

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	NAPP2308136642
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 32.29960 Longitude -103.91341  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Nash Deep East	Site Type Tank Battery
Date Release Discovered 03/15/2023	API# (if applicable)

Unit Letter	Section	Township	Range	County
P	18	23S	30E	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)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 7.43	Volume Recovered (bbls) 7.00
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)


Cause of Release  
A pinhole leak formed on the 6" water line due to corrosion, releasing fluids to pad. A vacuum truck recovered all free fluids. A third-party contractor has been retained for remediation purposes.

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Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

### Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped.	
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input checked="" type="checkbox"/> 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: NA	
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: Garrett Green	Title: SSHE Coordinator
Signature: 	Date: 03/20/2023
email: garrett.green@exxonmobil.com	Telephone: 575-200-0729
<b><u>OCD Only</u></b>	
Received by: Jocelyn Harimon	Date: 03/22/2023

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## 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>&gt;66</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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

State of New Mexico  
Oil Conservation Division

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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: SSHE Coordinator

Signature:  Date: 08/03/2023

email: garrett.green@exxonmobil.com Telephone: 575-200-0729

**OCD Only**

Received by: Shelly Wells Date: 8/3/2023

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## Remediation Plan

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

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

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☒ Extents of contamination must be fully delineated.
- ☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Garrett Green Title: SSHE CoordinatorSignature:  Date: 08/03/2023email: garrett.green@exxonmobil.com Telephone: 575-200-0729**OCD Only**Received by: Shelly Wells Date: 8/3/2023☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: \_\_\_\_\_ Date: \_\_\_\_\_



August 3, 2023

**New Mexico Energy Minerals and Natural Resources Department**

New Mexico Oil Conservation Division

1220 South St. Francis Drive

Santa Fe, New Mexico 87505

**Re:   Deferral Request  
      Nash Deep East  
      Incident Number NAPP2308136642  
      Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Deferral Request* to document excavation and soil sampling activities at the Nash Deep East (Site). The purpose of the site assessment and soil sampling activities was to address impacts to soil following a release of produced water onto the wellpad. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this *Deferral Request*, describing site assessment and excavation activities that have occurred and requesting deferral of final remediation for Incident Number NAPP2308136642 until the Site is reconstructed, and/or the well pad is abandoned.

**SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in in Unit P, Section 18, Township 23 South, Range 30 East, in Eddy County, New Mexico (32.29960°, -103.91341°) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management (BLM).

On March 15, 2023, a pinhole leak formed on the 6-inch water line due to corrosion. This resulted in the release of approximately 7.43 barrels (bbls) of produced water onto the pad. The release occurred near active production equipment and beneath active surface piping. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 7 bbls produced water were recovered. XTO submitted a Release Notification Form C-141 (Form C-141) on March 22, 2023. The release was assigned Incident Number NAPP2308136642.

**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.

Depth to groundwater at the Site is estimated to be between 50 feet and 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 321742103552601 with a depth to

XTO Energy, Inc.  
Deferral Request  
Nash Deep East

water measurement of 66 feet below ground surface (bgs). The well is located 0.73 miles southwest of the Site and the most recent documented water level measurement was collected on May 06, 1993. All wells used for depth to groundwater determination are depicted on Figure 1 and the referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 363 feet southwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is underlain by unstable geology (high potential karst designation area). Potential site receptors are identified on Figure 1.

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

## DELINEATION SOIL SAMPLING ACTIVITIES

On May 26, 2023, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Five delineation soil samples (SS01 through SS05) were collected within and around the release extent at a depth 0.5 feet bgs to assess the lateral extent of impacted soil. The soil samples were field screened for volatile aromatic hydrocarbons (VOCs) and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. 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 conducted 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 the following contaminants of concern (COC): 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.

Laboratory analytical results from preliminary soil sample SS01 indicated that chloride concentrations exceeded the Closure Criteria at 0.5 feet bgs. Based on visible staining in the release area, elevated field screening results, and laboratory analytical results for the soil samples, additional remediation activities were warranted.

## EXCAVATION ACTIVITIES

Between June 8, 2023 and June 9, 2023, Ensolum personnel were onsite to conduct delineation soil sampling and oversee the removal of impacted soils. One borehole, (BH01), was advanced via hydrovac to determine the vertical extent of the impacted soil in the vicinity of soil sample SS01. The borehole was advanced to a depth of 3 feet bgs. Delineation soil samples were collected from the borehole at



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depths ranging from 1 foot to 4 feet bgs. Soil from the delineation soil samples was field screened for VOCs and chloride. Field screening results and observations from the borehole were logged on a lithologic/ soil sampling log, which is included in Appendix C, and the location of the borehole is depicted on Figure 2.

This release occurred on the well pad near active production equipment and beneath active surface piping. XTO safety policy restricts soil disturbing activities within a 2-foot radius of any on-site, active production equipment; however, the accessible spill area was excavated to the maximum extent possible (MEP) with a hydrovac and hand tools. Following the removal of impacted soil, 5-point composite excavation confirmation soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Ensolum personnel collected two composite floor samples from the excavated area (FS01 and FS02) at depths ranging from 1 foot to 2.5 feet bgs and one composite sidewall sample (SW01) at depths ranging from ground surface to 2.5 feet bgs. Confirmation soil samples were handled and analyzed in the same manner as described above.

The excavation area measure approximately 107 square feet. A total of approximately 8 cubic yards of impacted soil was removed during excavation activities and was properly disposed of at the R360 Facility in Hobbs, New Mexico. The excavation extent and confirmation sample locations are identified on Figure 3.

## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation soil sample BH01 collected at depths of 1 foot and 2 feet bgs indicated TPH and/or chloride concentrations exceeded the applicable Closure Criteria; however, the terminal sample collected at 3 feet bgs indicated all COC concentrations were compliant with the Closure Criteria, vertically defining the release extent. Laboratory analytical results for all confirmation soil samples indicated concentrations of all COCs were in compliance with the Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory reports are included in Appendix D. NMOCD notifications are provided in Appendix E.

## DEFERRAL REQUEST

XTO excavated impacted soil to the MEP based on internal safety policies regarding work near active production equipment. There was an area of the release that was inaccessible due to aboveground pipelines. The estimated area of remaining impacted soil measures approximately 404 square feet, and assuming a depth of 3 feet based on the analytical results for delineation borehole BH01, a total of approximately 45 cubic yards of chloride impacted soil remains in place. The estimated deferral area and delineation soil samples are depicted on Figure 4.

XTO is requesting deferral of final remediation due to the presence of active production equipment and process piping preventing full excavation of impacted soil. The impacted soil is limited to the area beneath surface piping, where remediation would require a major facility deconstruction. The impacted soil remaining in place is delineated vertically by borehole sample BH01B, collected at 3 feet bgs. The soil is laterally delineated by delineation soil samples SS02 through SS05.

XTO does not believe deferment will result in imminent risk to human health, the environment, or groundwater. Depth to groundwater was determined to be between 51 feet and 100 feet, and the entirety of the release remained on pad. Any gross impacts were removed via scraping of the surface soils.

Based on the presence of active production equipment within the release area and the complete lateral and vertical delineation of impacted soil remaining in place, XTO requests deferral of final remediation



XTO Energy, Inc.  
Deferral Request  
Nash Deep East

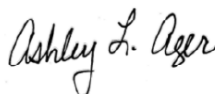
for Incident Number NAPP2308136642 until final reclamation of the well pad or major construction, whichever comes first.

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

Sincerely,  
**Ensolum, LLC**



Ashley Gioveno  
Senior Engineer



Ashley L. Ager, MS, PG  
Principal

cc: Garrett Green, XTO  
Shelby Pennington, XTO  
BLM

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Confirmation Soil Sample Locations
Figure 4	Deferral Area Map
Table 1	Soil 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 Sample Notification



FIGURES



## Site Receptor Map

XTO Energy, Inc  
Nash Deep East  
Incident Number: nAPP2308136642  
Unit P, Sec 18, T23S, R30E  
Eddy County, NM

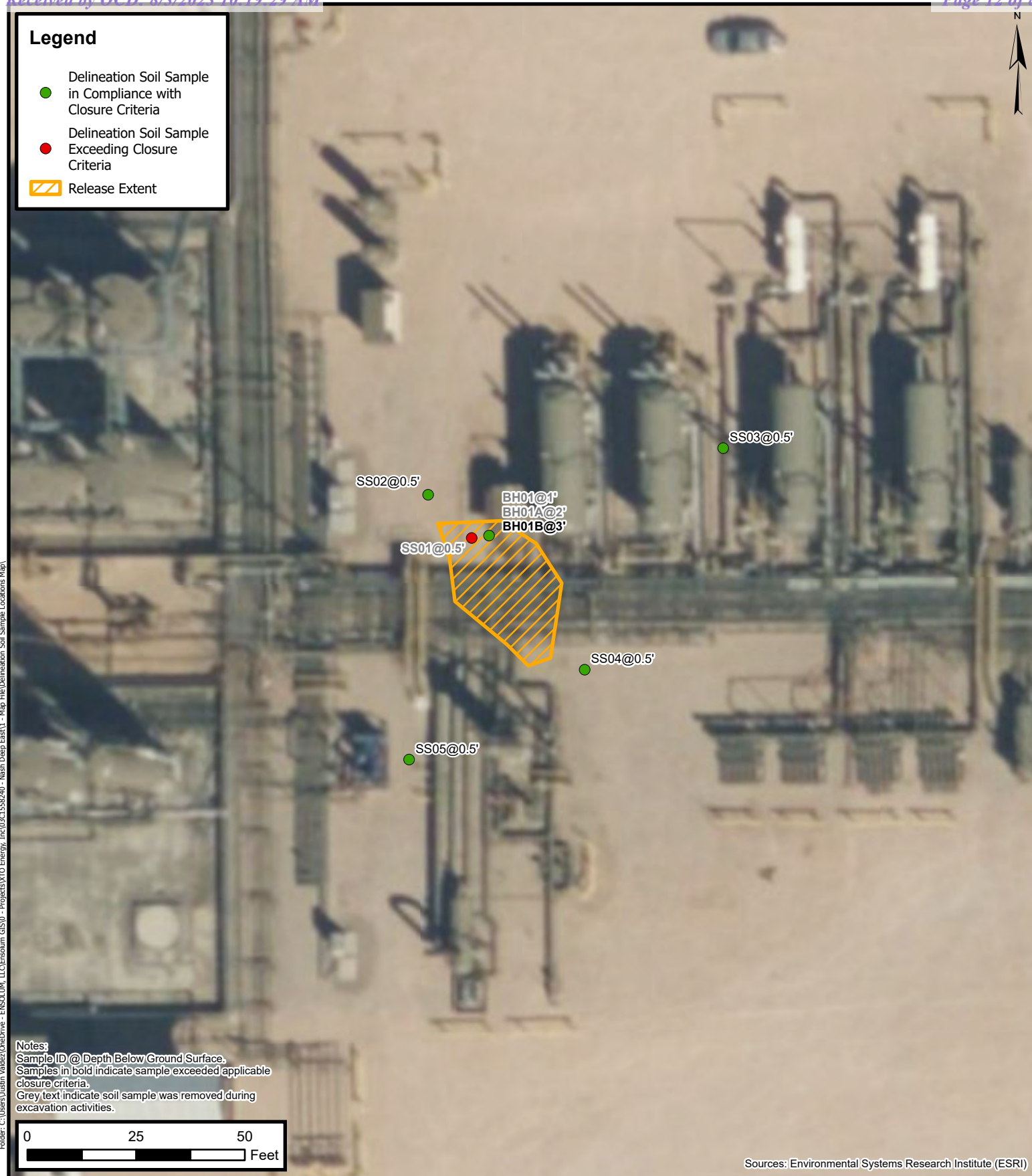
## FIGURE

1



**Legend**

- Delineation Soil Sample  
in Compliance with  
Closure Criteria
- Delineation Soil Sample  
Exceeding Closure  
Criteria
- Release Extent



## Delineation Soil Sample Locations

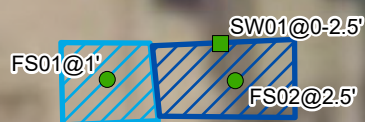
XTO Energy, Inc  
 Nash Deep East  
 Incident Number: nAPP2308136642  
 Unit P, Sec 18, T23S, R30E  
 Eddy County, NM

**FIGURE**

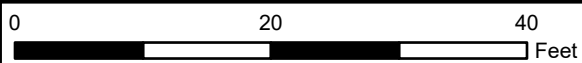
**2**

**Legend**

- Confirmation Floor  
Sample in Compliance  
with Closure Criteria
- Confirmation Sidewall  
Sample in Compliance  
with Closure Criteria
- ▨ Excavation Extent (1')
- ▨ Excavation Extent (2.5')



Notes:  
Sample ID @ Depth Below Ground Surface.



Sources: Environmental Systems Research Institute (ESRI)



## Confirmation Soil Sample Locations

XTO Energy, Inc  
Nash Deep East  
Incident Number: nAPP2308136642  
Unit P, Sec 18, T23S, R30E  
Eddy County, NM

## FIGURE

## 3



**Legend**

- Excavation Floor Sample in Compliance with Closure Criteria
- ◆ Delineation Soil Sample in Compliance with Closure Criteria
- ▨ Excavation Extent (1')
- ▨ Excavation Extent (2.5')
- ▨ Requested Area of Deferral

**Deferral Area Map**

XTO Energy, Inc  
Nash Deep East  
Incident Number: nAPP2308136642  
Unit P, Sec 18, T23S, R30E  
Eddy County, NM

**FIGURE****4**



TABLES

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**TABLE I**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**Nash Deep East**  
**XTO Energy, Inc.**  
**Eddy County, New Mexico**

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
<b>Delineation Soil Samples</b>										
SS01	05/26/2023	0-5	<0.002	<0.004	<50.0	82.0	<50.0	82.0	82.0	8,620
SS02	05/26/2023	0.5	<0.002	<0.003	<50.0	59.3	<50.0	59.3	59.3	424
SS03	05/26/2023	0.5	<0.001	<0.003	<49.9	69.3	<49.9	69.3	69.3	244
SS04	05/26/2023	0.5	<0.002	<0.004	<49.9	<49.9	<49.9	<49.9	<49.9	233
SS05	05/26/2023	0.5	<0.002	<0.004	<50.0	<50.0	<50.0	<50.0	<50.0	78
BH01	06/08/2023	1	<0.001	<0.003	<49.9	269	184	269	453	4,820
BH01A	06/08/2023	2	<0.001	<0.003	<50.0	54.9	<50.0	54.9	54.9	980
BH01B	06/09/2023	3	<0.002	<0.004	<50.0	<50.0	<50.0	<50.0	<50.0	209
<b>Confirmation Soil Samples</b>										
FS01	06/08/2023	1	<0.002	<0.004	<49.8	<49.8	<49.8	<49.8	<49.8	151
FS02	06/09/2023	2.5	<0.002	<0.004	<49.9	<49.9	<49.9	<49.9	<49.9	553
SW01	06/09/2023	0-2.5	<0.002	<0.003	<49.9	<49.9	<49.9	<49.9	<49.9	315

## 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 requirement where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

Grey text indicates soil sample removed during excavation activities

&lt;": Laboratory analytical result is less than reporting limit



## APPENDIX A

### Referenced Well Records

---



USGS Home  
Contact USGS  
Search USGS


National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category:  
Groundwater

Geographic Area:  
United States

Click to hide News Bulletins

- Explore the *NEW* [USGS National Water Dashboard](#) interactive map to access real-time water data from over 13,500 stations nationwide.
- [Full News](#) 

Groundwater levels for the Nation

**1** Important: [Next Generation Monitoring Location Page](#)

Search Results -- 1 sites found

Agency code = usgs  
site\_no list =

- 321742103552601

Minimum number of levels = 1








[Save file of selected sites](#) to local disk for future upload

USGS 321742103552601 23S.30E.19.123421

Eddy County, New Mexico  
Latitude 32°17'42", Longitude 103°55'26" NAD27  
Land-surface elevation 3,034 feet above NAVD88  
The depth of the well is 100 feet below land surface.  
This well is completed in the Other aquifers (N9999OTHER) national aquifer.  
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

[Table of data](#)  
[Tab-separated data](#)  
[Graph of data](#)  
[Reselect period](#)

Date	Time	 Water-level date-time accuracy	 Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	 Status	 Method of measurement	 Measuring agency	 Source of measurement	 Water-level approval status

1959-02-06		D	62610		2954.29	NGVD29	P	Z		A
1959-02-06		D	62611		2955.90	NAVD88	P	Z		A
1959-02-06		D	72019	78.10			P	Z		A
1959-04-07		D	62610		2963.09	NGVD29	1	Z		A
1959-04-07		D	62611		2964.70	NAVD88	1	Z		A
1959-04-07		D	72019	69.30			1	Z		A
1972-09-20		D	62610		2963.64	NGVD29	1	Z		A
1972-09-20		D	62611		2965.25	NAVD88	1	Z		A
1972-09-20		D	72019	68.75			1	Z		A
1975-12-09		D	62610		2963.40	NGVD29	1	Z		A
1975-12-09		D	62611		2965.01	NAVD88	1	Z		A
1975-12-09		D	72019	68.99			1	Z		A
1976-01-15		D	62610		2962.29	NGVD29	1	Z		A
1976-01-15		D	62611		2963.90	NAVD88	1	Z		A
1976-01-15		D	72019	70.10			1	Z		A
1977-01-19		D	62610		2963.99	NGVD29	1	Z		A
1977-01-19		D	62611		2965.60	NAVD88	1	Z		A
1977-01-19		D	72019	68.40			1	Z		A
1987-10-14		D	62610		2965.07	NGVD29	1	Z		A
1987-10-14		D	62611		2966.68	NAVD88	1	Z		A
1987-10-14		D	72019	67.32			1	Z		A
1993-05-06		D	62610		2966.29	NGVD29	1	S		A
1993-05-06		D	62611		2967.90	NAVD88	1	S		A
1993-05-06		D	72019	66.10			1	S		A

1

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Status	P	Pumping
Method of measurement	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined

Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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**Title: Groundwater for USA: Water Levels**

**URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>**



Page Contact Information: [USGS Water Data Support Team](#)  
Page Last Modified: 2023-06-23 09:57:33 EDT  
0.28   0.25 nadww01



## APPENDIX B

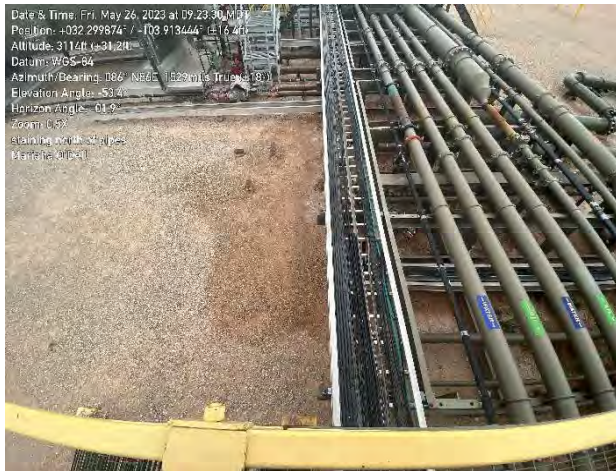
### Photographic Log

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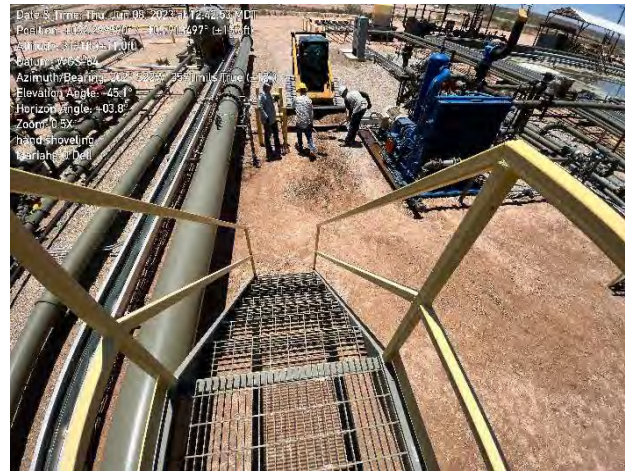




**Photographic Log**  
XTO Energy, Inc  
Nash Deep East  
nAPP2308136642



Photograph 1 Date: 5-26-2023  
Description: Release extent area  
View: Southeast



Photograph 2 Date: 6-8-2023  
Description: Excavation activities  
View: Southwest



Photograph 3 Date: 6-9-2023  
Description: Excavation activities  
View: Southeast



Photograph 4 Date: 6-9-2023  
Description: Final Excavation Extent  
View: Southwest






## APPENDIX C

### Lithologic Soil Sampling Logs

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								Sample Name: BH01		Date: 6/8/23	
								Site Name: Nash Deep East			
								Incident Number: nAPP2308136642			
								Job Number: 03C1558240			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: MO		Method: Hand auger/Hvac	
Coordinates: 32.299641, -103.913445								Hole Diameter: 6"		Total Depth: 3'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
						0					
D	4468	0	N	BH01	1	1	SW	Sand, light brown, vf-f grain, well graded, trace CCHE, Dry			
D	1002	0	N	BH01	2	2	SW	Sand, Dark brown, vf-f grain, well graded, trace CCHE, Dry			
D	174	0	N	BH01	3	3	CCHE	CCHE, pad material			
								Total depth = 3'			



## APPENDIX D

### Laboratory Analytical Reports & Chain-of-Custody Documentation

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Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ashley Giovengo  
Ensolum  
601 N. Marienfeld St.  
Suite 400  
Midland, Texas 79701

Generated 6/5/2023 2:30:53 PM

## JOB DESCRIPTION

NASH DEEP EAST  
SDG NUMBER 03C1558240

## JOB NUMBER

890-4749-1

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad NM 88220

# Eurofins Carlsbad

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

## Authorization



Generated  
6/5/2023 2:30:53 PM

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

Client: Ensolum  
Project/Site: NASH DEEP EAST

Laboratory Job ID: 890-4749-1  
SDG: 03C1558240

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## Definitions/Glossary

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

## Qualifiers

## GC VOA

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

## GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

## HPLC/IC

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

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



## Case Narrative

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

**Job ID: 890-4749-1**

**Laboratory: Eurofins Carlsbad**

**Narrative****Job Narrative  
890-4749-1****Receipt**

The samples were received on 5/26/2023 12:45 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.4°C

**Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-4749-1), SS02 (890-4749-2), SS03 (890-4749-3), SS04 (890-4749-4) and SS05 (890-4749-5).

**GC VOA**

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-54510 and analytical batch 880-54672 was outside the upper control limits.

Method 8021B: CCV biased low for Benzene and Toluene however an acceptable CCV was ran within the 12 hour window therefore the data have been qualified and reported.(CCV 880-54672/51)

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

**GC Semi VOA**

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-54340 and analytical batch 880-54334 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-54334/20), (CCV 880-54334/31), (CCV 880-54334/47), (CCV 880-54334/5), (CCV 880-54334/58), (LCS 880-54340/2-A) and (LCSD 880-54340/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (890-4746-A-1-A), (890-4746-A-1-B MS) and (890-4746-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 (890-4749-1), SS02 (890-4749-2), SS03 (890-4749-3), SS04 (890-4749-4) and SS05 (890-4749-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-54340 and analytical batch 880-54334 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.

Method 8015MOD\_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-54340 and analytical batch 880-54334 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

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

**HPLC/IC**

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-54418 and 880-54418 and analytical batch 880-54489 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.

Case Narrative

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

Job ID: 890-4749-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

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## Client Sample Results

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

Client Sample ID: SS01

Lab Sample ID: 890-4749-1

Date Collected: 05/26/23 09:35

Matrix: Solid

Date Received: 05/26/23 12:45

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		05/31/23 13:57	06/03/23 17:48	1
Toluene	<0.00202	U	0.00202	mg/Kg		05/31/23 13:57	06/03/23 17:48	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		05/31/23 13:57	06/03/23 17:48	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		05/31/23 13:57	06/03/23 17:48	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		05/31/23 13:57	06/03/23 17:48	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		05/31/23 13:57	06/03/23 17:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130			05/31/23 13:57	06/03/23 17:48	1
1,4-Difluorobenzene (Surr)	90		70 - 130			05/31/23 13:57	06/03/23 17:48	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			06/05/23 13:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	82.0		50.0	mg/Kg			05/31/23 09:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/30/23 08:50	05/30/23 18:18	1
Diesel Range Organics (Over C10-C28)	82.0	*1	50.0	mg/Kg		05/30/23 08:50	05/30/23 18:18	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/30/23 08:50	05/30/23 18:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	252	S1+	70 - 130			05/30/23 08:50	05/30/23 18:18	1
o-Terphenyl	229	S1+	70 - 130			05/30/23 08:50	05/30/23 18:18	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8620		101	mg/Kg			05/31/23 19:37	20

Client Sample ID: SS02

Lab Sample ID: 890-4749-2

Date Collected: 05/26/23 09:45

Matrix: Solid

Date Received: 05/26/23 12:45

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/31/23 13:57	06/03/23 18:09	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/31/23 13:57	06/03/23 18:09	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/31/23 13:57	06/03/23 18:09	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		05/31/23 13:57	06/03/23 18:09	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/31/23 13:57	06/03/23 18:09	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/31/23 13:57	06/03/23 18:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130			05/31/23 13:57	06/03/23 18:09	1

Eurofins Carlsbad

## Client Sample Results

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

Client Sample ID: SS02

Lab Sample ID: 890-4749-2

Date Collected: 05/26/23 09:45

Matrix: Solid

Date Received: 05/26/23 12:45

Sample Depth: 0.5

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	88		70 - 130	05/31/23 13:57	06/03/23 18:09	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			06/05/23 13:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	59.3		50.0	mg/Kg			05/31/23 09:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/30/23 08:50	05/30/23 18:40	1
Diesel Range Organics (Over C10-C28)	59.3	*1	50.0	mg/Kg		05/30/23 08:50	05/30/23 18:40	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/30/23 08:50	05/30/23 18:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	276	S1+	70 - 130			05/30/23 08:50	05/30/23 18:40	1
o-Terphenyl	251	S1+	70 - 130			05/30/23 08:50	05/30/23 18:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	424		25.3	mg/Kg			05/31/23 19:43	5

Client Sample ID: SS03

Lab Sample ID: 890-4749-3

Date Collected: 05/26/23 10:40

Matrix: Solid

Date Received: 05/26/23 12:45

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/31/23 13:57	06/03/23 18:29	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/31/23 13:57	06/03/23 18:29	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/31/23 13:57	06/03/23 18:29	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		05/31/23 13:57	06/03/23 18:29	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/31/23 13:57	06/03/23 18:29	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/31/23 13:57	06/03/23 18:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	05/31/23 13:57	06/03/23 18:29	1
1,4-Difluorobenzene (Surr)	84		70 - 130	05/31/23 13:57	06/03/23 18:29	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			06/05/23 13:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	69.3		49.9	mg/Kg			05/31/23 09:22	1

Eurofins Carlsbad

## Client Sample Results

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

Client Sample ID: SS03

Lab Sample ID: 890-4749-3

Date Collected: 05/26/23 10:40

Matrix: Solid

Date Received: 05/26/23 12:45

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		05/30/23 08:50	05/30/23 19:01	1
Diesel Range Organics (Over C10-C28)	69.3	*1	49.9	mg/Kg		05/30/23 08:50	05/30/23 19:01	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/30/23 08:50	05/30/23 19:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	288	S1+	70 - 130			05/30/23 08:50	05/30/23 19:01	1
o-Terphenyl	265	S1+	70 - 130			05/30/23 08:50	05/30/23 19:01	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	244		25.3	mg/Kg			05/31/23 19:48	5

Client Sample ID: SS04

Lab Sample ID: 890-4749-4

Date Collected: 05/26/23 09:50

Matrix: Solid

Date Received: 05/26/23 12:45

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		05/31/23 13:57	06/03/23 18:50	1
Toluene	<0.00201	U	0.00201	mg/Kg		05/31/23 13:57	06/03/23 18:50	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		05/31/23 13:57	06/03/23 18:50	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		05/31/23 13:57	06/03/23 18:50	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		05/31/23 13:57	06/03/23 18:50	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		05/31/23 13:57	06/03/23 18:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130			05/31/23 13:57	06/03/23 18:50	1
1,4-Difluorobenzene (Surr)	81		70 - 130			05/31/23 13:57	06/03/23 18:50	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			06/05/23 13:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			05/31/23 09:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		05/30/23 08:50	05/30/23 19:21	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		05/30/23 08:50	05/30/23 19:21	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/30/23 08:50	05/30/23 19:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	290	S1+	70 - 130			05/30/23 08:50	05/30/23 19:21	1
o-Terphenyl	262	S1+	70 - 130			05/30/23 08:50	05/30/23 19:21	1

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## Client Sample Results

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

## Client Sample ID: SS04

## Lab Sample ID: 890-4749-4

Date Collected: 05/26/23 09:50

Matrix: Solid

Date Received: 05/26/23 12:45

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	233		24.9	mg/Kg			05/31/23 19:54	5

## Client Sample ID: SS05

## Lab Sample ID: 890-4749-5

Date Collected: 05/26/23 09:55

Matrix: Solid

Date Received: 05/26/23 12:45

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/31/23 13:57	06/03/23 19:10	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/31/23 13:57	06/03/23 19:10	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/31/23 13:57	06/03/23 19:10	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		05/31/23 13:57	06/03/23 19:10	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/31/23 13:57	06/03/23 19:10	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		05/31/23 13:57	06/03/23 19:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130			05/31/23 13:57	06/03/23 19:10	1
1,4-Difluorobenzene (Surr)	80		70 - 130			05/31/23 13:57	06/03/23 19:10	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			06/05/23 13:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/31/23 09:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/30/23 08:50	05/30/23 19:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0	mg/Kg		05/30/23 08:50	05/30/23 19:42	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/30/23 08:50	05/30/23 19:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	286	S1+	70 - 130			05/30/23 08:50	05/30/23 19:42	1
o-Terphenyl	258	S1+	70 - 130			05/30/23 08:50	05/30/23 19:42	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	77.5		5.01	mg/Kg			05/31/23 19:59	1

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## Surrogate Summary

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-4749-1	SS01	99	90
890-4749-1 MS	SS01	110	110
890-4749-1 MSD	SS01	108	110
890-4749-2	SS02	96	88
890-4749-3	SS03	99	84
890-4749-4	SS04	96	81
890-4749-5	SS05	93	80
LCS 880-54510/1-A	Lab Control Sample	109	109
LCSD 880-54510/2-A	Lab Control Sample Dup	113	96
MB 880-54510/5-A	Method Blank	70	104
MB 880-54575/5-A	Method Blank	70	104
<b>Surrogate Legend</b>			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4746-A-1-B MS	Matrix Spike	339 S1+	258 S1+
890-4746-A-1-C MSD	Matrix Spike Duplicate	271 S1+	206 S1+
890-4749-1	SS01	252 S1+	229 S1+
890-4749-2	SS02	276 S1+	251 S1+
890-4749-3	SS03	288 S1+	265 S1+
890-4749-4	SS04	290 S1+	262 S1+
890-4749-5	SS05	286 S1+	258 S1+
LCS 880-54340/2-A	Lab Control Sample	194 S1+	182 S1+
LCSD 880-54340/3-A	Lab Control Sample Dup	154 S1+	142 S1+
MB 880-54340/1-A	Method Blank	285 S1+	256 S1+
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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## QC Sample Results

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

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

Lab Sample ID: MB 880-54510/5-A

Matrix: Solid

Analysis Batch: 54672

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 54510

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/31/23 13:57	06/03/23 17:27	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/31/23 13:57	06/03/23 17:27	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/31/23 13:57	06/03/23 17:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/31/23 13:57	06/03/23 17:27	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/31/23 13:57	06/03/23 17:27	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/31/23 13:57	06/03/23 17:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	70		70 - 130	05/31/23 13:57	06/03/23 17:27	1
1,4-Difluorobenzene (Surr)	104		70 - 130	05/31/23 13:57	06/03/23 17:27	1

Lab Sample ID: LCS 880-54510/1-A

Matrix: Solid

Analysis Batch: 54672

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 54510

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1212		mg/Kg		121	70 - 130
Toluene	0.100	0.1062		mg/Kg		106	70 - 130
Ethylbenzene	0.100	0.1001		mg/Kg		100	70 - 130
m-Xylene & p-Xylene	0.200	0.2105		mg/Kg		105	70 - 130
o-Xylene	0.100	0.1040		mg/Kg		104	70 - 130

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

Lab Sample ID: LCSD 880-54510/2-A

Matrix: Solid

Analysis Batch: 54672

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 54510

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1178		mg/Kg		118	70 - 130	3	35
Toluene	0.100	0.1032		mg/Kg		103	70 - 130	3	35
Ethylbenzene	0.100	0.1009		mg/Kg		101	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.2116		mg/Kg		106	70 - 130	1	35
o-Xylene	0.100	0.1042		mg/Kg		104	70 - 130	0	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: 890-4749-1 MS

Matrix: Solid

Analysis Batch: 54672

Client Sample ID: SS01

Prep Type: Total/NA

Prep Batch: 54510

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.0996	0.1113		mg/Kg		112	70 - 130
Toluene	<0.00202	U	0.0996	0.09570		mg/Kg		96	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

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

Lab Sample ID: 890-4749-1 MS

Matrix: Solid

Analysis Batch: 54672

Client Sample ID: SS01

Prep Type: Total/NA

Prep Batch: 54510

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.0996	0.09212		mg/Kg		92	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1906		mg/Kg		96	70 - 130
o-Xylene	<0.00202	U	0.0996	0.09288		mg/Kg		93	70 - 130
Surrogate	%Recovery	MS Qualifier	MS Limits						
4-Bromofluorobenzene (Surr)	110		70 - 130						
1,4-Difluorobenzene (Surr)	110		70 - 130						

Lab Sample ID: 890-4749-1 MSD

Matrix: Solid

Analysis Batch: 54672

Client Sample ID: SS01

Prep Type: Total/NA

Prep Batch: 54510

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0990	0.1108		mg/Kg		112	70 - 130	0	35
Toluene	<0.00202	U	0.0990	0.09657		mg/Kg		98	70 - 130	1	35
Ethylbenzene	<0.00202	U	0.0990	0.09400		mg/Kg		95	70 - 130	2	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.1939		mg/Kg		98	70 - 130	2	35
o-Xylene	<0.00202	U	0.0990	0.09458		mg/Kg		96	70 - 130	2	35
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
4-Bromofluorobenzene (Surr)	108		70 - 130								
1,4-Difluorobenzene (Surr)	110		70 - 130								

Lab Sample ID: MB 880-54575/5-A

Matrix: Solid

Analysis Batch: 54672

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 54575

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/01/23 11:30	06/03/23 06:24	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/01/23 11:30	06/03/23 06:24	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/01/23 11:30	06/03/23 06:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		06/01/23 11:30	06/03/23 06:24	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/01/23 11:30	06/03/23 06:24	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/01/23 11:30	06/03/23 06:24	1
Surrogate	%Recovery	MB Qualifier	MB Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	70		70 - 130			06/01/23 11:30	06/03/23 06:24	1
1,4-Difluorobenzene (Surr)	104		70 - 130			06/01/23 11:30	06/03/23 06:24	1

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

Lab Sample ID: MB 880-54340/1-A

Matrix: Solid

Analysis Batch: 54334

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 54340

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/30/23 07:50	05/30/23 08:14	1

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## QC Sample Results

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

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

Lab Sample ID: MB 880-54340/1-A  
Matrix: Solid  
Analysis Batch: 54334

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 54340

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/30/23 07:50	05/30/23 08:14	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/30/23 07:50	05/30/23 08:14	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
1-Chlorooctane	285	S1+	70 - 130			05/30/23 07:50	05/30/23 08:14	1
o-Terphenyl	256	S1+	70 - 130			05/30/23 07:50	05/30/23 08:14	1

Lab Sample ID: LCS 880-54340/2-A  
Matrix: Solid  
Analysis Batch: 54334

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 54340

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1102		mg/Kg		110	70 - 130
Diesel Range Organics (Over C10-C28)	1000	740.7		mg/Kg		74	70 - 130
Surrogate	LCS	LCS	Limits				
	%Recovery	Qualifier					
1-Chlorooctane	194	S1+	70 - 130				
o-Terphenyl	182	S1+	70 - 130				

Lab Sample ID: LCSD 880-54340/3-A  
Matrix: Solid  
Analysis Batch: 54334

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 54340

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1295		mg/Kg		129	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	1000	977.7	*1	mg/Kg		98	70 - 130	28	20
Surrogate	LCSD	LCSD	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	154	S1+	70 - 130						
o-Terphenyl	142	S1+	70 - 130						

Lab Sample ID: 890-4746-A-1-B MS  
Matrix: Solid  
Analysis Batch: 54334

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 54340

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1 F2	998	2252	F1	mg/Kg		223	70 - 130
Diesel Range Organics (Over C10-C28)	65.5	F1 F2 *1	998	3131	F1	mg/Kg		307	70 - 130
Surrogate	MS	MS	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	339	S1+	70 - 130						
o-Terphenyl	258	S1+	70 - 130						

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## QC Sample Results

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

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

Lab Sample ID: 890-4746-A-1-C MSD

Matrix: Solid

Analysis Batch: 54334

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 54340

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1 F2	999	1769	F1 F2	mg/Kg		175	70 - 130	24	20
Diesel Range Organics (Over C10-C28)	65.5	F1 F2 *1	999	2400	F1 F2	mg/Kg		234	70 - 130	26	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	271	S1+	70 - 130								
o-Terphenyl	206	S1+	70 - 130								

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-54418/1-A

Matrix: Solid

Analysis Batch: 54489

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			05/31/23 17:22	1

Lab Sample ID: LCS 880-54418/2-A

Matrix: Solid

Analysis Batch: 54489

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	263.7		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-54418/3-A

Matrix: Solid

Analysis Batch: 54489

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	257.0		mg/Kg		103	90 - 110	3	20

Lab Sample ID: 890-4746-A-1-E MS

Matrix: Solid

Analysis Batch: 54489

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	564		1260	1926		mg/Kg		108	90 - 110

Lab Sample ID: 890-4746-A-1-F MSD

Matrix: Solid

Analysis Batch: 54489

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	564		1260	1893		mg/Kg		106	90 - 110	2	20

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QC Sample Results

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-4747-A-2-C MS										Client Sample ID: Matrix Spike			
Matrix: Solid										Prep Type: Soluble			
Analysis Batch: 54489													
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits				
Chloride	1710	F1	2510	4470		mg/Kg		110	90 - 110				

Lab Sample ID: 890-4747-A-2-D MSD										Client Sample ID: Matrix Spike Duplicate			
Matrix: Solid										Prep Type: Soluble			
Analysis Batch: 54489													
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit		
Chloride	1710	F1	2510	4584	F1	mg/Kg		115	90 - 110	3	20		

## QC Association Summary

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

## GC VOA

## Prep Batch: 54510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4749-1	SS01	Total/NA	Solid	5035	
890-4749-2	SS02	Total/NA	Solid	5035	
890-4749-3	SS03	Total/NA	Solid	5035	
890-4749-4	SS04	Total/NA	Solid	5035	
890-4749-5	SS05	Total/NA	Solid	5035	
MB 880-54510/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-54510/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-54510/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4749-1 MS	SS01	Total/NA	Solid	5035	
890-4749-1 MSD	SS01	Total/NA	Solid	5035	

## Prep Batch: 54575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-54575/5-A	Method Blank	Total/NA	Solid	5035	

## Analysis Batch: 54672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4749-1	SS01	Total/NA	Solid	8021B	54510
890-4749-2	SS02	Total/NA	Solid	8021B	54510
890-4749-3	SS03	Total/NA	Solid	8021B	54510
890-4749-4	SS04	Total/NA	Solid	8021B	54510
890-4749-5	SS05	Total/NA	Solid	8021B	54510
MB 880-54510/5-A	Method Blank	Total/NA	Solid	8021B	54510
MB 880-54575/5-A	Method Blank	Total/NA	Solid	8021B	54575
LCS 880-54510/1-A	Lab Control Sample	Total/NA	Solid	8021B	54510
LCSD 880-54510/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	54510
890-4749-1 MS	SS01	Total/NA	Solid	8021B	54510
890-4749-1 MSD	SS01	Total/NA	Solid	8021B	54510

## Analysis Batch: 54767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4749-1	SS01	Total/NA	Solid	Total BTEX	
890-4749-2	SS02	Total/NA	Solid	Total BTEX	
890-4749-3	SS03	Total/NA	Solid	Total BTEX	
890-4749-4	SS04	Total/NA	Solid	Total BTEX	
890-4749-5	SS05	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Analysis Batch: 54334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4749-1	SS01	Total/NA	Solid	8015B NM	54340
890-4749-2	SS02	Total/NA	Solid	8015B NM	54340
890-4749-3	SS03	Total/NA	Solid	8015B NM	54340
890-4749-4	SS04	Total/NA	Solid	8015B NM	54340
890-4749-5	SS05	Total/NA	Solid	8015B NM	54340
MB 880-54340/1-A	Method Blank	Total/NA	Solid	8015B NM	54340
LCS 880-54340/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	54340
LCSD 880-54340/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	54340
890-4746-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	54340
890-4746-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	54340

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## QC Association Summary

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

## GC Semi VOA

## Prep Batch: 54340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4749-1	SS01	Total/NA	Solid	8015NM Prep	
890-4749-2	SS02	Total/NA	Solid	8015NM Prep	
890-4749-3	SS03	Total/NA	Solid	8015NM Prep	
890-4749-4	SS04	Total/NA	Solid	8015NM Prep	
890-4749-5	SS05	Total/NA	Solid	8015NM Prep	
MB 880-54340/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-54340/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-54340/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4746-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4746-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 54457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4749-1	SS01	Total/NA	Solid	8015 NM	
890-4749-2	SS02	Total/NA	Solid	8015 NM	
890-4749-3	SS03	Total/NA	Solid	8015 NM	
890-4749-4	SS04	Total/NA	Solid	8015 NM	
890-4749-5	SS05	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 54418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4749-1	SS01	Soluble	Solid	DI Leach	
890-4749-2	SS02	Soluble	Solid	DI Leach	
890-4749-3	SS03	Soluble	Solid	DI Leach	
890-4749-4	SS04	Soluble	Solid	DI Leach	
890-4749-5	SS05	Soluble	Solid	DI Leach	
MB 880-54418/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-54418/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-54418/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4746-A-1-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4746-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-4747-A-2-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4747-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 54489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4749-1	SS01	Soluble	Solid	300.0	54418
890-4749-2	SS02	Soluble	Solid	300.0	54418
890-4749-3	SS03	Soluble	Solid	300.0	54418
890-4749-4	SS04	Soluble	Solid	300.0	54418
890-4749-5	SS05	Soluble	Solid	300.0	54418
MB 880-54418/1-A	Method Blank	Soluble	Solid	300.0	54418
LCS 880-54418/2-A	Lab Control Sample	Soluble	Solid	300.0	54418
LCSD 880-54418/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	54418
890-4746-A-1-E MS	Matrix Spike	Soluble	Solid	300.0	54418
890-4746-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	54418
890-4747-A-2-C MS	Matrix Spike	Soluble	Solid	300.0	54418
890-4747-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	54418

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Lab Chronicle

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

Client Sample ID: SS01  
Date Collected: 05/26/23 09:35  
Date Received: 05/26/23 12:45

Lab Sample ID: 890-4749-1  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	54510	05/31/23 13:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54672	06/03/23 17:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54767	06/05/23 13:40	SM	EET MID
Total/NA	Analysis	8015 NM		1			54457	05/31/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	54340	05/30/23 08:50	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54334	05/30/23 18:18	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	54418	05/30/23 14:31	KS	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	54489	05/31/23 19:37	CH	EET MID

Client Sample ID: SS02  
Date Collected: 05/26/23 09:45  
Date Received: 05/26/23 12:45

Lab Sample ID: 890-4749-2  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	54510	05/31/23 13:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54672	06/03/23 18:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54767	06/05/23 13:40	SM	EET MID
Total/NA	Analysis	8015 NM		1			54457	05/31/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	54340	05/30/23 08:50	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54334	05/30/23 18:40	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	54418	05/30/23 14:31	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	54489	05/31/23 19:43	CH	EET MID

Client Sample ID: SS03  
Date Collected: 05/26/23 10:40  
Date Received: 05/26/23 12:45

Lab Sample ID: 890-4749-3  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	54510	05/31/23 13:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54672	06/03/23 18:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54767	06/05/23 13:40	SM	EET MID
Total/NA	Analysis	8015 NM		1			54457	05/31/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	54340	05/30/23 08:50	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54334	05/30/23 19:01	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	54418	05/30/23 14:31	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	54489	05/31/23 19:48	CH	EET MID

Client Sample ID: SS04  
Date Collected: 05/26/23 09:50  
Date Received: 05/26/23 12:45

Lab Sample ID: 890-4749-4  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	54510	05/31/23 13:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54672	06/03/23 18:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54767	06/05/23 13:40	SM	EET MID

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Lab Chronicle

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

**Client Sample ID: SS04**  
**Date Collected: 05/26/23 09:50**  
**Date Received: 05/26/23 12:45**

**Lab Sample ID: 890-4749-4**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			54457	05/31/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	54340	05/30/23 08:50	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54334	05/30/23 19:21	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	54418	05/30/23 14:31	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	54489	05/31/23 19:54	CH	EET MID

**Client Sample ID: SS05**  
**Date Collected: 05/26/23 09:55**  
**Date Received: 05/26/23 12:45**

**Lab Sample ID: 890-4749-5**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	54510	05/31/23 13:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54672	06/03/23 19:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54767	06/05/23 13:40	SM	EET MID
Total/NA	Analysis	8015 NM		1			54457	05/31/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	54340	05/30/23 08:50	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54334	05/30/23 19:42	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	54418	05/30/23 14:31	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	54489	05/31/23 19:59	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

Laboratory: Eurofins Midland

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

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

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

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

Method Summary

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

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

**Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

Sample Summary

Client: Ensolum  
Project/Site: NASH DEEP EAST

Job ID: 890-4749-1  
SDG: 03C1558240

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4749-1	SS01	Solid	05/26/23 09:35	05/26/23 12:45	0.5
890-4749-2	SS02	Solid	05/26/23 09:45	05/26/23 12:45	0.5
890-4749-3	SS03	Solid	05/26/23 10:40	05/26/23 12:45	0.5
890-4749-4	SS04	Solid	05/26/23 09:50	05/26/23 12:45	0.5
890-4749-5	SS05	Solid	05/26/23 09:55	05/26/23 12:45	0.5

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Environment Testing  
Xenco

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

Chain of Custody

Work Order No: \_\_\_\_\_

www.xenco.com Page 1 of 1

Project Manager:	Ashtley Giovenago	Bill to: (if different)	Garrett Green
Company Name:	ENSOLVM, LLC	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	5104 E. Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	575-988-0055	Email:	Garrett.Green@XtonMobil.com

Work Order Comments	
Program:	UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> ARC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting:	Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____

Project Name:	Nash Deep East	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03C1558240	Due Date:	5 days		
Project Location:	32.29400, -103.91341	TAT starts the day received by the lab, if received by 4:30pm			
Sample's Name:	Marianna Oil Well				
P.O. #:					
SAMPLE RECEIPT	Temp Blank: <input checked="" type="radio"/> Yes <input checked="" type="radio"/> No	Wet Ice: <input checked="" type="radio"/> Yes <input type="radio"/> No			
Samples Received Intact:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Thermometer ID: 717M003			
Cooler Custody Seals:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Correction Factor: -0.2			
Sample Custody Seals:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Temperature Reading: 4.6			
Total Containers:		Corrected Temperature: 4.4			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	ANALYSIS REQUEST	Preservative Codes	Sample Comments
SS01	S	5/20/23	9:35	0.5'	G	1	X Chlorides		None: NO	Incident #:
SS02			9:45				X TPH		Cool: Cool	NAPP 2308130042
SS03			10:40				X BTEX		HCL: HC	Cost center:
SS04			9:50						H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>	1056041001
SS05			9:55						H <sub>3</sub> PO <sub>4</sub> : HP	Ashtley Giovenago:
									NaHSO <sub>4</sub> : NABIS	agiovenago@ensolvm.com
									Na <sub>2</sub> S <sub>2</sub> O <sub>5</sub> : NASO <sub>3</sub>	
									Zn Acetate+NaOH: Zn	
									NaOH+Ascorbic Acid: SAPC	



Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO<sub>2</sub> Na Sr Ti Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Note: 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 sample 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 \$3 for each sample submitted to Eurofins Xenco but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>Ashtley Giovenago</i>	<i>Joe Giff</i>	5.26.23 1245			

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4749-1

SDG Number: 03C1558240

Login Number: 4749

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4749-1

SDG Number: 03C1558240

Login Number: 4749

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 05/30/23 08:27 AM

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



Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ashley Giovengo  
Ensolum  
601 N. Marienfeld St.  
Suite 400  
Midland, Texas 79701

Generated 6/20/2023 4:23:41 PM Revision 1

## JOB DESCRIPTION

Nash Deep East  
SDG NUMBER 03C1558240

## JOB NUMBER

890-4810-1

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad NM 88220



# Eurofins Carlsbad

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

## Authorization



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

Generated  
6/20/2023 4:23:41 PM  
Revision 1

Client: Ensolum  
Project/Site: Nash Deep East

Laboratory Job ID: 890-4810-1  
SDG: 03C1558240

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## Definitions/Glossary

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

## Qualifiers

## GC VOA

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

## GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

## HPLC/IC

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

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

## Case Narrative

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

**Job ID: 890-4810-1**

**Laboratory: Eurofins Carlsbad**

### Narrative

#### Job Narrative 890-4810-1

### REVISION

The report being provided is a revision of the original report sent on 6/19/2023. The report (revision 1) is being revised due to Per client email, requesting chloride re run.

### Receipt

The samples were received on 6/9/2023 4:13 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.0°C

### Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-4810-1), BH01 (890-4810-2), BH01A (890-4810-3), BH01B (890-4810-4), FS02 (890-4810-5) and SW01 (890-4810-6).

### GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-55677 and 880-55680 and analytical batch 880-55652 was outside the control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (LCS 880-55677/1-A). Evidence of matrix interferences is not obvious.

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

### GC Semi VOA

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: SW01 (890-4810-6). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: FS01 (890-4810-1). Evidence of matrix interferences is not obvious.

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

### HPLC/IC

Method 300\_ORGFM\_28D: The method blank for preparation batch 880-55931, 880-55931 and 880-55931 and analytical batch 880-55934 contained Chloride above the method detection limit (MDL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

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

## Client Sample Results

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

Client Sample ID: FS01

Lab Sample ID: 890-4810-1

Date Collected: 06/08/23 13:10

Matrix: Solid

Date Received: 06/09/23 16:13

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		06/16/23 10:43	06/17/23 10:29	1
Toluene	<0.00202	U	0.00202	mg/Kg		06/16/23 10:43	06/17/23 10:29	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		06/16/23 10:43	06/17/23 10:29	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		06/16/23 10:43	06/17/23 10:29	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		06/16/23 10:43	06/17/23 10:29	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		06/16/23 10:43	06/17/23 10:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 130	06/16/23 10:43	06/17/23 10:29	1
1,4-Difluorobenzene (Surr)	85		70 - 130	06/16/23 10:43	06/17/23 10:29	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			06/19/23 15:52	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			06/16/23 15:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		06/13/23 13:17	06/16/23 00:51	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		06/13/23 13:17	06/16/23 00:51	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		06/13/23 13:17	06/16/23 00:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	9	S1-	70 - 130	06/13/23 13:17	06/16/23 00:51	1
o-Terphenyl	11	S1-	70 - 130	06/13/23 13:17	06/16/23 00:51	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	151		4.98	mg/Kg			06/14/23 16:30	1

Client Sample ID: BH01

Lab Sample ID: 890-4810-2

Date Collected: 06/08/23 10:45

Matrix: Solid

Date Received: 06/09/23 16:13

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		06/16/23 10:43	06/17/23 10:50	1
Toluene	0.00199		0.00199	mg/Kg		06/16/23 10:43	06/17/23 10:50	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/16/23 10:43	06/17/23 10:50	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		06/16/23 10:43	06/17/23 10:50	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/16/23 10:43	06/17/23 10:50	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/16/23 10:43	06/17/23 10:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130	06/16/23 10:43	06/17/23 10:50	1

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## Client Sample Results

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

Client Sample ID: BH01

Lab Sample ID: 890-4810-2

Date Collected: 06/08/23 10:45

Matrix: Solid

Date Received: 06/09/23 16:13

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	84		70 - 130	06/16/23 10:43	06/17/23 10:50	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			06/19/23 15:52	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	453		49.9	mg/Kg			06/16/23 15:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/13/23 13:17	06/16/23 02:00	1
Diesel Range Organics (Over C10-C28)	269		49.9	mg/Kg		06/13/23 13:17	06/16/23 02:00	1
Oil Range Organics (Over C28-C36)	184		49.9	mg/Kg		06/13/23 13:17	06/16/23 02:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130			06/13/23 13:17	06/16/23 02:00	1
o-Terphenyl	122		70 - 130			06/13/23 13:17	06/16/23 02:00	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4820		49.5	mg/Kg			06/14/23 16:36	10

Client Sample ID: BH01A

Lab Sample ID: 890-4810-3

Date Collected: 06/08/23 10:50

Matrix: Solid

Date Received: 06/09/23 16:13

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		06/16/23 10:43	06/17/23 11:10	1
Toluene	<0.00198	U	0.00198	mg/Kg		06/16/23 10:43	06/17/23 11:10	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		06/16/23 10:43	06/17/23 11:10	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		06/16/23 10:43	06/17/23 11:10	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		06/16/23 10:43	06/17/23 11:10	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		06/16/23 10:43	06/17/23 11:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130			06/16/23 10:43	06/17/23 11:10	1
1,4-Difluorobenzene (Surr)	82		70 - 130			06/16/23 10:43	06/17/23 11:10	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			06/19/23 15:52	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	54.9		50.0	mg/Kg			06/16/23 15:45	1

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## Client Sample Results

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

Client Sample ID: BH01A

Lab Sample ID: 890-4810-3

Date Collected: 06/08/23 10:50

Matrix: Solid

Date Received: 06/09/23 16:13

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/13/23 13:17	06/16/23 02:22	1
<b>Diesel Range Organics (Over C10-C28)</b>	<b>54.9</b>		50.0	mg/Kg		06/13/23 13:17	06/16/23 02:22	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/13/23 13:17	06/16/23 02:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130			06/13/23 13:17	06/16/23 02:22	1
o-Terphenyl	122		70 - 130			06/13/23 13:17	06/16/23 02:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	980		24.8	mg/Kg			06/14/23 16:41	5

Client Sample ID: BH01B

Lab Sample ID: 890-4810-4

Date Collected: 06/09/23 09:30

Matrix: Solid

Date Received: 06/09/23 16:13

Sample Depth: 3

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		06/16/23 10:43	06/17/23 11:31	1
Toluene	<0.00202	U	0.00202	mg/Kg		06/16/23 10:43	06/17/23 11:31	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		06/16/23 10:43	06/17/23 11:31	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		06/16/23 10:43	06/17/23 11:31	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		06/16/23 10:43	06/17/23 11:31	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		06/16/23 10:43	06/17/23 11:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130			06/16/23 10:43	06/17/23 11:31	1
1,4-Difluorobenzene (Surr)	84		70 - 130			06/16/23 10:43	06/17/23 11:31	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			06/19/23 15:52	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			06/16/23 15:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/13/23 13:17	06/16/23 02:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/13/23 13:17	06/16/23 02:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/13/23 13:17	06/16/23 02:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130			06/13/23 13:17	06/16/23 02:44	1
o-Terphenyl	122		70 - 130			06/13/23 13:17	06/16/23 02:44	1

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## Client Sample Results

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

Client Sample ID: BH01B

Lab Sample ID: 890-4810-4

Date Collected: 06/09/23 09:30

Matrix: Solid

Date Received: 06/09/23 16:13

Sample Depth: 3

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	209		5.04	mg/Kg			06/14/23 16:47	1

Client Sample ID: FS02

Lab Sample ID: 890-4810-5

Date Collected: 06/09/23 14:25

Matrix: Solid

Date Received: 06/09/23 16:13

Sample Depth: 2.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/16/23 10:43	06/17/23 11:52	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/16/23 10:43	06/17/23 11:52	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/16/23 10:43	06/17/23 11:52	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		06/16/23 10:43	06/17/23 11:52	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/16/23 10:43	06/17/23 11:52	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		06/16/23 10:43	06/17/23 11:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130			06/16/23 10:43	06/17/23 11:52	1
1,4-Difluorobenzene (Surr)	84		70 - 130			06/16/23 10:43	06/17/23 11:52	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			06/19/23 15:52	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/15/23 12:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/14/23 11:36	06/14/23 17:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/14/23 11:36	06/14/23 17:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/14/23 11:36	06/14/23 17:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	119		70 - 130			06/14/23 11:36	06/14/23 17:54	1
o-Terphenyl	102		70 - 130			06/14/23 11:36	06/14/23 17:54	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	553		4.98	mg/Kg			06/20/23 14:36	1

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## Client Sample Results

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

Client Sample ID: SW01

Lab Sample ID: 890-4810-6

Date Collected: 06/09/23 15:00

Matrix: Solid

Date Received: 06/09/23 16:13

Sample Depth: 0-2.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/16/23 10:43	06/17/23 12:12	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/16/23 10:43	06/17/23 12:12	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/16/23 10:43	06/17/23 12:12	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		06/16/23 10:43	06/17/23 12:12	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/16/23 10:43	06/17/23 12:12	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		06/16/23 10:43	06/17/23 12:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130	06/16/23 10:43	06/17/23 12:12	1
1,4-Difluorobenzene (Surr)	83		70 - 130	06/16/23 10:43	06/17/23 12:12	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			06/19/23 15:52	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/15/23 12:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/14/23 11:36	06/14/23 18:17	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/14/23 11:36	06/14/23 18:17	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/14/23 11:36	06/14/23 18:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	138	S1+	70 - 130	06/14/23 11:36	06/14/23 18:17	1
o-Terphenyl	118		70 - 130	06/14/23 11:36	06/14/23 18:17	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	315		4.98	mg/Kg			06/14/23 16:58	1

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## Surrogate Summary

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

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

Matrix: Solid

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-29314-A-1-B MS	Matrix Spike	102	108
880-29314-A-1-C MSD	Matrix Spike Duplicate	106	107
890-4810-1	FS01	92	85
890-4810-2	BH01	89	84
890-4810-3	BH01A	90	82
890-4810-4	BH01B	90	84
890-4810-5	FS02	86	84
890-4810-6	SW01	88	83
LCS 880-55677/1-A	Lab Control Sample	137 S1+	110
LCSD 880-55677/2-A	Lab Control Sample Dup	115	106
MB 880-55677/5-A	Method Blank	67 S1-	99
MB 880-55680/5-A	Method Blank	69 S1-	99

## Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-29502-A-21-C MS	Matrix Spike	115	83
880-29502-A-21-D MSD	Matrix Spike Duplicate	116	86
890-4810-1	FS01	9 S1-	11 S1-
890-4810-2	BH01	97	122
890-4810-3	BH01A	98	122
890-4810-4	BH01B	98	122
890-4810-5	FS02	119	102
890-4810-6	SW01	138 S1+	118
LCS 880-55508/2-A	Lab Control Sample	123	106
LCSD 880-55508/3-A	Lab Control Sample Dup	104	88
MB 880-55508/1-A	Method Blank	61 S1-	52 S1-

## Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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## QC Sample Results

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

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

Lab Sample ID: MB 880-55677/5-A

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 55677

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/16/23 10:43	06/17/23 09:26	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/16/23 10:43	06/17/23 09:26	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/16/23 10:43	06/17/23 09:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		06/16/23 10:43	06/17/23 09:26	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/16/23 10:43	06/17/23 09:26	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/16/23 10:43	06/17/23 09:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	67	S1-	70 - 130	06/16/23 10:43	06/17/23 09:26	1
1,4-Difluorobenzene (Surr)	99		70 - 130	06/16/23 10:43	06/17/23 09:26	1

Lab Sample ID: LCS 880-55677/1-A

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 55677

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09597		mg/Kg		96	70 - 130
Toluene	0.100	0.08390		mg/Kg		84	70 - 130
Ethylbenzene	0.100	0.08456		mg/Kg		85	70 - 130
m-Xylene & p-Xylene	0.200	0.1708		mg/Kg		85	70 - 130
o-Xylene	0.100	0.08842		mg/Kg		88	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	137	S1+	70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: LCSD 880-55677/2-A

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 55677

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09332		mg/Kg		93	70 - 130	3	35
Toluene	0.100	0.08119		mg/Kg		81	70 - 130	3	35
Ethylbenzene	0.100	0.07964		mg/Kg		80	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1616		mg/Kg		81	70 - 130	6	35
o-Xylene	0.100	0.08321		mg/Kg		83	70 - 130	6	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	115		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 880-29314-A-1-B MS

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 55677

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0994	0.09585		mg/Kg		96	70 - 130
Toluene	<0.00200	U	0.0994	0.08046		mg/Kg		80	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

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

Lab Sample ID: 880-29314-A-1-B MS

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 55677

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0994	0.08588		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1636		mg/Kg		82	70 - 130
o-Xylene	<0.00200	U	0.0994	0.08641		mg/Kg		87	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: 880-29314-A-1-C MSD

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 55677

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00200	U	0.0998	0.09425		mg/Kg		94	70 - 130	2	35
Toluene	<0.00200	U	0.0998	0.08280		mg/Kg		82	70 - 130	3	35
Ethylbenzene	<0.00200	U	0.0998	0.08649		mg/Kg		87	70 - 130	1	35
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1697		mg/Kg		85	70 - 130	4	35
o-Xylene	<0.00200	U	0.0998	0.08586		mg/Kg		86	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: MB 880-55680/5-A

Matrix: Solid

Analysis Batch: 55652

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 55680

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/16/23 22:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/16/23 22:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/16/23 22:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		06/16/23 11:48	06/16/23 22:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/16/23 11:48	06/16/23 22:47	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/16/23 11:48	06/16/23 22:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	69	S1-	70 - 130	06/16/23 11:48	06/16/23 22:47	1
1,4-Difluorobenzene (Surr)	99		70 - 130	06/16/23 11:48	06/16/23 22:47	1

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

Lab Sample ID: MB 880-55508/1-A

Matrix: Solid

Analysis Batch: 55457

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 55508

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/14/23 11:36	06/14/23 08:05	1

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## QC Sample Results

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

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

Lab Sample ID: MB 880-55508/1-A

Matrix: Solid

Analysis Batch: 55457

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 55508

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/14/23 11:36	06/14/23 08:05	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/14/23 11:36	06/14/23 08:05	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	61	S1-	70 - 130			06/14/23 11:36	06/14/23 08:05	1
o-Terphenyl	52	S1-	70 - 130			06/14/23 11:36	06/14/23 08:05	1

Lab Sample ID: LCS 880-55508/2-A

Matrix: Solid

Analysis Batch: 55457

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 55508

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	842.2		mg/Kg		84	70 - 130
Diesel Range Organics (Over C10-C28)	1000	942.0		mg/Kg		94	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	123		70 - 130				
o-Terphenyl	106		70 - 130				

Lab Sample ID: LCSD 880-55508/3-A

Matrix: Solid

Analysis Batch: 55457

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 55508

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	777.4		mg/Kg		78	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	1000	851.6		mg/Kg		85	70 - 130	10	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	104		70 - 130						
o-Terphenyl	88		70 - 130						

Lab Sample ID: 880-29502-A-21-C MS

Matrix: Solid

Analysis Batch: 55457

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 55508

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	997	1706	F1	mg/Kg		169	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U F1	997	1634	F1	mg/Kg		161	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	115		70 - 130						
o-Terphenyl	83		70 - 130						

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## QC Sample Results

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

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

Lab Sample ID: 880-29502-A-21-D MSD

Matrix: Solid

Analysis Batch: 55457

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 55508

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	997	1707	F1	mg/Kg		169	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<50.0	U F1	997	1690	F1	mg/Kg		167	70 - 130	3	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	116		70 - 130								
o-Terphenyl	86		70 - 130								

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-55384/1-A

Matrix: Solid

Analysis Batch: 55505

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			06/14/23 10:57	1

Lab Sample ID: LCS 880-55384/2-A

Matrix: Solid

Analysis Batch: 55505

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	248.8		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-55384/3-A

Matrix: Solid

Analysis Batch: 55505

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	249.4		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-4809-A-6-C MS

Matrix: Solid

Analysis Batch: 55505

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	246		250	489.1		mg/Kg		97	90 - 110

Lab Sample ID: 890-4809-A-6-D MSD

Matrix: Solid

Analysis Batch: 55505

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	246		250	490.1		mg/Kg		97	90 - 110	0	20

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## QC Sample Results

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

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

Lab Sample ID: MB 880-55931/1-A

Matrix: Solid

Analysis Batch: 55934

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			06/20/23 13:57	1

Lab Sample ID: LCS 880-55931/2-A

Matrix: Solid

Analysis Batch: 55934

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	244.2		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-55931/3-A

Matrix: Solid

Analysis Batch: 55934

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	240.5		mg/Kg		96	90 - 110	2	20

Lab Sample ID: 880-29743-A-1-B MS

Matrix: Solid

Analysis Batch: 55934

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	247		252	475.5		mg/Kg		91	90 - 110

Lab Sample ID: 880-29743-A-1-C MSD

Matrix: Solid

Analysis Batch: 55934

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	247		252	478.2		mg/Kg		92	90 - 110	1	20

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## QC Association Summary

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

## GC VOA

## Analysis Batch: 55652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4810-1	FS01	Total/NA	Solid	8021B	55677
890-4810-2	BH01	Total/NA	Solid	8021B	55677
890-4810-3	BH01A	Total/NA	Solid	8021B	55677
890-4810-4	BH01B	Total/NA	Solid	8021B	55677
890-4810-5	FS02	Total/NA	Solid	8021B	55677
890-4810-6	SW01	Total/NA	Solid	8021B	55677
MB 880-55677/5-A	Method Blank	Total/NA	Solid	8021B	55677
MB 880-55680/5-A	Method Blank	Total/NA	Solid	8021B	55680
LCS 880-55677/1-A	Lab Control Sample	Total/NA	Solid	8021B	55677
LCSD 880-55677/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	55677
880-29314-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	55677
880-29314-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	55677

## Prep Batch: 55677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4810-1	FS01	Total/NA	Solid	5035	
890-4810-2	BH01	Total/NA	Solid	5035	
890-4810-3	BH01A	Total/NA	Solid	5035	
890-4810-4	BH01B	Total/NA	Solid	5035	
890-4810-5	FS02	Total/NA	Solid	5035	
890-4810-6	SW01	Total/NA	Solid	5035	
MB 880-55677/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-55677/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-55677/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-29314-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-29314-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Prep Batch: 55680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-55680/5-A	Method Blank	Total/NA	Solid	5035	

## Analysis Batch: 55867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4810-1	FS01	Total/NA	Solid	Total BTEX	
890-4810-2	BH01	Total/NA	Solid	Total BTEX	
890-4810-3	BH01A	Total/NA	Solid	Total BTEX	
890-4810-4	BH01B	Total/NA	Solid	Total BTEX	
890-4810-5	FS02	Total/NA	Solid	Total BTEX	
890-4810-6	SW01	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 55423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4810-1	FS01	Total/NA	Solid	8015NM Prep	
890-4810-2	BH01	Total/NA	Solid	8015NM Prep	
890-4810-3	BH01A	Total/NA	Solid	8015NM Prep	
890-4810-4	BH01B	Total/NA	Solid	8015NM Prep	

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## QC Association Summary

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

## GC Semi VOA

## Analysis Batch: 55457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4810-5	FS02	Total/NA	Solid	8015B NM	55508
890-4810-6	SW01	Total/NA	Solid	8015B NM	55508
MB 880-55508/1-A	Method Blank	Total/NA	Solid	8015B NM	55508
LCS 880-55508/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	55508
LCSD 880-55508/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	55508
880-29502-A-21-C MS	Matrix Spike	Total/NA	Solid	8015B NM	55508
880-29502-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	55508

## Prep Batch: 55508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4810-5	FS02	Total/NA	Solid	8015NM Prep	
890-4810-6	SW01	Total/NA	Solid	8015NM Prep	
MB 880-55508/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-55508/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-55508/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-29502-A-21-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-29502-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 55546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4810-1	FS01	Total/NA	Solid	8015B NM	55423
890-4810-2	BH01	Total/NA	Solid	8015B NM	55423
890-4810-3	BH01A	Total/NA	Solid	8015B NM	55423
890-4810-4	BH01B	Total/NA	Solid	8015B NM	55423

## Analysis Batch: 55602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4810-1	FS01	Total/NA	Solid	8015 NM	
890-4810-2	BH01	Total/NA	Solid	8015 NM	
890-4810-3	BH01A	Total/NA	Solid	8015 NM	
890-4810-4	BH01B	Total/NA	Solid	8015 NM	
890-4810-5	FS02	Total/NA	Solid	8015 NM	
890-4810-6	SW01	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 55384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4810-1	FS01	Soluble	Solid	DI Leach	
890-4810-2	BH01	Soluble	Solid	DI Leach	
890-4810-3	BH01A	Soluble	Solid	DI Leach	
890-4810-4	BH01B	Soluble	Solid	DI Leach	
890-4810-6	SW01	Soluble	Solid	DI Leach	
MB 880-55384/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-55384/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-55384/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4809-A-6-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4809-A-6-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

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## QC Association Summary

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

## HPLC/IC

## Analysis Batch: 55505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4810-1	FS01	Soluble	Solid	300.0	55384
890-4810-2	BH01	Soluble	Solid	300.0	55384
890-4810-3	BH01A	Soluble	Solid	300.0	55384
890-4810-4	BH01B	Soluble	Solid	300.0	55384
890-4810-6	SW01	Soluble	Solid	300.0	55384
MB 880-55384/1-A	Method Blank	Soluble	Solid	300.0	55384
LCS 880-55384/2-A	Lab Control Sample	Soluble	Solid	300.0	55384
LCSD 880-55384/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	55384
890-4809-A-6-C MS	Matrix Spike	Soluble	Solid	300.0	55384
890-4809-A-6-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	55384

## Leach Batch: 55931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4810-5	FS02	Soluble	Solid	DI Leach	
MB 880-55931/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-55931/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-55931/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-29743-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-29743-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 55934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4810-5	FS02	Soluble	Solid	300.0	55931
MB 880-55931/1-A	Method Blank	Soluble	Solid	300.0	55931
LCS 880-55931/2-A	Lab Control Sample	Soluble	Solid	300.0	55931
LCSD 880-55931/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	55931
880-29743-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	55931
880-29743-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	55931



## Lab Chronicle

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

**Client Sample ID: FS01****Lab Sample ID: 890-4810-1****Date Collected: 06/08/23 13:10****Matrix: Solid****Date Received: 06/09/23 16:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	55677	06/16/23 10:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/17/23 10:29	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55867	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55602	06/16/23 15:45	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	55423	06/13/23 13:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55546	06/16/23 00:51	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	55384	06/13/23 10:11	KS	EET MID
Soluble	Analysis	300.0		1			55505	06/14/23 16:30	CH	EET MID

**Client Sample ID: BH01****Lab Sample ID: 890-4810-2****Date Collected: 06/08/23 10:45****Matrix: Solid****Date Received: 06/09/23 16:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	55677	06/16/23 10:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/17/23 10:50	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55867	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55602	06/16/23 15:45	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	55423	06/13/23 13:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55546	06/16/23 02:00	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	55384	06/13/23 10:11	KS	EET MID
Soluble	Analysis	300.0		10			55505	06/14/23 16:36	CH	EET MID

**Client Sample ID: BH01A****Lab Sample ID: 890-4810-3****Date Collected: 06/08/23 10:50****Matrix: Solid****Date Received: 06/09/23 16:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	55677	06/16/23 10:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/17/23 11:10	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55867	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55602	06/16/23 15:45	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	55423	06/13/23 13:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55546	06/16/23 02:22	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	55384	06/13/23 10:11	KS	EET MID
Soluble	Analysis	300.0		5			55505	06/14/23 16:41	CH	EET MID

**Client Sample ID: BH01B****Lab Sample ID: 890-4810-4****Date Collected: 06/09/23 09:30****Matrix: Solid****Date Received: 06/09/23 16:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	55677	06/16/23 10:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/17/23 11:31	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55867	06/19/23 15:52	SM	EET MID

Eurofins Carlsbad

## Lab Chronicle

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

**Client Sample ID: BH01B****Date Collected: 06/09/23 09:30****Date Received: 06/09/23 16:13****Lab Sample ID: 890-4810-4****Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			55602	06/16/23 15:45	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	55423	06/13/23 13:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55546	06/16/23 02:44	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	55384	06/13/23 10:11	KS	EET MID
Soluble	Analysis	300.0		1			55505	06/14/23 16:47	CH	EET MID

**Client Sample ID: FS02****Date Collected: 06/09/23 14:25****Date Received: 06/09/23 16:13****Lab Sample ID: 890-4810-5****Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	55677	06/16/23 10:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/17/23 11:52	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55867	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55602	06/15/23 12:35	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	55508	06/14/23 11:36	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55457	06/14/23 17:54	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	55931	06/20/23 13:48	KS	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	55934	06/20/23 14:36	CH	EET MID

**Client Sample ID: SW01****Date Collected: 06/09/23 15:00****Date Received: 06/09/23 16:13****Lab Sample ID: 890-4810-6****Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	55677	06/16/23 10:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55652	06/17/23 12:12	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55867	06/19/23 15:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			55602	06/15/23 12:35	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	55508	06/14/23 11:36	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55457	06/14/23 18:17	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	55384	06/13/23 10:11	KS	EET MID
Soluble	Analysis	300.0		1			55505	06/14/23 16:58	CH	EET MID

**Laboratory References:**

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

Eurofins Carlsbad

Accreditation/Certification Summary

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

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

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum  
Project/Site: Nash Deep East

Job ID: 890-4810-1  
SDG: 03C1558240

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4810-1	FS01	Solid	06/08/23 13:10	06/09/23 16:13	1
890-4810-2	BH01	Solid	06/08/23 10:45	06/09/23 16:13	1
890-4810-3	BH01A	Solid	06/08/23 10:50	06/09/23 16:13	
890-4810-4	BH01B	Solid	06/09/23 09:30	06/09/23 16:13	3
890-4810-5	FS02	Solid	06/09/23 14:25	06/09/23 16:13	2.5
890-4810-6	SW01	Solid	06/09/23 15:00	06/09/23 16:13	0-2.5'

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



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

## Chain of Custody

Work Order No: \_\_\_\_\_

www.xenco.com Page 1 of 1

Project Manager:	Ashtley Ciovere ngo	Bill to: (if different)	Garrett Greene
Company Name:	Ensofarm, LLC	Company Name:	XTO Energy
Address:	3102 National Parks Hwy	Address:	3104 E. Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	(575) 988-0055	Email:	Garrett.Greene@ExxonMobil.com

Work Order Comments	
Program:	UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting:	Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: <input type="text"/>

Project Name:		Nash Deep East		Turn Around	
Project Number:		03C1558240		<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	
Project location:		32.99900-103.91341		Due Date: 5 days	
Sampler's Name:		Manaha O'Dell		TAT starts the day received by the lab. if received by 4:30pm	
PO #:					
SAMPLE RECEIPT		Temp Blank:		Wet Ice	
Samples Received Inact:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Cooler Custody Seals:		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Thermometer ID: 11111111	
Sample Custody Seals:		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Correction Factor: -0.2	
Total Containers:				Temperature Reading: 15.0	
				Corrected Temperature:	
Parameters					
Pic Code					
ANALYSIS REQUEST					
Preservative Codes					
None: NO         DI Water: H <sub>2</sub> O         Cool: Cool         MeOH: Me         HCL: HC         HNO: 3:1HN         H <sub>2</sub> SO: 4:1: H <sub>2</sub> NaOH: Na         H <sub>3</sub> PO: 4:1HP         NaHSO: 4:1: NABIS         Na <sub>2</sub> S <sub>2</sub> O: 3:1: NaSO <sub>3</sub> Zn Acetate+NaOH: Zn         NaOH+Ascorbic Acid: SAMP					

[illegible]

Total 200.7 / 6010	200.8 / 6020:
Circle Method(s) and Metal(s) to be analyzed	8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO <sub>2</sub> Na Sr Ti Sn U V Zn TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 77470 / 7471

Notice: Signature of this document is fulfillment of sample constitutes a valid purchase order from client company to Eurofins Xeno. Its affiliate and subcontractors. It assigns standard terms and conditions of service. Eurofins Xeno 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 Xeno. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xeno but not analyzed. These terms will be enforced unless previously negated.

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	<i>M. Arac</i>	<i>Joe Alf</i>	10-7-23	<i>Joe Alf</i>		
3						
5						

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4810-1

SDG Number: 03C1558240

Login Number: 4810

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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



## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4810-1

SDG Number: 03C1558240

**Login Number: 4810****List Number: 2****Creator: Rodriguez, Leticia****List Source: Eurofins Midland****List Creation: 06/13/23 10:37 AM**

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



## APPENDIX E

### NMOCD Notifications

---

**From:** [Collins, Melanie](#)  
**To:** [ocd.enviro \(ocd.enviro@emnrd.nm.gov\)](#); [Bratcher, Michael, EMNRD \(mike.bratcher@emnrd.nm.gov\)](#); [Hamlet, Robert, EMNRD \(Robert.Hamlet@emnrd.nm.gov\)](#); [Harimon, Jocelyn, EMNRD \(Jocelyn.Harimon@emnrd.nm.gov\)](#)  
**Cc:** [Green, Garrett J](#); [Tacoma Morrissey](#); [DelawareSpills /SM](#)  
**Subject:** XTO - Sampling Notification (Week of 6/5/23 - 6/9/23)  
**Date:** Thursday, June 1, 2023 12:49:06 PM  
**Attachments:** [image001.png](#)

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

All,

XTO plans to complete final sampling activities at the sites listed below for the week of June 5, 2023.

Monday

- PLU Phantom Banks 25-25-30 Battery / nAPP2310044397

Tuesday

- PLU Phantom Banks 25-25-30 Battery / nAPP2310044397
- PLU BS 15H / NAB1821157574

Wednesday

- James Ranch Unit 2 702H / nAPP2211654411
- Outrider Fed 28 501H / nAPP2306054654

Thursday

- Nash Deep East / nAPP2308136642

Friday

- Nash Deep East / nAPP2308136642

Thank you,

*Melanie Collins*



Environmental Technician

[melanie.collins@exxonmobil.com](mailto:melanie.collins@exxonmobil.com)

432-556-3756

**From:** [Hamlet, Robert, EMNRD](#)  
**To:** [Collins, Melanie](#)  
**Cc:** [Tacoma Morrissey](#); [Green, Garrett J](#); [DelawareSpills /SM](#); [Bratcher, Michael, EMNRD](#); [Harimon, Jocelyn, EMNRD](#)  
**Subject:** (Extension Approval) - XTO - Nash Deep East - Incident Number nAPP2308136642  
**Date:** Friday, June 9, 2023 2:41:08 PM  
**Attachments:** [image003.png](#)

---

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

RE: Incident # **APP2308136642**

**Melanie,**

Your request for an extension to **August 12th, 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](mailto:robert.hamlet@state.nm.us)  
<http://www.emnrd.state.nm.us/OCD/>



---

**From:** Collins, Melanie <[melanie.collins@exxonmobil.com](mailto:melanie.collins@exxonmobil.com)>  
**Sent:** Friday, June 9, 2023 10:57 AM  
**To:** Enviro, OCD, EMNRD <[OCD.Enviro@emnrd.nm.gov](mailto:OCD.Enviro@emnrd.nm.gov)>; Harimon, Jocelyn, EMNRD <[Jocelyn.Harimon@emnrd.nm.gov](mailto:Jocelyn.Harimon@emnrd.nm.gov)>; Hamlet, Robert, EMNRD <[Robert.Hamlet@emnrd.nm.gov](mailto:Robert.Hamlet@emnrd.nm.gov)>; Bratcher, Michael, EMNRD <[mike.bratcher@emnrd.nm.gov](mailto:mike.bratcher@emnrd.nm.gov)>  
**Cc:** Tacoma Morrissey <[tmorrissey@ensolum.com](mailto:tmorrissey@ensolum.com)>; Green, Garrett J <[garrett.green@exxonmobil.com](mailto:garrett.green@exxonmobil.com)>; DelawareSpills /SM <[DelawareSpills@exxonmobil.com](mailto:DelawareSpills@exxonmobil.com)>  
**Subject:** [EXTERNAL] XTO - Extension Request - Nash Deep East - Incident Number nAPP2308136642

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

All,

XTO is requesting an extension of the current deadline of June 13, 2023, for submitting a remediation work plan or closure report required in 19.15.29.12.B.(1) NMAC for the Nash Deep East (Incident Number nAPP2308136642). The release occurred on March 15, 2023, and as a result, approximately 7.43 barrels of produced water was released in an area

surrounding process piping and active production equipment on pad. An initial site assessment and delineation sampling has been completed at the site. Excavation activities are currently ongoing and laboratory analytical results for confirmation soil samples is pending. To provide time to review analytical results and submit a remediation work plan or closure report, XTO requests a 60-day extension of this deadline until August 12, 2023.

Thank you,

*Melanie Collins*



Environmental Technician

[melanie.collins@exxonmobil.com](mailto:melanie.collins@exxonmobil.com)

432-556-3756

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

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

CONDITIONS  
  
Action 247760

CONDITIONS

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  247760
	Action Type:  [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	XTO's deferral requests final remediation for Incident Numbers NAPP2308136642 until the site is reconstructed, and/or the well pad is abandoned. Ensolum and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. The area requested for deferral is the impacted soil underneath the surface piping, where remediation would require a major facility deconstruction (Figure 4). The area has been delineated and documented in the report. At this time, OCD approves this request. The Deferral Request and C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and reflect an open environmental issue.	1/17/2024