH03	Soluble	Solid	300.0	40957
	PH03A	Soluble	Solid	300.0	40957
80-22182-2	11100/1				10057
	PH03B	Soluble	Solid	300.0	40957
80-22182-3		Soluble Soluble	Solid Solid	300.0 300.0	40957 40957
880-22182-2 880-22182-3 MB 880-40957/1-A .CS 880-40957/2-A	PH03B				

**Released to Imaging: 6/14/2023 10:26:27 AM** 

### Lab Chronicle

Job ID: 880-22182-1 SDG: 03E1558117

## **Client Sample ID: PH03** Date Collected: 11/18/22 12:30

Client: Ensolum

Project/Site: Nash 36

Date Received: 12/01/22 11:17

_	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Soluble	Leach	DI Leach			40957	SMC	EET MID	12/03/22 13:46
Soluble	Analysis	300.0		20	41087	СН	EET MID	12/07/22 14:17

#### **Client Sample ID: PH03A** Date Collected: 11/18/22 12:35 Date Received: 12/01/22 11:17

-	Batch	Batch		Dilution	Batch			Prepared
Ргер Туре	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Soluble	Leach	DI Leach			40957	SMC	EET MID	12/03/22 13:46
Soluble	Analysis	300.0		20	41087	СН	EET MID	12/07/22 14:25

#### **Client Sample ID: PH03B** Date Collected: 11/18/22 12:40 Date Received: 12/01/22 11:17

Γ	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Soluble	Leach	DI Leach			40957	SMC	EET MID	12/03/22 13:46
Soluble	Analysis	300.0		10	41087	СН	EET MID	12/07/22 14:34

#### Laboratory References:

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

Lab Sample ID: 880-22182-1

Matrix: Solid

Matrix: Solid

8

Lab Sample ID: 880-22182-3 Matrix: Solid

Lab Sample ID: 880-22182-2

#### Accreditation/Certification Summary Client: Ensolum Job ID: 880-22182-1 Project/Site: Nash 36 SDG: 03E1558117 Laboratory: Eurofins Midland The accreditations/certifications listed below are applicable to this report. Authority Program Identification Number Expiration Date Texas NELAP T104704400-22-24 06-30-23 5 6 7 8

## **Method Summary**

Client: Ensolum Project/Site: Nash 36 Job ID: 880-22182-1 SDG: 03E1558117

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

#### Protocol References:

ASTM = ASTM International

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

#### Laboratory References:

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

Eurofins Midland

> 9 10

## **Sample Summary**

Client: Ensolum Project/Site: Nash 36 Page 94 of 129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-22182-1	PH03	Solid	11/18/22 12:30	12/01/22 11:17
880-22182-2	PH03A	Solid	11/18/22 12:35	12/01/22 11:17
880-22182-3	PH03B	Solid	11/18/22 12:40	12/01/22 11:17

eters	Project Name     Nash 36     Turn Around       Project Number     03E1558117     Image: Russian Statement State		ler's Name Connor Whitman	PO# Ine iab if received by Ine iab if received by SAMPLE RECEIPT Temp Blank. Yes No Wet be	Yes No Thermometer ID	Yes No Thermometer ID . Yes No N/A Correction Factor	Yes         No         Thermometer ID         *           Yes         No         N/A         Correction Factor         *           Yes         No         N/A         Temperature Reading         *	Yes     No     Thermometer ID     .       Yes     No     N/A     Correction Factor       Yes     No     N/A     Temperature Reading       Yes     Corrected Temperature	Yes     No     Thermometer ID     ·       Yes     No     N/A     Correction Factor:     ·       Yes     No     N/A     Temperature Reading     ·       Yes     Vo     N/A     Corrected Temperature     Image: Corrected Temperature       Matrix     Date     Time	Yes     No     Thermometer ID     *       Yes     No     N/A     Correction Factor       Yes     No     N/A     Temperature Reading       Yes     No     N/A     Corrected Temperature       Ation     Matrix     Date     Time       S     11/18/2022     12 30	Yes     No     Thermometer ID     1       Yes     No     N/A     Correction Factor:       Yes     No     N/A     Temperature Reading       Yes     No     N/A     Corrected Temperature       Ation     Matrix     Date     Time       S     11/18/2022     12 30       S     11/18/2022     12 35	Yes     No     Thermometer ID     *       Yes     No     N/A     Correction Factor:     *       Yes     No     N/A     Temperature Reading     *       Yes     No     N/A     Temperature Reading     *       Corrected Temperature     Sampled     Sampled     Sampled       S     11/18/2022     12 30     12 35       S     11/18/2022     12 40     *	Yes     No     Thermometer ID     *       Yes     No     N/A     Correction Factor:       Yes     No     N/A     Temperature Reading       Storm     Matrix     Date     Time       S     11/18/2022     12.30       S     11/18/2022     12.35       S     11/18/2022     12.40	Yes     No     Thermometer ID     *       Yes     No     N/A     Correction Factor:       Yes     No     N/A     Temperature Reading       Ves     No     N/A     Temperature Reading       Corrected Temperature     Sampled     Sampled       S     11/18/2022     12 30       S     11/18/2022     12 30       S     11/18/2022     12 40	t         Yes         No         Thermometer ID         *           Yes         No         N/A         Correction Factor         *           Yes         No         N/A         Temperature Reading         *           Image: Solution Factor         Corrected Temperature         Time         *           Solution Factor         Sampled         Sampled         Sampled         *           Solution Factor         Solution         11/18/2022         12 30         *         *           Solution Solution         Solution         11/18/2022         12 40         *         *           Solution Solution         Solution         *         11/18/2022         12 40         *	Yes     No     Thermometer ID     *       Yes     No     N/A     Correction Factor:       Yes     No     N/A     Temperature Reading       Corrected Temperature     Corrected Temperature       S     11/18/2022     12.30       S     11/18/2022     12.30       S     11/18/2022     12.30       S     11/18/2022     12.40	Yes     No     Thermometer ID     *       Yes     No     N/A     Correction Factor:     *       Yes     No     N/A     Temperature Reading     *       Image: Solution Factor:     Date     Time     Time       S     11/18/2022     12 30     \$       S     11/18/2022     12 35     \$       S     11/18/2022     12 40     \$       S     11/18/2022     12 40     \$	Yes         No         Thermometer ID         *           Yes         No         N/A         Correction Factor         *           Yes         No         N/A         Temperature Reading         *           Ition         Matrix         Date         Time         *           S         11/18/2022         12 30         *         *           S         11/18/2022         12 30         *         *         *           S         11/18/2022         12 30         *	International International Internation Factor Internation Factor International Internationa International Interna	Samples Received Intact:       Yes       No       Thermometer ID       T.M.         Cooler Custody Seals.       Yes       No       N/A       Correction Factor:       Sample Custody Seals.       Yes       No       N/A       Correction Factor:       Sample custody Seals.       Yes       No       N/A       Correction Factor:       Sample custody Seals.       Yes       No       N/A       Temperature Reading       3.:         Total Containers:       PH03       S       11/18/2022       12.30       1       Pettts       Pettts       Pettts       Sampled       Sampled       Pettts       Pettts       Pettts       Sampled       Sampled       Sampled       Sampled       Pettts       Pettts       Sampled       Sampled       Sampled       Sampled       Sampled       Pettts       Sampled       S	Samples Received Intact:       Yes       No       Thermometer ID       T.M.         Sooler Custody Seals.       Yes       No       N/A       Correction Factor       Implementure Reading       3         Sample Custody Seals.       Yes       No       N/A       Correction Factor       3         Total Containers:       Date       Time       Date       Time       Depth         PH03       S       11/18/2022       12 30       1         PH03A       S       11/18/2022       12 35       2         PH03B       S       11/18/2022       12 40       3         Orcle Method(s) and Metal(s) to be analyzed       TCLP / SPLP 60       3         Iotice Signature of this document and relinquishment of samples constitutes a valid purchase or of service. Eurofins Xence will be liable only for the cost of samples and shall not assume any rest ferrofins Xence. A minimum charge of \$55.00 will be applied to each project and a charge of \$55.00 will be applied to each project and a charge of \$55.00 will be applied to each proj	Samples Received Intact       Yes       No       Thermometer ID       T.M.         Cooler Custody Seals       Yes       No       N/A       Correction Factor         Sample Custody Seals       Yes       No       N/A       Temperature Reading       3         Total Containers:       Date       Time       Date       Time       Depth         PH03       S       11/18/2022       12 30       1         PH03A       S       11/18/2022       12 35       2         PH03B       S       11/18/2022       12 40       3         Originature       Zool.8 / 6020:       BRCRA       13PPM       Tec         Carcle Method(s) and Metal(s) to be analyzed       TCLP / SPLP 60       ToLP / SPLP 60       ToLP / SPLP 60         Votice Signature of this document and relinquishment of samples constitutes a valid purchase or structure.       Total a charge of \$\$       Storoffins Xenco will be applied to each project and a charge of \$
	rush Code			eters	2	Para	Para	Para	Comp Cont Para	Grab/ Comp Comp Comp Comp Carab	Grab/ 4 Grab/ 4 grab/ 1 1	Grab/ 1 grab/ 1 grab/ 1 1	Grab/ # of grab/ 1 grab/ 1 1	Grab/ Grab/ grab/ grab/ 1 1 Para	Grab/ #of grab/ 1 grab/ 1 grab/ 1 1	Grab/ grab/ 1 1 Para	grab/ 1 grab/ 1 9 Para	as 1 Al Sb As As A A A A A A A A A A A A A A A A A A		Comp     Comp       grab/     1       grab/     1       grab/     1       grab/     1       grab/     1       sponder from client company to E       sorder from client company to E	Comp     Cont       grab/     1       grab/     1       grab/     1       grab/     1       storer from client company to E       store ach sample submitted	th     Grab/       grab/     1       grab/     1       grab/     1       grab/     1       grab/     1       sponsibility for any losses or sponsibility for any losses or pater from client company to E
	REQUEST																of Custody			of Custody of Custody of Custody I I I I I I I Ni Se Ag TI U Ni Se Ag TI U Hg 1631 It assigns standard terms and conditions e due to circumstances beyond the conditions e due to circumstances previously negotiated will be enforced unless previously negotiated	of Custody of Custody I a signs standard terms and conditions e due to circumstances beyond the control will be enforced unless previously negotiated will be enforced unless previously negotiated	The signs standard terms and conditions e due to circumstances beyond the control will be enforced unless previously negotiated will be enforced unless previously negotiated
Work Order No:       Page         www.xenco.com       Page         Work Order Comments         Program UST/PST       PRP       Brownfields       RRC       ;         State of Project       Reporting Level III       PST/UST       TRRP       poliverables       EDD       ADaPT       Other         Deliverables       EDD       ADaPT       Other       Other         UEST       Image: None NO       D       D       D	Non	None NO		HCL HC	HCL HC H2S04 H2 H3PO4 HP	HCL HC H2S04 H2 H3PO4 HP NaHSO4 N	HCL HC HCL HC H <sub>2</sub> S0 <sub>4</sub> H <sub>2</sub> H <sub>3</sub> PO <sub>4</sub> HP NaHSO <sub>4</sub> NA NaHSO <sub>4</sub> NA Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Na	HCL HC H <sub>2</sub> S0 <sub>4</sub> H <sub>2</sub> H <sub>3</sub> P0 <sub>4</sub> HP NaHSO <sub>4</sub> NAE Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> NAE Zn Acetate+N NaOH+Ascort	HCL HC H2S04 H2 H3PO4 HP NaHSO4 NAB Na2S2O3 NASI Zn Acetate+Na NaOH+Ascorb	HCL HC H2S04 H2 H3P04 HP NaHS04 HP NaHS04 NABI Na2S203 NASC Zn Acetate+Na NaOH+Ascorbi NaOH+Ascorbi	HCL HC H <sub>2</sub> S0 <sub>4</sub> H <sub>2</sub> H <sub>3</sub> PO <sub>4</sub> HP NaHSO <sub>4</sub> NAB Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> NAB Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> NAB Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> NAB NACetate+Na NAOH+Ascorb Incident ID	HCL HC H <sub>2</sub> S0 <sub>4</sub> H <sub>2</sub> H <sub>3</sub> PO <sub>4</sub> HP NaHSO <sub>4</sub> NABI Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> NaSC Zn Acetate+Na NaOH+Ascorbi NaOH+Ascorbi Incident ID nAPP2224236187 Cost Center	HCL HC H <sub>2</sub> S0 <sub>4</sub> H <sub>2</sub> H <sub>3</sub> PO <sub>4</sub> HP NaHSO <sub>4</sub> NABI3 Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> NaSC Zn Acetate+Nat NaOH+Ascorbu NaOH+Ascorbu NaOH+Ascorbu Incident ID Incident ID Incident ID NAPP2224236187 Cost Center: 1137	HCL HC H2S04 H2 H3P04 HP NaHS04 NABIS Na2S203 NaSO Zn Acetate+Na0 NaOH+Ascorbid NaOH+Ascorbid NaOH+Ascorbid Incident ID nAPP2224236187 Cost Center 1137 AFE	HCL HC H <sub>2</sub> S0 <sub>4</sub> H <sub>2</sub> H <sub>3</sub> PO <sub>4</sub> HP Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> NABI Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> NASC Zn Acetate+Nat NaOH+Ascorbin NaOH+Ascorbin NaPP2224236187 Cost Center: 1137 AFE	HCLL HC H <sub>2</sub> S0 <sub>4</sub> H <sub>2</sub> H <sub>3</sub> PO <sub>4</sub> HP NaHSO <sub>4</sub> NABIS Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> NaSC Zn Acetate+Na0 NaOH+Ascorbio NaOH+Ascorbio Cost Center 1137 AFE	HCL HC H2S04 H2 H3PO4 HP NaHS04 NABIS Na2S203 NaSO Zn Acetate+Nat NaOH+Ascorbut NaOH NAFE	HCL HC HCL HC H <sub>2</sub> S0 <sub>4</sub> H <sub>2</sub> H <sub>3</sub> PO <sub>4</sub> HP NaHSO <sub>4</sub> NABIS Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> NaSO Zn Acetate+NaG NaOH+Ascorbid NaOH+Ascorbid NaPP2Z24236187 Cost Center: 1137 AFE 1137	HCL HC HCL HC H2,S04 H2 H3PO4 HP NaHSO4 NABI Na,S2,O3 NaSC Zn Acetate+Na NaOH+Ascorbi NaOH+Ascorbi Incident ID nAPP2Z2436187 Cost Center 1137 AFE AFE	HCL HC HCL HC H <sub>2</sub> S0 <sub>4</sub> H <sub>2</sub> H <sub>3</sub> P0 <sub>4</sub> HP NaHSO <sub>4</sub> NABIS Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> NaSO, Zn Acetate+NaC NaOH+Ascorbic NaOH+Ascorbic NaOH+Ascorbic Cost Center 11371 AFE 11371 AFE	L HC 20, HC 20, HC 20, HP 20, HP 20, NaSO Acetate+Na( 0H+Ascorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HAScorbic 0HASCOR	HCL HC HNO, MIEOTI M HCL HC HNO, MIEOTI M HCL HC HNO, MIEOTI M H2,504 H2 NAOH N H3PO4 HP NaHSO4 NABIS Na,52,03 NASO3 Zn Acetate+NAOH Zn NaOH+Ascorbic Acid SAPQ Incident ID nAPP22426187 Cost Center 1137151001 AFE 4 Sr TI Sn U V Zn 1245 1/7470 /7471 Date/Time
	ILocation     Due Date       Istriction     Due Date       Istriction     TAT starts the day received by       Istriction     The lab if received by 4 30pm	In TAT starts the day received by the lab if	2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	lemp Blank. Yes No Wet ice (Yes) No to )		Yes No N/A Correction Factor Par	Yes No N/A Correction Factor Yes No N/A Temperature Reading 3.2 (EPA 30	Yes No N/A Correction Factor Yes No N/A Temperature Reading 3.2 IDES (EPA 30 115) 3021)	ves     No     N/A     Correction Factor       Ves     No     N/A     Correction Factor       Corrected Temperature Reading     3.2     Par       Corrected Temperature     Comp Cont     Par       CHLORIDES (EPA 30)     TPH (8015)       BTEX (8021)     BTEX (8021)	Atton     Ves     No     N/A     Correction Factor       Yes     No     N/A     Correction Factor     Imperature Reading       Sampled     Corrected Temperature     3.2     Par       Sampled     Sampled     Sampled     Corrected Temperature       Sampled     Sampled     Corrected Temperature     Grab/l # of       Corrected Temperature     Corrected Temperature     Corrected Temperature       Sampled     Sampled     Corrected Temperature       Sampled     Sampled     Corrected Temperature       Sampled     Sampled     Corrected Temperature       Vestor     Corrected Temperature     Corrected Temperature       Vestor     Corrected Temperature     Corrected Temperature       Sampled     Sampled     Corrected Temperature       Sampled     Sampled     Corrected Temperature       Vestor     Corrected Temperature     Corrected Temperature       Vestor     Corrected T	Yes       No       N/A       Correction Factor:       Law: Factor:         Yes       No       N/A       Temperature Reading       3.2       Par         Corrected Temperature       Corrected Temperature       3.2       Par         S       11/18/2022       12.30       1       grab/       Par         S       11/18/2022       12.35       2       grab/       1       x       x         S       11/18/2022       12.35       2       grab/       1       x       x       Image: Second	Yes         No         N/A         Correction Factor         Law           Yes         No         N/A         Correction Factor         1           Yes         No         N/A         Temperature Reading         3.2         Par           Ko         N/A         Temperature Reading         3.2         Par           Matrix         Date         Time         Depth         Grab/ comp         #of           S         11/18/2022         12 30         1         grab/         1         x </td <td>Yes         No         N/A         Correction Factor:         Lutrice relating         3.2         Par           Yes         No         N/A         Temperature Reading         3.2         Par           Corrected Temperature         Date         Time         Depth         Grab/ Comp         Fort         Par           S         11/18/2022         12.30         1         grab/         1         x</td> <td>Yes         No         N/A         Correction Factor:         Lutrice           Yes         No         N/A         Temperature Reading         3.2         Par           S         11/18/2022         12.30         1         grab/         cont         Feraperature    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     grab/         Normal         Par           S         11/18/2022         12 40         3         grab/         Normal         Par           S         11/18/2022         12 40         3         grab/         Normal         Par           S         11/18/2022         12 40         3         grab/         Normal         Normal         Normal         Normal           S         11/18/2022         12 40         3         grab/         Normal         Normal         Normal         Normal           S         1         1         X         X         Normal         Normal         Normal</td> <td>stion         NA         Correction Factor         Turne           S         11/18/2022         12 30         1         grab/         stor           S         11/18/2022         12 30         1         grab/         no         no           S         11/18/2022         12 30         1         grab/         no         no         no         no           S         11/18/2022         12 30         1         grab/         no         no</td> <td>Yes         No         NA         Correction Factor         Currection Factor           Ves         No         NA         Temperature Reading         3         Par           Corrected Temperature         Sampled         <td< td=""><td>rection Factor       Lutt, Cut precision Factor       Par         rected Temperature ampled       Sampled       Depth       Grab/ Comp       For and Cont       For and Charles       For and Cont       For and Charles       Fo</td><td></td><td></td><td>matu</td></td<></td>	Yes         No         N/A         Correction Factor:         Lutrice relating         3.2         Par           Yes         No         N/A         Temperature Reading         3.2         Par           Corrected Temperature         Date         Time         Depth         Grab/ Comp         Fort         Par           S         11/18/2022         12.30         1         grab/         1         x	Yes         No         N/A         Correction Factor:         Lutrice           Yes         No         N/A         Temperature Reading         3.2         Par           S         11/18/2022         12.30         1         grab/         cont         Feraperature         Par           S         11/18/2022         12.30         1         grab/         1         x         x         Par           S         11/18/2022         12.30         1         grab/         1         x         x         Par           S         11/18/2022         12.35         2         grab/         1         x         x         Horizon Cont         FPH (8015)         Fill         Fill	Image: Nonlocal constraints         No	stion         N/A         Correction Factor         Corrected Temperature Reading         3.2         Par           S         11/18/2022         12 30         1         grab/         Corrected Temperature         Par           S         11/18/2022         12 35         2         grab/         Normal         Par           S         11/18/2022         12 35         2         grab/         Par           S         11/18/2022         12 35         2         grab/         Normal         Par           S         11/18/2022         12 35         2         grab/         Normal         Par           S         11/18/2022         12 40         3         grab/         Normal         Par           S         11/18/2022         12 40         3         grab/         Normal         Par           S         11/18/2022         12 40         3         grab/         Normal         Normal         Normal         Normal           S         11/18/2022         12 40         3         grab/         Normal         Normal         Normal         Normal           S         1         1         X         X         Normal         Normal         Normal	stion         NA         Correction Factor         Turne           S         11/18/2022         12 30         1         grab/         stor           S         11/18/2022         12 30         1         grab/         no         no           S         11/18/2022         12 30         1         grab/         no         no         no         no           S         11/18/2022         12 30         1         grab/         no	Yes         No         NA         Correction Factor         Currection Factor           Ves         No         NA         Temperature Reading         3         Par           Corrected Temperature         Sampled         Sampled <td< td=""><td>rection Factor       Lutt, Cut precision Factor       Par         rected Temperature ampled       Sampled       Depth       Grab/ Comp       For and Cont       For and Charles       For and Cont       For and Charles       Fo</td><td></td><td></td><td>matu</td></td<>	rection Factor       Lutt, Cut precision Factor       Par         rected Temperature ampled       Sampled       Depth       Grab/ Comp       For and Cont       For and Charles       For and Cont       For and Charles       Fo			matu

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12

Chain of Custody

Houston TX (281) 240-4200 Dallas TX (214) 902-0300

Job Number: 880-22182-1 SDG Number: 03E1558117

List Source: Eurofins Midland

## Login Sample Receipt Checklist

Client: Ensolum

Login Number: 22182 List Number: 1 Creator: Kramer, Jessica

Login Number: 22182			List Source: Eurotins Midland	_
List Number: 1				5
Creator: Kramer, Jessica				
Question	Answer	Comment		
The cooler's custody seal, if present, is intact.	N/A			
Sample custody seals, if present, are intact.	N/A			
The cooler or samples do not appear to have been compromised or tampered with.	True			8
Samples were received on ice.	True			
Cooler Temperature is acceptable.	True			9
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			13
Sample containers have legible labels.	True			
Containers are not broken or leaking.	True			
Sample collection date/times are provided.	True			
Appropriate sample containers are used.	True			
Sample bottles are completely filled.	True			
Sample Preservation Verified.	True			
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True			
Containers requiring zero headspace have no headspace or bubble is	N/A			

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

Received by OCD: 2/13/2023 2:36:26 PM



**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 12/7/2022 4:28:47 PM

## JOB DESCRIPTION

Nash 36 SDG NUMBER 03E1558117

## **JOB NUMBER**

880-22184-1

Eurofins Midland 1211 W. Florida Ave Midland TX 79701

See page two for job notes and contact information.



Received by OCD: 2/13/2023 2:36:26 PM

## **Eurofins Midland**

Job Notes

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

## Authorization

RAMER

Generated 12/7/2022 4:28:47 PM

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

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

12/7/2022

Page 99 of 129

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
QC Sample Results	7
QC Association Summary	8
Lab Chronicle	9
Certification Summary	10
Method Summary	11
Sample Summary	12
Chain of Custody	13
Receipt Checklists	14

Detection Limit (DoD/DOE)

Estimated Detection Limit (Dioxin)

Limit of Detection (DoD/DOE)

Method Detection Limit

Minimum Level (Dioxin)

Most Probable Number

Not Calculated

Negative / Absent

Positive / Present

Presumptive

**Quality Control** 

Method Quantitation Limit

Practical Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

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

Limit of Quantitation (DoD/DOE)

Decision Level Concentration (Radiochemistry)

EPA recommended "Maximum Contaminant Level"

Minimum Detectable Concentration (Radiochemistry)

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

Minimum Detectable Activity (Radiochemistry)

DL

DLC EDL

LOD

LOQ

MCL

MDA

MDC

MDL

ML

MPN

MQL

NC

ND

NEG

POS

PQL

PRES

QC

RER RL

RPD

TEF

TEQ

TNTC

DL, RA, RE, IN

## **Definitions/Glossary**

Client: Ensolu	im -	Job ID: 880-22184-1	
Project/Site: I		SDG: 03E1558117	
Qualifiers			3
HPLC/IC			
Qualifier	Qualifier Description		
F1	MS and/or MSD recovery exceeds control limits.		
U	Indicates the analyte was analyzed for but not detected.		5
Glossary			6
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		0
CFU	Colony Forming Unit		Ō
CNF	Contains No Free Liquid		
DER	Duplicate Error Ratio (normalized absolute difference)		9
Dil Fac	Dilution Factor		

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

**Eurofins Midland** 

5

#### Job ID: 880-22184-1

Client: Ensolum Project/Site: Nash 36

#### Laboratory: Eurofins Midland

#### Narrative

Job Narrative 880-22184-1

#### Receipt

The samples were received on 12/1/2022 11:17 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

#### HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-40957 and analytical batch 880-41087 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 Res	sults				
Client: Ensolum Project/Site: Nash 36			-				Job ID: 880- SDG: 03E	
Client Sample ID: PH06						Lab San	nple ID: 880-2	2184-1
Date Collected: 11/18/22 13:55							•	ix: Solid
Date Received: 12/01/22 11:17								
Method: MCAWW 300.0 - Anions, I	on Chromato	ography - Solu	ıble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3440	F1	100	mg/Kg			12/07/22 14:42	20
Client Sample ID: PH06A						Lab San	nple ID: 880-2	2184-2
Date Collected: 11/18/22 14:00							Matri	ix: Solid
Date Received: 12/01/22 11:17								
Method: MCAWW 300.0 - Anions, I	on Chromate	ography - Solu	ıhle					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4410		101	mg/Kg			12/07/22 15:06	20
Client Sample ID: PH06B						Lab San	nple ID: 880-2	2184-3
Date Collected: 11/18/22 14:10							Matri	ix: Solid
Date Received: 12/01/22 11:17								
Method: MCAWW 300.0 - Anions, I	on Chromato	ography - Solu	ıble					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4110		99.2	mg/Kg			12/07/22 15:14	20

Eurofins Midland

Client: Ensolum

Project/Site: Nash 36

## **QC Sample Results**

Job ID: 880-22184-1 SDG: 03E1558117

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40957/1-A Matrix: Solid											Client S	Sample ID: Prep	Method Type: S	
Analysis Batch: 41087		мв	MB											
Analyte	P		Qualifier		RL		Unit		D	Б	repared	Analy	zod	Dil Fa
Chloride		<5.00			5.00			g		•	reparea	12/07/22		Diria
							-	-						
Lab Sample ID: LCS 880-40957/2-A									CI	ient	Sample	e ID: Lab C	ontrol S	ample
Matrix: Solid												Prep	Type: S	olubl
Analysis Batch: 41087														
				Spike		LCS	LCS					%Rec		
Analyte				Added	R	esult	Qualifier	Unit		D	%Rec	Limits		
Chloride				250	2	243.8		mg/Kg			98	90 - 110		
Lab Sample ID: LCSD 880-40957/3-	٨							CI	iont	Sam		Lab Contro	ol Samol	
Matrix: Solid								01	ient (	Jan	ipie ib.		Type: S	
Analysis Batch: 41087												Tich	rype. o	oiubi
				Spike	L	CSD	LCSD					%Rec		RPI
Analyte				Added	R	esult	Qualifier	Unit		D	%Rec	Limits	RPD	Limi
												Ennico	INF D	
Chloride				250		263.6		mg/Kg		-	105	90 - 110	8	
				250	2	263.6		mg/Kg		-	105	90 - 110	8	20
Lab Sample ID: 880-22184-1 MS				250	2	263.6		mg/Kg		_	105	90 - 110 Client Sa	8 mple ID:	20 PH0
Lab Sample ID: 880-22184-1 MS Matrix: Solid				250	2	263.6		mg/Kg		-	105	90 - 110 Client Sa	8	20 PH0
Lab Sample ID: 880-22184-1 MS Matrix: Solid	0	0			2			mg/Kg		-	105	90 - 110 Client Sa Prep	8 mple ID:	20 PH0
Lab Sample ID: 880-22184-1 MS Matrix: Solid Analysis Batch: 41087	Sample	•		Spike		MS	MS			_		90 - 110 Client Sa Prep %Rec	8 mple ID:	20 PH0
Lab Sample ID: 880-22184-1 MS Matrix: Solid Analysis Batch: 41087 Analyte	Result	Quali		Spike Added	R	MS esult	Qualifier	Unit			%Rec	90 - 110 Client Sa Prep %Rec Limits	8 mple ID:	20 PH00
Lab Sample ID: 880-22184-1 MS Matrix: Solid Analysis Batch: 41087 Analyte	•	Quali		Spike	R	MS	Qualifier			_		90 - 110 Client Sa Prep %Rec	8 mple ID:	20 PH0
Lab Sample ID: 880-22184-1 MS Matrix: Solid Analysis Batch: 41087 Analyte	Result	Quali		Spike Added	R	MS esult	Qualifier	Unit		_	%Rec	90 - 110 Client Sa Prep %Rec Limits	ample ID: Type: S	2 PH0 olubl
Lab Sample ID: 880-22184-1 MS Matrix: Solid Analysis Batch: 41087 Analyte Chloride Lab Sample ID: 880-22184-1 MSD	Result	Quali		Spike Added	R	MS esult	Qualifier	Unit		_	%Rec	90 - 110 Client Sa Prep %Rec Limits 90 - 110 Client Sa	ample ID: Type: S	2 PH0 olubl
Lab Sample ID: 880-22184-1 MS Matrix: Solid Analysis Batch: 41087 Analyte Chloride Lab Sample ID: 880-22184-1 MSD Matrix: Solid	Result	Quali		Spike Added	R	MS esult	Qualifier	Unit		_	%Rec	90 - 110 Client Sa Prep %Rec Limits 90 - 110 Client Sa	ample ID: Type: S	2 PH0 olubl
Lab Sample ID: 880-22184-1 MS Matrix: Solid Analysis Batch: 41087 Analyte Chloride Lab Sample ID: 880-22184-1 MSD Matrix: Solid	Result	Qualit F1	fier	Spike Added	R	MS <u>esult</u> 9937	Qualifier	Unit		_	%Rec	90 - 110 Client Sa Prep %Rec Limits 90 - 110 Client Sa	ample ID: Type: S	PH00 oluble PH00 oluble
Chloride Lab Sample ID: 880-22184-1 MS Matrix: Solid Analysis Batch: 41087 Analyte Chloride Lab Sample ID: 880-22184-1 MSD Matrix: Solid Analysis Batch: 41087 Analyte	<b>Result</b> 3440	Qualif F1	fier	Spike Added 5010	R	MS esult 9937 MSD	Qualifier F1	Unit		_	%Rec	90 - 110 Client Sa Prep %Rec Limits 90 - 110 Client Sa Prep	ample ID: Type: S	PH0 oluble PH0

Eurofins Midland

5 6 7

## **QC Association Summary**

Client: Ensolum Project/Site: Nash 36 Page 104 of 129

Job ID: 880-22184-1 SDG: 03E1558117

### HPLC/IC

## Leach Batch: 40957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22184-1	PH06	Soluble	Solid	DI Leach	
80-22184-2	PH06A	Soluble	Solid	DI Leach	
80-22184-3	PH06B	Soluble	Solid	DI Leach	
IB 880-40957/1-A	Method Blank	Soluble	Solid	DI Leach	
CS 880-40957/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
.CSD 880-40957/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
380-22184-1 MS	PH06	Soluble	Solid	DI Leach	
880-22184-1 MSD	PH06	Soluble	Solid	DI Leach	

#### Analysis Batch: 41087

each Batch: 40957					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22184-1	PH06	Soluble	Solid	DI Leach	
880-22184-2	PH06A	Soluble	Solid	DI Leach	
880-22184-3	PH06B	Soluble	Solid	DI Leach	
MB 880-40957/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-40957/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-40957/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-22184-1 MS	PH06	Soluble	Solid	DI Leach	
880-22184-1 MSD	PH06	Soluble	Solid	DI Leach	
nalysis Batch: 41087	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
	PH06	Soluble	Solid	300.0	40957
880-22184-1	•		Solid Solid	300.0 300.0	40957 40957
880-22184-1 880-22184-2	PH06	Soluble			
880-22184-1 880-22184-2 880-22184-3	PH06 PH06A	Soluble	Solid	300.0	40957
880-22184-1 880-22184-2 880-22184-3 MB 880-40957/1-A	РН06 РН06А РН06В	Soluble Soluble Soluble	Solid Solid	300.0 300.0	40957 40957
880-22184-1 880-22184-2 880-22184-3 MB 880-40957/1-A LCS 880-40957/2-A	PH06 PH06A PH06B Method Blank	Soluble Soluble Soluble Soluble Soluble	Solid Solid Solid	300.0 300.0 300.0	40957 40957 40957
880-22184-1 880-22184-2 880-22184-3 MB 880-40957/1-A LCS 880-40957/2-A LCSD 880-40957/3-A 880-22184-1 MS	PH06 PH06A PH06B Method Blank Lab Control Sample	Soluble Soluble Soluble Soluble Soluble Soluble	Solid Solid Solid Solid	300.0 300.0 300.0 300.0	40957 40957 40957 40957

Eurofins Midland

**Released to Imaging: 6/14/2023 10:26:27 AM** 

### Lab Chronicle

Job ID: 880-22184-1
SDG: 03E1558117

Lab Sample ID: 880-22184-2

Lab Sample ID: 880-22184-3

## **Client Sample ID: PH06** Date Collected: 11/18/22 13:55

Client: Ensolum Project/Site: Nash 36

Date Received: 12/01/22 11:17

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Soluble	Leach	DI Leach			40957	SMC	EET MID	12/03/22 13:46
Soluble	Analysis	300.0		20	41087	СН	EET MID	12/07/22 14:42

#### **Client Sample ID: PH06A** Date Collected: 11/18/22 14:00 Date Received: 12/01/22 11:17

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Soluble	Leach	DI Leach			40957	SMC	EET MID	12/03/22 13:46
Soluble	Analysis	300.0		20	41087	СН	EET MID	12/07/22 15:06

## **Client Sample ID: PH06B** Date Collected: 11/18/22 14:10

Date Received: 12/01/22 11:17

Γ	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Soluble	Leach	DI Leach			40957	SMC	EET MID	12/03/22 13:46
Soluble	Analysis	300.0		20	41087	СН	EET MID	12/07/22 15:14

#### Laboratory References:

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

Lab Sample ID: 880-22184-1 Matrix: Solid

Matrix: Solid

Matrix: Solid

## Accreditation/Certification Summary

	Accreditation/C	Certification Summary			
lient: Ensolum roject/Site: Nash 36				Job ID: 880-22184-1 SDG: 03E1558117	Ī
aboratory: Eurofins M	<b>lidland</b> ed below are applicable to this report.				
Authority	Program	Identification Number	Expiration Date		
exas	NELAP	T104704400-22-24	06-30-23		

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## **Method Summary**

Client: Ensolum Project/Site: Nash 36 Job ID: 880-22184-1 SDG: 03E1558117

	Method	Method Description	Protocol	Laboratory
Protocol References: ASTM = ASTM International MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. Laboratory References:	300.0	Anions, Ion Chromatography	MCAWW	EET MID
ASTM = ASTM International MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. Laboratory References:	DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID
ASTM = ASTM International MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. Laboratory References:	Protocol Re	iforances'		
Laboratory References:				
-	MCAWV	V = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1	983 And Subsequent Revisions.	
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440	Laboratory	References:		
	EET MI	D = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440		

#### Protocol References:

#### Laboratory References:

Eurofins Midland

9 10

Client: Ensolum Project/Site: Nash 36 Page 108 of 129

#### Job ID: 880-22184-1 SDG: 03E1558117

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-22184-1	PH06	Solid	11/18/22 13:55	12/01/22 11:17
880-22184-2	PH06A	Solid	11/18/22 14:00	12/01/22 11:17
880-22184-3	PH06B	Solid	11/18/22 14:10	12/01/22 11:17

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		4	12/1/22 11:17	12/1	Ŷ	S		6.	MM	<u>م</u> م
Date/Time	) Received by: (Signature)	Relinquished by (Signature)	Date/Time		ure)	Received by: (Signature)	Received	lire)	Relinquished by (Signature)	Relinqu
	to circumstances beyond the control e enforced unless previously negotiated	of Eurofins Xenco. A minimum charge of \$5 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	sses or expenses inclumitted to Eurofins Xe	thty for any lo	ge of \$5 for ea	oject and a cha	applied to each pr	e of \$85 00 will be	enco. A minimum charg	of Eurofins X
	gns standard terms and conditions	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 Eurofine Xenco will be liable only for the cost of samples and shall not normalize the service of the service o	any to Eurofins Xenco	n client comp	hase order fro	utes a valid pure	of samples constitue	id relinquishment o	ture of this document au urofins Xenco will he lial	Notice Signa
/74	Hg 1631/245	Pb Mn Mo Ni	b As Ba Be C		TCLP / SPLP 6010 BRCRA	TCLP / SF	zed	s) to be analy	Circle Method(s) and Metal(s) to be analyzed	Circle Met
TI Sn U V Zn	Mn Mo Ni K Se Ag SiO, Na Sr	Cd Ca Cr Co Cu Fe Pb Mg	As Ba Be B C	1 AI Sb	M Texas 11	8RCRA 13PPM		200.8 / 6020:	200.7 / 6010 20	Total 2
	4 Chain of Custody	880-22184 Chain	20							
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4236187	nAPP2224236187		< ;			2 10	11/18/2022	s	PH06B	
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nt D			×	grab/ 1	1 ar	1 55	11/18/2022	s	PH06	
Sample Comments	0		CHLOF TPH (8 BTEX (	ab/#of mp Cont	Depth Comp	Time Sampled	Date Sampled	Matrix	Sample Identification	Sa
NaOH+Ascorbic Acid SAPC	NaOH		015)			iperature.	Corrected Temperature.		ainers.	Total Containers.
Zn Acetate+NaOH Zn	Zn Ace				3 7 2	Reading	Temperature Reading	Yes No N/A	Sample Custody Seals. Y	Sample Cu
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> NaSO <sub>3</sub>	Na <sub>2</sub> S <sub>2</sub> C		PA 3	L		tor	Correction Factor	Yes No N/A	1	Cooler Cus
NaHSO, NABIS	NaHSC		00 (		T-NM- OUT	D	Thermometer ID	Yes No	Samples Received Infact:	Samples R
	dH *0d*H		))	ietei	Yes No	Wet Ice.	Yes No	Temp Blank:	SAMPLE RECEIPT	SAMPLE
H <sub>2</sub> NaOH Na					the lab if received by 4 30pm	the lab if rec				P0#
-				₹	hav received	TAT starts the		Connor Whitman	Name:	Sampler's Name
						Due Date			ation	Project Location
NO DI Water: H-O	None	- 1		Pres. Code	🗌 Rush	✓ Routine	17	03E1558117	nber	Project Number
Preservative Codes		ANALYSIS REQUEST			Turn Around	Turn		Nash 36	me.	Project Name
Other	Deliverables EDD ADaPT	De	Email Garrett Green@ExxonMobil.com	en@Exxo	Garrett Gre	Email		-2946	303-887-2946	Phone:
	Reporting Level II 🗌 Level III 🗍 PST/UST 🗍 TRRP 🗍		Carlsbad NM 88220		City, State ZIP			Carlsbad, NM 88220		City, State ZIP
	State of Project.	St	3104 E Green St.	0	Address.		lwy	3122 National Parks Hwy	3122 Na	Address.
RRC Superfund	Program. UST/PST PRP Brownfields RRC Superfund	Pr	XTO Energy		Company Name				Name. Ensolum	Company Name
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ge of	www.xenco.com Page									
~		Hobbs NM (575) 392-7550 Carlsbad NM (575) 988-3199	5) 392-7550 Carlsb	obbs NM (57	Ĩ					
		EI Paso TX (015) 585 3440 San Antonio TX (210) 509-3334	1) /04-3440 San An	Pasn TX /6				Xt cc		
てもろう		Houston TX (281) 240-4200 Dallas TX (214) 902-0300	281) 240-4200 Dall	louston TX (		ji.	101 * 101	ir Sir Oi		<b>*</b>

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Chain of Custody

13

Job Number: 880-22184-1 SDG Number: 03E1558117

List Source: Eurofins Midland

### Login Sample Receipt Checklist

Client: Ensolum

### Login Number: 22184 List Number: 1 Creator: Kramer, Jessica

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

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



**Environment Testing** 

# ANALYTICAL REPORT

# PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 12/7/2022 4:29:24 PM

# JOB DESCRIPTION

Nash 36 SDG NUMBER 03E1558117

## **JOB NUMBER**

880-22185-1

Eurofins Midland 1211 W. Florida Ave Midland TX 79701

See page two for job notes and contact information.

Received by OCD: 2/13/2023 2:36:26 PM

## **Eurofins Midland**

Job Notes

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

### Authorization

RAMER

Generated 12/7/2022 4:29:24 PM

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

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

12/7/2022

SDG: 03E1558117

Laboratory Job ID: 880-22185-1

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
QC Sample Results	7
QC Association Summary	8
Lab Chronicle	9
Certification Summary	10
Method Summary	11
Sample Summary	12
Chain of Custody	13
Receipt Checklists	14

### **Definitions/Glossary**

Client: Ensolut Project/Site: N		Job ID: 880-22185-1 SDG: 03E1558117	
Qualifiers			
Quaimers			3
HPLC/IC Qualifier	Qualifier Description		Δ
U	Indicates the analyte was analyzed for but not detected.		
Glossary			5
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		Ö
DER	Duplicate Error Ratio (normalized absolute difference)		
Dil Fac	Dilution Factor		9
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)		13
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		

TNTC Too Numerous To Count

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#### Job ID: 880-22185-1

Project/Site: Nash 36

Client: Ensolum

#### Laboratory: Eurofins Midland

#### Narrative

Job Narrative 880-22185-1

#### Receipt

The samples were received on 12/1/2022 11:17 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

#### HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-40957 and analytical batch 880-41087 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 Res	sults				
Client: Ensolum							Job ID: 880-	22185-1
Project/Site: Nash 36							SDG: 03E	1558117
Client Sample ID: PH05						Lab Sam	ple ID: 880-2	2185-1
Date Collected: 11/18/22 13:25							Matr	ix: Solid
Date Received: 12/01/22 11:17								
Method: MCAWW 300.0 - Anions, I								
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10100		251	mg/Kg			12/07/22 15:39	50
Client Sample ID: PH05A						Lab San	ple ID: 880-2	2185-2
Date Collected: 11/18/22 13:30							Matr	ix: Solid
Date Received: 12/01/22 11:17								
Method: MCAWW 300.0 - Anions, I	on Chromate	aranhy - Soli	ublo					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5160	· _	99.4	mg/Kg			12/07/22 15:47	20
Client Sample ID: PH05B						Lab San	ple ID: 880-2	2185-3
Date Collected: 11/18/22 13:35							Matr	ix: Solid
Date Received: 12/01/22 11:17								
Method: MCAWW 300.0 - Anions, I	on Chromato	ography - Soli	uble					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7330		101	mg/Kg			12/07/22 15:55	20
Client Sample ID: PH05C						Lab Sam	ple ID: 880-2	2185-4
Date Collected: 11/18/22 13:40							Matr	ix: Solid
Date Received: 12/01/22 11:17								
 Method: MCAWW 300.0 - Anions, I	on Chromato	ography - Soli	uble					
	on on onate							
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Client: Ensolum

Project/Site: Nash 36

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### **QC Sample Results**

### Job ID: 880-22185-1 SDG: 03E1558117

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40957/1-A Matrix: Solid										С	lient S	ample ID: Prep	Method Type: S	
Analysis Batch: 41087	МВ	МВ												
Analyte	Result	Qualifier		RL		ι	Jnit		D	Prep	pared	Analy	zed	Dil Fac
Chloride	<5.00	U		5.00		n	ng/Kg					12/07/22	12:24	1
Lab Sample ID: LCS 880-40957/2-A									Clie	ent S	ample	ID: Lab C	ontrol S	Sample
Matrix: Solid												Prep	Type: S	Soluble
Analysis Batch: 41087														
			Spike		LCS	LCS						%Rec		
Analyte			Added		Result	Qualifi	ier	Unit	I	D %	%Rec	Limits		
Chloride			250		243.8			mg/Kg			98	90 - 110		
Lab Sample ID: LCSD 880-40957/3-A								Cli	ent Sa	ampl	le ID: L	.ab Contro	ol Samp	le Dup
Matrix: Solid												Prep	Type: S	Soluble
Analysis Batch: 41087														
			Spike		LCSD	LCSD						%Rec		RPD
Analyte			Added		Result	Qualifi	ier	Unit	I	D %	%Rec	Limits	RPD	Limit
Chloride			250		263.6			mg/Kg			105	90 - 110	8	20

Released to Imaging: 6/14/2023 10:26:27 AM

### **QC** Association Summary

Client: Ensolum Project/Site: Nash 36

Page 118 of 129

Job ID: 880-22185-1 SDG: 03E1558117

### HPLC/IC

### Leach Batch: 40957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-22185-1	PH05	Soluble	Solid	DI Leach	
380-22185-2	PH05A	Soluble	Solid	DI Leach	
380-22185-3	PH05B	Soluble	Solid	DI Leach	
380-22185-4	PH05C	Soluble	Solid	DI Leach	
MB 880-40957/1-A	Method Blank	Soluble	Solid	DI Leach	
_CS 880-40957/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
_CSD 880-40957/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
nalysis Batch: 41087					
nalysis Batch: 41087					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
Lab Sample ID 880-22185-1	PH05	Soluble	Solid	300.0	40957
-ab Sample ID 380-22185-1	· · · · · · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · · · · · ·
Lab Sample ID 380-22185-1 380-22185-2	PH05	Soluble	Solid	300.0	40957
•	PH05 PH05A	Soluble	Solid Solid	300.0 300.0	40957 40957
Lab Sample ID 380-22185-1 380-22185-2 380-22185-3	PH05 PH05A PH05B	Soluble Soluble Soluble	Solid Solid Solid	300.0 300.0 300.0	40957 40957 40957
Lab Sample ID 380-22185-1 380-22185-2 380-22185-3 380-22185-4	PH05 PH05A PH05B PH05C	Soluble Soluble Soluble Soluble	Solid Solid Solid Solid	300.0 300.0 300.0 300.0	40957 40957 40957 40957 40957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	
880-22185-1	PH05	Soluble	Solid	300.0	40957	
880-22185-2	PH05A	Soluble	Solid	300.0	40957	
880-22185-3	PH05B	Soluble	Solid	300.0	40957	
880-22185-4	PH05C	Soluble	Solid	300.0	40957	
MB 880-40957/1-A	Method Blank	Soluble	Solid	300.0	40957	
LCS 880-40957/2-A	Lab Control Sample	Soluble	Solid	300.0	40957	
LCSD 880-40957/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	40957	

Lab	Chronicle	
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Job ID: 880-22185-1
SDG: 03E1558117

Lab Sample ID: 880-22185-2

Lab Sample ID: 880-22185-3

Lab Sample ID: 880-22185-4

### **Client Sample ID: PH05** Date Collected: 11/18/22 13:25

Client: Ensolum Project/Site: Nash 36

Date	<b>Received:</b>	12/01/22	11:17

_	Batch	Batch		Dilution	Batch			Prepared
Ргер Туре	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Soluble	Leach	DI Leach			40957	SMC	EET MID	12/03/22 13:46
Soluble	Analysis	300.0		50	41087	СН	EET MID	12/07/22 15:39

### Client Sample ID: PH05A Date Collected: 11/18/22 13:30 Date Received: 12/01/22 11:17

	Batch	Batch		Dilution	Batch			Prepared
Ргер Туре	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Soluble	Leach	DI Leach			40957	SMC	EET MID	12/03/22 13:46
Soluble	Analysis	300.0		20	41087	СН	EET MID	12/07/22 15:47

### **Client Sample ID: PH05B** Date Collected: 11/18/22 13:35

Date Received: 12/01/22 11:17

	Batch	Batch		Dilution	Batch			Prepared
Ргер Туре	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Soluble	Leach	DI Leach			40957	SMC	EET MID	12/03/22 13:46
Soluble	Analysis	300.0		20	41087	СН	EET MID	12/07/22 15:55

### **Client Sample ID: PH05C**

Date Collected: 11/18/22 13:40 Date Received: 12/01/22 11:17

	Batch	Batch		Dilution	Batch			Prepared
Ргер Туре	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Soluble	Leach	DI Leach			40957	SMC	EET MID	12/03/22 13:46
Soluble	Analysis	300.0		20	41087	СН	EET MID	12/07/22 16:03

Laboratory References:

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

**Eurofins Midland** 

Lab Sample ID: 880-22185-1 Matrix: Solid

Matrix: Solid

Matrix: Solid

Matrix: Solid

	Accreditation/0	Certification Summary		1
Client: Ensolum Project/Site: Nash 36				380-22185-1 03E1558117 2
Laboratory: Eurofins M				3
Authority	Program	Identification Number	Expiration Date	4
Texas	NELAP	T104704400-22-24	06-30-23	5
				6
				8
				9
				13

### **Method Summary**

Client: Ensolum Project/Site: Nash 36 Job ID: 880-22185-1 SDG: 03E1558117

Nethod	Method Description	Protocol	Laboratory	
300.0	Anions, Ion Chromatography	MCAWW	EET MID	_
OI Leach	Deionized Water Leaching Procedure	ASTM	EET MID	
Protocol Re				
	ASTM International			
MCAW	V = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Sub	sequent Revisions.		

#### Protocol References:

#### Laboratory References:

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

Eurofins Midland

### **Sample Summary**

Client: Ensolum Project/Site: Nash 36

Job ID: 880-22185-1	
SDG: 03E1558117	

Page 122 of 129

ab Sample ID	Client Sample ID	Matrix	Collected	Received
880-22185-1	PH05	Solid	11/18/22 13:25	12/01/22 11:17
880-22185-2	PH05A	Solid	11/18/22 13:30	12/01/22 11:17
880-22185-3	PH05B	Solid	11/18/22 13:35	12/01/22 11:17
880-22185-4	PH05C	Solid	11/18/22 13:40	12/01/22 11:17

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	4 7			Hob	Paso TX ( bbs_NM (5	(915) 585- (75) 392 7	3443 Lut 550 Carl	sbad NM	EL Paso TX (915) 585-5443 Lubbock TX (806) 794-1296 Hobbs NM (575) 392 7550 Carlsbad NM (575) 988-3199				~
											www xenco com	co.com Page	of
Project Manager H	Kalei Jennings			Bill to (if different)	ent)	Garrett Green	Green				Work	ò	
Company Name	Ensolum			Company Name		XTO Energy	ergy			Prog	Program UST/PST PRP Brownfields RRC Superfund	Brownfields RR	C ☐ Superfund □
	3122 National Parks Hwy	α Hwy		Address.		3104 E Green St	Green S	~		State	State of Project	[	[
City, State ZIP	Carlsbad, NM 88220	20		City, State ZIP		Carlsbad NM 88220	88 MN P	220		Repo	Reporting Level II _ Level III _ PST/UST _ TRRP _ Level IV	I 🗌 PST/UST 🗌 TRH	
	303-887-2946		Email	Garrett Green@ExxonMobil com	n@Exx	onMobil	com			Deliv	Deliverables EDD	ADaPT 🔲 Other	er.
Project Name	Nash 36	36	Tum	Turn Around	_				ANALYSIS	IS REQUEST		Presen	Preservative Codes
Project Number	03E1558117	8117	マ Routine	Rush	Pres.							None NO	DI Water: H-O
Project Location			Due Date										
Sampler's Name:	Connor Whitman	/hitman	TAT starts th	TAT starts the day received by	₹							HCL HC	
PO#:			the lab if rec	the lab if received by 4 30pm								H <sub>2</sub> SO <sub>4</sub> H <sub>2</sub>	NaOH Na
SAMPLE RECEIPT	Temp Blank;	: Yes No	Wet Ice	(Yes) No	eter	)						H-PO. HP	
Samples Received Intact:		Thermo	ē		<u>ر</u>	00 0						NaHSO, NARIS	RIS
Cooler Custody Seals.	Yes No	N/A Correction Factor	ctor <sup>.</sup>		b	A 3						Na-S-O- NaSO-	SO'
Sample Custody Seals.	Yes No	N/A Temperature Reading	Reading	3.7 7		(EP						Zn Acetate+NaOH Zn	VaOH Zn
Total Containers.		Corrected Temperature	nperature		<u> </u>							NaOH+Ascor	NaOH+Ascorbic Acid SAPC
Sample Identification	fication Matrix	trix Date Sampled	Time Sampled	Depth Comp	b/ #of tp Cont	CHLOR	TPH (80  BTEX (8					Sample	Sample Comments
PH05	s	S 11/18/2022	1 25	1 grab/	b/ 1	×						Incident ID	
PH05A	S	5 11/18/2022	1 30	2 grab/	b/ 1	×	× ×					nAPP2224236187	
PH05B	s s		1 35	3 grab/	b/ 1	×	× ×					Cost Center	7
PH05C	s	5 11/18/2022	1 40	4 grab/	b/ 1	×	×			-		11:	1137151001
												AFE	
					4		<u>}</u>	+	880-22185 Chain	ain of Custody			
						/	/{						
Total 200.7 / 6010	0 200.8 / 6020:		8RCRA 13PPM	M Texas 11	I AI Sb	As Ba	Be B	Cd Ca	3 Cr Co Cu Fe	Pb Mg	NIKSe/	SiO <sub>2</sub> Na Sr TI Sn U	U V Zn
Notice Signature of this document and relinquishment of sa	cument and relinquishm	ent of samples constit	LULY / SPLP BUID	chase order from	rom client com	pany to Eu	Ja Be	CO Cr	DD AS BA BE CO Cr Co Cu Pb Mn	actors. It assigns stand	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	Hg 1631 / 245 1 / 7470 / 7471 nditions	0 / 7471
of service. Eurofins Xenco of Eurofins Xenco. A minin	will be liable only for the rum charge of \$85.00 wil	be applied to each p	shall not assum roject and a cha	e any responsibili rge of \$5 for each	ity for any I I sample st	losses or e ubmitted to	xpenses i Eurofins	Nourred by Xenco bu	y the client if such lo it not analyzed. Thes	osses are due to c se terms will be en	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 \$8 for each sample submitted to Eurofins Xenco but not analyzed. These terms will be enforced unless previously negotiated	introl gotiated	
Relinquished by (Signature)	(Signature)	Received	Received by (Signature)	ure)		Date/Time	me	Re	Relinquished by (S	(Signature)	Received by (Signature)	Signature)	Date/Time
CAP -	(	e-	C		12	2/1/22	นะม	2					
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5								6				Revised	Revised Date 08/25/2020 Rev 2020.2

### 12/7/2022

Page 123 of 129

Chain of Custody

Job Number: 880-22185-1 SDG Number: 03E1558117

List Source: Eurofins Midland

### Login Sample Receipt Checklist

Client: Ensolum

Login Number: 22185 List Number: 1 Creator: Kramer, Jessica

Login Number: 22185 List Number: 1			List Source: Eurofins Midland	
Creator: Kramer, Jessica				5
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			8
Samples were received on ice.	True			
Cooler Temperature is acceptable.	True			9
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			13
Sample containers have legible labels.	True			
Containers are not broken or leaking.	True			
Sample collection date/times are provided.	True			
Appropriate sample containers are used.	True			
Sample bottles are completely filled.	True			
Sample Preservation Verified.	True			
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True			
Containers requiring zero headspace have no headspace or bubble is	N/A			

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



# APPENDIX E

**NMOCD** Notifications

Released to Imaging: 6/14/2023 10:26:27 AM

From:	<u>Green, Garrett J</u>
То:	ocd.enviro@emnrd.nm.gov; Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Billings, Bradford, EMNRD;
Cc:	Harimon, Jocelyn, EMNRD DelawareSpills /SM; Tacoma Morrissey
Subject:	XTO - Sampling Notification (Week of 11/7/22 - 11/11/22)
Date:	Friday, November 4, 2022 11:41:02 AM

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

All,

XTO plans to complete final sampling activities at the following sites the week of Nov 7, 2022.

### Monday

- Nash Unit 36/ nAPP2224236187
- ADU 624 & 641 / NAPP2123634554 & NAPP2215449179
- Poker Lake Unit 409/ nAPP2223751933

### Tuesday

- Nash Unit 36/ nAPP2224236187
- ADU 624 & 641 / NAPP2123634554 & NAPP2215449179
- Poker Lake Unit 409/ nAPP2223751933

### Wednesday

- ADU 624 & 641 / NAPP2123634554 & NAPP2215449179
- Poker Lake Unit 409/ nAPP2223751933

### Thursday

- BEU DI 30 Battery/ NAPP2200746777
- Poker Lake Unit 409/ nAPP2223751933

### Friday

- BEU DI 30 Battery/ NAPP2200746777

Thank you!

### **Garrett Green**

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

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

From:	Hamlet, Robert, EMNRD
То:	Collins, Melanie
Cc:	DelawareSpills /SM; Green, Garrett J; Kalei Jennings; Tacoma Morrissey; Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD
Subject:	(Extension Approval) - XTO - Nash Unit 36 (Incident Number NAPP2224236187)
Date:	Monday, November 14, 2022 4:48:57 PM
Attachments:	image003.png

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

### RE: Incident #NAPP2224236187

### Melanie,

Your request for an extension to **February 13th, 2023** is approved. Please include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet • Environmental Specialist - Advanced Environmental Bureau EMNRD - Oil Conservation Division 506 W. Texas Ave.| Artesia, NM 88210 575.909.0302 | robert.hamlet@state.nm.us http://www.emnrd.state.nm.us/OCD/



From: Collins, Melanie <melanie.collins@exxonmobil.com>

Sent: Monday, November 14, 2022 9:50 AM

To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; Bratcher, Michael, EMNRD

<mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>

Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Green, Garrett J

<garrett.green@exxonmobil.com>; Kalei Jennings <kjennings@ensolum.com>; Tacoma Morrissey <tmorrissey@ensolum.com>

Subject: [EXTERNAL] XTO- Extension Request- Nash Unit 36 (Incident Number NAPP2224236187)

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

All,

### Nash Unit 36 (Incident Number NAPP2224236187)

XTO is requesting an extension for the current deadline of November 15, 2022 for submitting a remediation work plan or closure report required in 19.15.29.12.B.(1) NMAC at the Nash Unit 36

(Incident Number NAPP2224236187). The release occurred on August 17, 2022, and initial site assessment activities have been completed. Excavation activities were completed last week and are pending laboratory analytical results. Due to the salt lake located adjacent to and surrounding the Site, additional background information is needed to complete remediation activities. In order to review the laboratory analytical results, discuss remedial options, and submit a remediation work plan or closure report, XTO requests an extension until February 13, 2023.

### Thank you,



District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

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

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

CONDITIONS

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	185642
	Action Type:
	[C-141] Release Corrective Action (C-141)
CONDITIONS	

Created By	Condition	Condition Date
rhamlet	The Remediation Plan is Conditionally Approved. Due to high karst and shallow groundwater, the release needs to meet the strictest closure criteria standards. The proposed background chloride concentration of 14,600 mg/kg is denied. The background numbers at a depth of 1 foot should be averaged. The background numbers at a depth of 2 feet should be averaged and so on. The composite numbers will be used for the final background chloride numbers. Samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Collect confirmation samples, representing no more than 200 ft2. A closure report will need to be completed and uploaded within 90 days.	6/14/2023

CONDITIONS

Action 185642

Page 129 of 129

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