

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	NAPP2135032531
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Shelby Pennington	Contact Telephone 281-723-9353
Contact email shelby.g.pennington@exxonmobil.com	Incident # (assigned by OCD)
Contact mailing address 6401 Holiday Hill Rd Bldg 5, Midland, Texas, 79707	

Location of Release Source

Latitude 32.18183 Longitude -103.83299
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Big Sinks 25	Site Type Central Tank Battery
Date Release Discovered 12/06/2021	API# (if applicable)

Unit Letter	Section	Township	Range	County
O	25	24S	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) 5.0	Volume Recovered (bbls) 5.0
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	<input 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 on a 3" valve released fluids from the water tank into impermeable containment. All fluids were recovered. A 48-hour advance liner inspection notice was sent to NMOCD District 2. Liner was inspected and determined not to be operating as designed. A third-party contractor has been retained for remediation purposes.

Incident ID	NAPP2135032531
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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? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

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: Shelby Pennington	Title: Environmental Manager
Signature: 	Date: 12/16/21
email: shelby.g.pennington@exxonmobil.com	Telephone: 281-723-9353
<u>OCD Only</u>	
Received by: Ramona Marcus	Date: 12/20/2021

NAPP2135032531

Location:	Big Sinks 25 CTB	
Spill Date:	12/6/2021	
Area 1		
Approximate Area =	28.07	cu.ft.
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	5.00	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil=	0.00	bbls
Total Produced Water =	5.00	bbls
TOTAL VOLUME RECOVERED		
Total Crude Oil=	0.00	bbls
Total Produced Water =	5.00	bbls

District I

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

District II

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

District III

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

District IV

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

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

CONDITIONS

Action 67366

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 67366
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rmarcus	None	12/20/2021

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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>>100</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 type="checkbox"/> Yes <input checked="" 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 not 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

Page 4

Incident ID	NAPP2135032531
District RP	
Facility ID	
Application ID	

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

Printed Name: Adrian Baker Title: Environmental CoordinatorSignature:  Date: 5/27/2022email: adrian.baker@exxonmobil.com Telephone: 432-236-3808**OCD Only**

Received by: _____ Date: _____

Incident ID	NAPP2135032531
District RP	
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Application ID	

Closure

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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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

Printed Name: Adrian Baker Title: Environmental Coordinator
Signature: Adrian Baker Date: 5/27/2022
email: adrian.baker@exxonmobil.com Telephone: 432-236-3808

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Jennifer Nobui Date: 08/18/2022
Printed Name: Jennifer Nobui Title: Environmental Specialist A



May 27, 2022

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

**Re: Closure Request
Big Sinks 25 Central Tank Battery
Incident Number NAPP2135032531
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this Closure Request to document site assessment and soil sampling activities performed at the Big Sinks 25 Central Tank Battery (CTB) (Site) in Unit O, Section 25, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil resulting from a release of produced water within lined containment at the Site. Based on field observations, field screening activities, and laboratory analytical results, XTO is submitting this Closure Request and requesting closure for Incident Number NAPP2135032531.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Eddy County, New Mexico (32.18183° N, 103.83299°W) and is associated with oil and gas exploration and production operations on Bureau of Land Management (BLM) Federal Land.

On December 6, 2021, a pinhole leak on a 3-inch valve resulted in the release of approximately 5 barrels (bbls) of produced water into the lined tank battery containment. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; all 5 bbls of produced water were recovered from within the lined containment. A 48-hour advance notice of liner inspection was provided via email to the New Mexico Oil Conservation Division (NMOCD) District II office. A liner integrity inspection was conducted by XTO personnel following the fluid recovery and upon inspection, the liner was determined to be insufficient. XTO reported the release to the NMOCD on a Release Notification Form C-141 (Form C-141) on December 16, 2021. The release was assigned Incident Number NAPP2135032531.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on a recent soil boring drilled for determination of regional groundwater depth. On November 19, 2020, a soil boring (C-4484) was drilled within 0.5 miles of the Site utilizing a track-mounted hollow-stem auger rig. Soil boring C-4484 was drilled to a depth of 110 feet bgs. The location of the borehole is approximately 516 feet northeast of the release area and is depicted on Figure 1. A field geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activities. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 110 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. The Well Record and Log is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a freshwater emergent wetland, located approximately 7,519 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 not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

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

SITE ASSESSMENT ACTIVITIES

On March 21, 2022, site assessment activities were conducted to evaluate the release extent based on information provided on the Form C-141 and visual observations. Ensolum personnel advanced one borehole (BH01) via hand-auger at the location of the tear in the liner identified during the liner integrity inspection. Two discrete delineation soil samples were collected from the borehole at depths of approximately 0.5 feet and 1-foot bgs. Soil from the borehole was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips, respectively. Field screening results and observations from the borehole were documented on a lithologic/soil sampling log, which is included as Appendix B. The borehole was backfilled with soil removed and a XTO contractor repaired the tear in the liner. Four additional assessment samples (SS01 through SS04) were collected around the lined containment from a depth of 0.5 feet bgs to confirm the lateral extent of the release. The borehole and soil sample locations are depicted on Figure 2. Photographic documentation was conducted during the Site visit. A photographic log is included in Appendix C.

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

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for the delineation soil samples from borehole BH01 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for soil samples SS01 through SS04, collected around the containment, were compliant with the Site Closure Criteria and compliant with the most stringent Table 1 Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical report is included as Appendix D.

CLOSURE REQUEST

Following the failed liner integrity inspection at the Site, Ensolum personnel advanced one borehole (BH01) at the location of the tear in the liner to assess for the presence or absence of impacted soil resulting from the December 6, 2021, produced water release within lined containment. Two delineation soil samples were collected from borehole BH01, at depths of approximately 0.5 feet and 1-foot bgs. Laboratory analytical results for the delineation soil samples indicated that benzene, BTEX, TPH-DRO/TPH-GRO, TPH and chloride concentrations were compliant with the Site Closure Criteria. Additionally, laboratory analytical results for soil samples SS01 through SS04, collected around the containment, were compliant with the most stringent Table 1 Closure Criteria. The release was contained laterally by the lined containment and all released fluids were recovered during initial response activities. The tear in the liner was subsequently repaired.

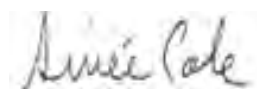
Based on initial response efforts, depth to groundwater greater than 100 feet bgs, and soil sample laboratory analytical results compliant with the Closure Criteria directly beneath the tear in the liner, XTO respectfully requests closure for Incident Number NAPP2135032531.

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

Sincerely,
Ensolum, LLC



Kalei Jennings
Senior Scientist



Aimee Cole
Senior Managing Scientist

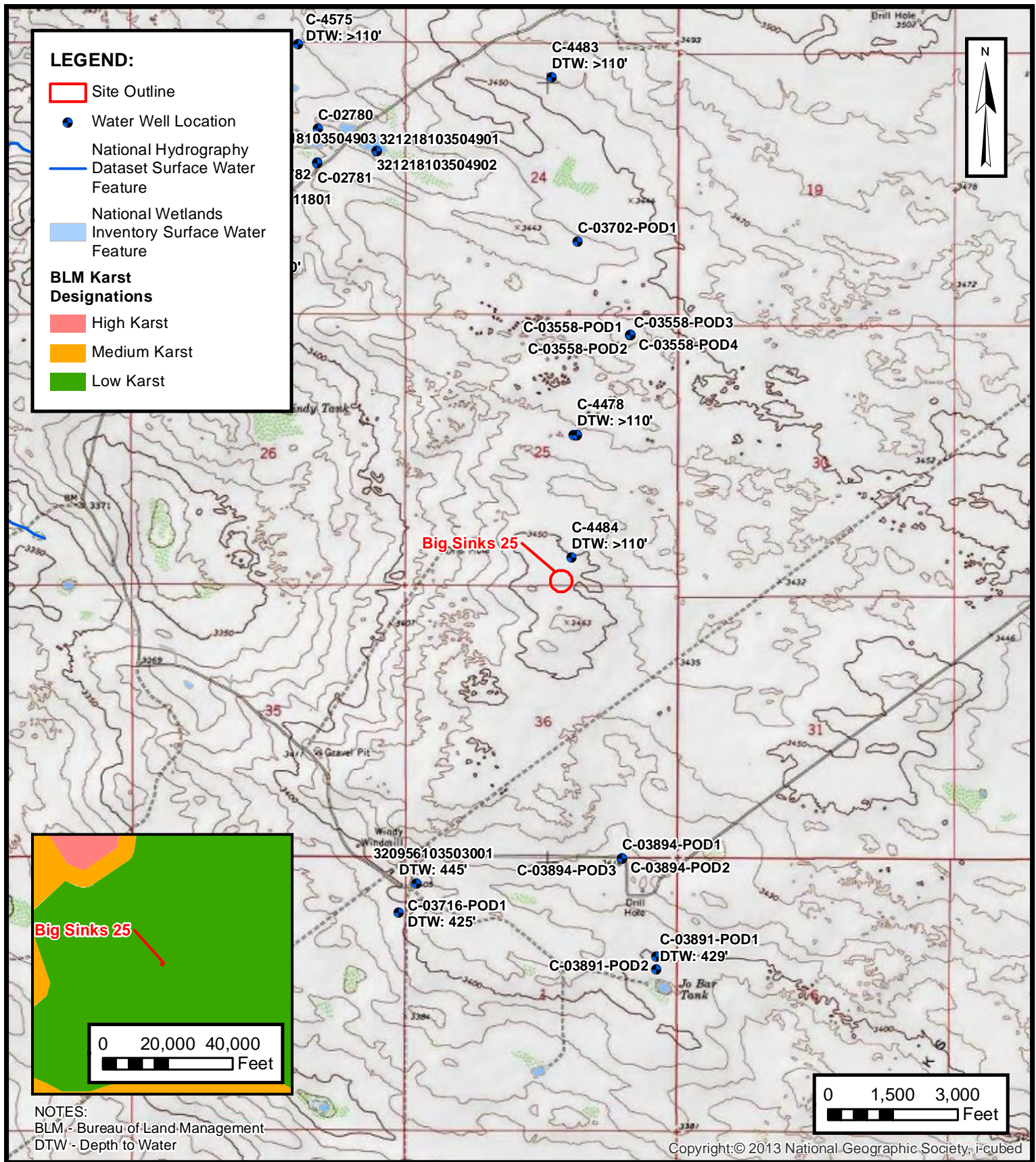
cc: Adrian Baker, XTO
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Well Record and Log
Appendix B	Lithologic Soil Sampling Logs
Appendix C	Photographic Log
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E	NMOCD Sample Notification



FIGURES



SITE RECEPTOR MAP

XTO ENERGY, INC
BIG SINKS 25 CTB
NAPP2135032531
Unit O, Sec 25, T24S, R30E
Eddy County, New Mexico

FIGURE
1



DELINEATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
BIG SINKS 25 CTB
NAPP2135032531
Unit O, Sec 25, T24S, R30E
Eddy County, New Mexico

FIGURE

2



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
XTO Energy, Inc. - Big Sinks 25 CTB
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Sample Analytical Results										
BH01	03/21/2022	0.5	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	3,470
BH01A	03/21/2022	1	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	3,820
SS01	05/11/2022	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	341
SS02	05/11/2022	0.5	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	23.5
SS03	05/11/2022	0.5	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	11.5
SS04	05/11/2022	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	16.8

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
GRO: Gasoline Range Organics
DRO: Diesel Range Organics

ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
Concentrations in bold exceed the NMOCD Table 1 Closure Criteria for Soils Impacted by a Release



APPENDIX A

Well Record and Log



2904 W 2nd St.
Roswell, NM 88201
voice: 575.624.2420
fax: 575.624.2421
www.atkinseng.com

12/16/2020

DII-NMOSE
1900 W 2nd Street
Roswell, NM 88201



Hand Delivered to the DII Office of the State Engineer

Re: Well Record C-4484 Pod1

OSE DII DEC 17 2020 PM 1:54

To whom it may concern:

Attached please find a well record and a plugging record, in duplicate, for a one (1) soil borings, C-4484 Pod1.

If you have any questions, please contact me at 575.499.9244 or lucas@atkinseng.com.

Sincerely,

A handwritten signature in black ink that reads "Lucas Middleton".

Lucas Middleton

Enclosures: as noted above



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: C-4484-POD1

Well owner: XTO ENERGY (Kyle Littrell)

Phone No.: 432.682.8873

Mailing address: 6401 Holiday Hill Dr.

City: Midland

State: Texas

Zip code: 79707

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: Jackie D. Atkins (Atkins Engineering Associates Inc.)

2) New Mexico Well Driller License No.: 1249 Expiration Date: 04/30/21

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Shane Elridge

4) Date well plugging began: 11/24/2020 Date well plugging concluded: 11/24/2020

5) GPS Well Location: Latitude: 32 deg, 10 min, 59.14 sec
Longitude: -104 deg, 49 min, 56.41 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 110 ft below ground level (bgl),
by the following manner: weighted tape

7) Static water level measured at initiation of plugging: n/a ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 09/29/2020

9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

- 10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

<u>Depth</u> (ft bgl)	<u>Plugging Material Used</u> (include any additives used)	<u>Volume of Material Placed</u> (gallons)	<u>Theoretical Volume of Borehole/ Casing</u> (gallons)	<u>Placement Method</u> (tremie pipe, other)	<u>Comments</u> ("casing perforated first", "open annular space also plugged", etc.)
0-10'	Hydrated Bentonite	Approx. 26 gallons	26 gallons	Augers	
10'-110'	Drill Cuttings	Approx. 163 gallons	163 gallons	Boring	

MULTIPLY	BY	AND OBTAIN
cubic feet x 7.4805	=	gallons
cubic yards x 201.97	=	gallons

III. SIGNATURE:

I, Jackie D. Atkins, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Jack Atkins

Signature of Well Driller

12/14/2020

Date

2020-12-15_C-4484_POD1_OSE_Well Record and Log_plu111-forsign

Final Audit Report






2020-12-15

Created:	2020-12-15
By:	Lucas Middleton (lucas@atkinseng.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAANKxvz7Cz5AW2X_3AXsy-0lZtcoSCffp

OSE DTI DEC 17 2020 PM 1:55



"2020-12-15_C-4484_POD1_OSE_Well Record and Log_plu111-forsign" History

-  Document created by Lucas Middleton (lucas@atkinseng.com)
2020-12-15 - 8:39:41 PM GMT- IP address: 69.21.248.123
-  Document emailed to Jack Atkins (jack@atkinseng.com) for signature
2020-12-15 - 8:40:15 PM GMT
-  Email viewed by Jack Atkins (jack@atkinseng.com)
2020-12-15 - 11:13:01 PM GMT- IP address: 74.50.153.115
-  Document e-signed by Jack Atkins (jack@atkinseng.com)
Signature Date: 2020-12-15 - 11:14:05 PM GMT - Time Source: server- IP address: 74.50.153.115
-  Agreement completed.
2020-12-15 - 11:14:05 PM GMT



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DJT DEC 17 2020 PM 1:55

APPLICANT
COPY

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1 (BH-01)		WELL TAG ID NO. n/a		OSE FILE NO(S). C-4484			
	WELL OWNER NAME(S) XTO Energy (Kyle Littrell)				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 6401 Holiday Hill Dr.				CITY Midland	STATE TX	ZIP 79707	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32°	MINUTES 10'	SECONDS 59.14" N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND			
		LONGITUDE -104°	49'	56.41" W	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE SW SW SE Sec. 25 T24S R30E								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 11/19/2020		DRILLING ENDED 11/19/2020		DEPTH OF COMPLETED WELL (FT) temporary well material	BORE HOLE DEPTH (FT) 110	DEPTH WATER FIRST ENCOUNTERED (FT) n/a	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) n/a		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input checked="" type="checkbox"/> OTHER - SPECIFY: Hollow Stem Auger							
	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	110	±8.5	Boring- HSA	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 1 OF 2


4. HYDROGEOLOGIC LOG OF WELL

WR-20 WELL RECORD & LOG (Version 06/30/2017)



APPENDIX B

Lithologic Soil Sampling Logs

		Sample Name: BH01		Date: 03/21/2022				
		Site Name: Big Sinks 25 CTB						
		Incident Number: NAPP2135032531						
		Job Number: 03E1558033						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.18183, -103.83299			Logged By: PB		Method: Hand-Auger			
			Hole Diameter: 4.5'		Total Depth: 1'			
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
D	4,978	0.3	N	BH01	0.5	0.5	SP-SC	SAND brown-tan, dry, abundant caliche gravel, fine to coarse grain, poorly sorted, abundant clay, no stain, no odor.
D	4,088	0.2	N	BH01A	1	1	SP-SC	SAA
TD @ 1 foot bgs								



APPENDIX C

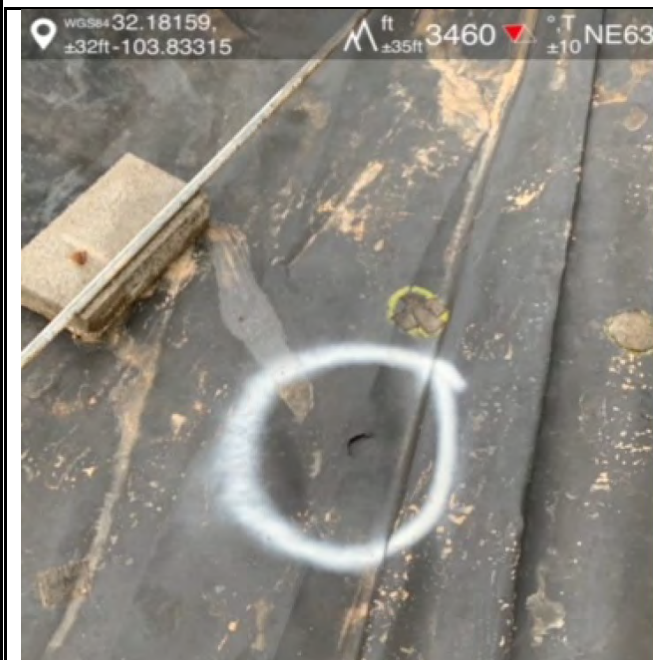
Photographic Log

**Photographic Log**

XTO Energy, Inc.

Big Sinks 25 CTB

Incident Number NAPP2135032531



Photograph 1

Date: March 21, 2022

Description: View of hole during liner inspection.



Photograph 2

Date: May 11, 2022

Description: View during sampling activities near SS01.



Photograph 3

Date: May 11, 2022

Description: View during sampling activities near SS03.



Photograph 4

Date: May 11, 2022

Description: View of patched liner after delineation.



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



Environment Testing
America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2119-1
Laboratory SDG: 31403236.022.0129 task 21.02
Client Project/Site: Big Sinks 25

For:
WSP USA Inc.
2777 N. Stemmons Freeway
Suite 1600
Dallas, Texas 75207

Attn: Kalei Jennings

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:
3/24/2022 4:27:14 PM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

LINKS

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results through
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www.eurofinsus.com/Env

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

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

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Laboratory Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	12
Lab Chronicle	14
Certification Summary	15
Method Summary	16
Sample Summary	17
Chain of Custody	18



Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

Job ID: 890-2119-1

Laboratory: Eurofins Carlsbad

Narrative	Job Narrative 890-2119-1
-----------	-----------------------------

Receipt

The samples were received on 3/22/2022 10:42 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.4°C

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

Client Sample ID: BH01

Lab Sample ID: 890-2119-1

Date Collected: 03/21/22 11:32

Matrix: Solid

Date Received: 03/22/22 10:42

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 16:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 16:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 16:47	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		03/23/22 07:30	03/23/22 16:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 16:47	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		03/23/22 07:30	03/23/22 16:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	03/23/22 07:30	03/23/22 16:47	1
1,4-Difluorobenzene (Surr)	109		70 - 130	03/23/22 07:30	03/23/22 16:47	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			03/23/22 18:20	1

Method: 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			03/24/22 16:08	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		03/23/22 11:44	03/23/22 12:00	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		03/23/22 11:44	03/23/22 12:00	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		03/23/22 11:44	03/23/22 12:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130	03/23/22 11:44	03/23/22 12:00	1
o-Terphenyl	94		70 - 130	03/23/22 11:44	03/23/22 12:00	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3470		25.2	mg/Kg			03/23/22 20:55	5

Client Sample ID: BH01A

Lab Sample ID: 890-2119-2

Date Collected: 03/21/22 11:37

Matrix: Solid

Date Received: 03/22/22 10:42

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		03/23/22 07:30	03/23/22 17:08	1
Toluene	<0.00202	U	0.00202	mg/Kg		03/23/22 07:30	03/23/22 17:08	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		03/23/22 07:30	03/23/22 17:08	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		03/23/22 07:30	03/23/22 17:08	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		03/23/22 07:30	03/23/22 17:08	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		03/23/22 07:30	03/23/22 17:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	03/23/22 07:30	03/23/22 17:08	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

Client Sample ID: BH01A

Lab Sample ID: 890-2119-2

Date Collected: 03/21/22 11:37

Matrix: Solid

Date Received: 03/22/22 10:42

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	108		70 - 130	03/23/22 07:30	03/23/22 17:08	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			03/23/22 18:20	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/24/22 16:08	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/23/22 11:44	03/23/22 13:02	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/23/22 11:44	03/23/22 13:02	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/23/22 11:44	03/23/22 13:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130	03/23/22 11:44	03/23/22 13:02	1
o-Terphenyl	103		70 - 130	03/23/22 11:44	03/23/22 13:02	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3820		25.0	mg/Kg			03/23/22 21:04	5

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Surrogate Summary

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

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)
880-12600-A-1-J MS	Matrix Spike	106	103
880-12600-A-1-K MSD	Matrix Spike Duplicate	106	111
890-2119-1	BH01	106	109
890-2119-2	BH01A	104	108
LCS 880-21854/1-A	Lab Control Sample	102	110
LCSD 880-21854/2-A	Lab Control Sample Dup	102	109
MB 880-21854/5-B	Method Blank	103	104
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)
890-2119-1	BH01	84	94
890-2119-1 MS	BH01	101	107
890-2119-1 MSD	BH01	100	106
890-2119-2	BH01A	92	103
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-22186/2-A	Lab Control Sample	93	101
LCSD 880-22186/3-A	Lab Control Sample Dup	93	100
MB 880-22186/1-A	Method Blank	98	114
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-21854/5-B

Matrix: Solid

Analysis Batch: 22183

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 21854

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 11:59	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 11:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 11:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/23/22 07:30	03/23/22 11:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 11:59	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/23/22 07:30	03/23/22 11:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	03/23/22 07:30	03/23/22 11:59	1
1,4-Difluorobenzene (Surr)	104		70 - 130	03/23/22 07:30	03/23/22 11:59	1

Lab Sample ID: LCS 880-21854/1-A

Matrix: Solid

Analysis Batch: 22183

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 21854

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09671		mg/Kg		97	70 - 130
Toluene	0.100	0.09718		mg/Kg		97	70 - 130
Ethylbenzene	0.100	0.09994		mg/Kg		100	70 - 130
m-Xylene & p-Xylene	0.200	0.2047		mg/Kg		102	70 - 130
o-Xylene	0.100	0.1013		mg/Kg		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: LCSD 880-21854/2-A

Matrix: Solid

Analysis Batch: 22183

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 21854

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.09015		mg/Kg		90	70 - 130	7	35
Toluene	0.100	0.09019		mg/Kg		90	70 - 130	7	35
Ethylbenzene	0.100	0.09346		mg/Kg		93	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.1922		mg/Kg		96	70 - 130	6	35
o-Xylene	0.100	0.09452		mg/Kg		95	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 880-12600-A-1-J MS

Matrix: Solid

Analysis Batch: 22183

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 21854

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U F1 F2	0.100	0.04998	F1	mg/Kg		50	70 - 130
Toluene	<0.00199	U F1	0.100	0.05467	F1	mg/Kg		54	70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

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

Lab Sample ID: 880-12600-A-1-J MS

Matrix: Solid

Analysis Batch: 22183

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 21854

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00199	U F1	0.100	0.05527	F1	mg/Kg		55	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.201	0.1120	F1	mg/Kg		56	70 - 130
o-Xylene	<0.00199	U F1	0.100	0.05918	F1	mg/Kg		59	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: 880-12600-A-1-K MSD

Matrix: Solid

Analysis Batch: 22183

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 21854

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U F1 F2	0.101	0.07415	F2	mg/Kg		73	70 - 130	39	35
Toluene	<0.00199	U F1	0.101	0.06882	F1	mg/Kg		68	70 - 130	23	35
Ethylbenzene	<0.00199	U F1	0.101	0.06557	F1	mg/Kg		65	70 - 130	17	35
m-Xylene & p-Xylene	<0.00398	U F1	0.202	0.1344	F1	mg/Kg		67	70 - 130	18	35
o-Xylene	<0.00199	U F1	0.101	0.06757	F1	mg/Kg		67	70 - 130	13	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

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

Lab Sample ID: MB 880-22186/1-A

Matrix: Solid

Analysis Batch: 22176

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 22186

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/23/22 08:44	03/23/22 10:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/23/22 08:44	03/23/22 10:59	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/23/22 08:44	03/23/22 10:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	03/23/22 08:44	03/23/22 10:59	1
o-Terphenyl	114		70 - 130	03/23/22 08:44	03/23/22 10:59	1

Lab Sample ID: LCS 880-22186/2-A

Matrix: Solid

Analysis Batch: 22176

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 22186

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1095		mg/Kg		109	70 - 130
Diesel Range Organics (Over C10-C28)	1000	900.2		mg/Kg		90	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

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

Lab Sample ID: LCS 880-22186/2-A

Matrix: Solid

Analysis Batch: 22176

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 22186

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	101		70 - 130

Lab Sample ID: LCSD 880-22186/3-A

Matrix: Solid

Analysis Batch: 22176

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 22186

			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1155		mg/Kg		115	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	935.4		mg/Kg		94	70 - 130	4	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	100		70 - 130

Lab Sample ID: 890-2119-1 MS

Matrix: Solid

Analysis Batch: 22176

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 22186

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	876.0		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	998	820.7		mg/Kg		79	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: 890-2119-1 MSD

Matrix: Solid

Analysis Batch: 22176

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 22186

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	999	886.4		mg/Kg		89	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.8	U	999	821.1		mg/Kg		79	70 - 130	0	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	106		70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-22210/1-A

Matrix: Solid

Analysis Batch: 22211

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			03/23/22 14:12	1

Lab Sample ID: LCS 880-22210/2-A

Matrix: Solid

Analysis Batch: 22211

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	268.8		mg/Kg		108	90 - 110

Lab Sample ID: LCSD 880-22210/3-A

Matrix: Solid

Analysis Batch: 22211

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	270.3		mg/Kg		108	90 - 110	1	20

Lab Sample ID: 880-12712-A-1-F MS

Matrix: Solid

Analysis Batch: 22211

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	1500		1250	2878		mg/Kg		110	90 - 110

Lab Sample ID: 880-12712-A-1-G MSD

Matrix: Solid

Analysis Batch: 22211

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	1500		1250	2877		mg/Kg		110	90 - 110	0	20

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QC Association Summary

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

GC VOA

Prep Batch: 21854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2119-1	BH01	Total/NA	Solid	5035	
890-2119-2	BH01A	Total/NA	Solid	5035	
MB 880-21854/5-B	Method Blank	Total/NA	Solid	5035	
LCS 880-21854/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-21854/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-12600-A-1-J MS	Matrix Spike	Total/NA	Solid	5035	
880-12600-A-1-K MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 22183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2119-1	BH01	Total/NA	Solid	8021B	21854
890-2119-2	BH01A	Total/NA	Solid	8021B	21854
MB 880-21854/5-B	Method Blank	Total/NA	Solid	8021B	21854
LCS 880-21854/1-A	Lab Control Sample	Total/NA	Solid	8021B	21854
LCSD 880-21854/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	21854
880-12600-A-1-J MS	Matrix Spike	Total/NA	Solid	8021B	21854
880-12600-A-1-K MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	21854

Analysis Batch: 22233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2119-1	BH01	Total/NA	Solid	Total BTEX	
890-2119-2	BH01A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 22176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2119-1	BH01	Total/NA	Solid	8015B NM	22186
890-2119-2	BH01A	Total/NA	Solid	8015B NM	22186
MB 880-22186/1-A	Method Blank	Total/NA	Solid	8015B NM	22186
LCS 880-22186/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	22186
LCSD 880-22186/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	22186
890-2119-1 MS	BH01	Total/NA	Solid	8015B NM	22186
890-2119-1 MSD	BH01	Total/NA	Solid	8015B NM	22186

Prep Batch: 22186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2119-1	BH01	Total/NA	Solid	8015NM Prep	
890-2119-2	BH01A	Total/NA	Solid	8015NM Prep	
MB 880-22186/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-22186/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-22186/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2119-1 MS	BH01	Total/NA	Solid	8015NM Prep	
890-2119-1 MSD	BH01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 22287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2119-1	BH01	Total/NA	Solid	8015 NM	
890-2119-2	BH01A	Total/NA	Solid	8015 NM	

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QC Association Summary

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

HPLC/IC

Leach Batch: 22210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2119-1	BH01	Soluble	Solid	DI Leach	
890-2119-2	BH01A	Soluble	Solid	DI Leach	
MB 880-22210/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-22210/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-22210/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-12712-A-1-F MS	Matrix Spike	Soluble	Solid	DI Leach	
880-12712-A-1-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 22211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2119-1	BH01	Soluble	Solid	300.0	22210
890-2119-2	BH01A	Soluble	Solid	300.0	22210
MB 880-22210/1-A	Method Blank	Soluble	Solid	300.0	22210
LCS 880-22210/2-A	Lab Control Sample	Soluble	Solid	300.0	22210
LCSD 880-22210/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	22210
880-12712-A-1-F MS	Matrix Spike	Soluble	Solid	300.0	22210
880-12712-A-1-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	22210

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

Client Sample ID: BH01
Date Collected: 03/21/22 11:32
Date Received: 03/22/22 10:42

Lab Sample ID: 890-2119-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			21854	03/23/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	22183	03/23/22 16:47	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	22233	03/23/22 18:20	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	22287	03/24/22 16:08	AJ	XEN MID
Total/NA	Prep	8015NM Prep			22186	03/23/22 11:44	DM	XEN MID
Total/NA	Analysis	8015B NM		1	22176	03/23/22 12:00	AJ	XEN MID
Soluble	Leach	DI Leach			22210	03/23/22 16:28	SC	XEN MID
Soluble	Analysis	300.0		5	22211	03/23/22 20:55	SC	XEN MID

Client Sample ID: BH01A
Date Collected: 03/21/22 11:37
Date Received: 03/22/22 10:42

Lab Sample ID: 890-2119-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			21854	03/23/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	22183	03/23/22 17:08	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	22233	03/23/22 18:20	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	22287	03/24/22 16:08	AJ	XEN MID
Total/NA	Prep	8015NM Prep			22186	03/23/22 11:44	DM	XEN MID
Total/NA	Analysis	8015B NM		1	22176	03/23/22 13:02	AJ	XEN MID
Soluble	Leach	DI Leach			22210	03/23/22 16:28	SC	XEN MID
Soluble	Analysis	300.0		5	22211	03/23/22 21:04	SC	XEN MID

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

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	T104704400-21-22	06-30-22

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
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5
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8
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11
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13

Method Summary

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: Big Sinks 25

Job ID: 890-2119-1
SDG: 31403236.022.0129 task 21.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2119-1	BH01	Solid	03/21/22 11:32	03/22/22 10:42	0.5
890-2119-2	BH01A	Solid	03/21/22 11:37	03/22/22 10:42	1

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- 10
- 11
- 12
- 13



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5440) El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)
Hobbs, NM (575-392-7550)

Page 1 of 1

Chain of Custody

Work Order No:

Project Manager:	Kalei Jennings	Bill to: (if different)	Adrian Baker
Company Name:	WSP USA	Company Name:	XTO Energy INC
Address:	3300 North A Street Building 1, unit 222	Address:	3104 E Greene ST
City, State ZIP:	Midland, Texas 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	817-683-2503	Email:	Kalei.jennings@wsp.com

Work Order Comments									
Program: UST/PST		<input type="checkbox"/> RP	<input type="checkbox"/> rownfields	<input type="checkbox"/> RC	<input type="checkbox"/> \$perfund	<input type="checkbox"/>			
State of Project:									
Reporting: level II		<input type="checkbox"/> level III	<input type="checkbox"/> T/UST	<input type="checkbox"/> RP	<input type="checkbox"/> Level IV	<input type="checkbox"/>			
Deliverables: EDD		<input type="checkbox"/>	ADApt	<input type="checkbox"/>	Other:				

[illegible]

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Eurofine Carlebad

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

Chain of Custody Record



Environment Testing

[illegible]



Environment Testing
America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2304-1

Laboratory Sample Delivery Group: 03e1558033

Client Project/Site: Big Sinks 25 CTB

For:

Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:

5/18/2022 12:28:13 PM

Jessica Kramer, Project Manager

(432)704-5440

Jessica.Kramer@et.eurofinsus.com

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

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

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Laboratory Job ID: 890-2304-1
SDG: 03e1558033

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	6
QC Sample Results	7
QC Association Summary	11
Lab Chronicle	13
Certification Summary	14
Method Summary	15
Sample Summary	16
Chain of Custody	17
Receipt Checklists	18

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

Definitions/Glossary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2304-1
SDG: 03e1558033

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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: Big Sinks 25 CTB

Job ID: 890-2304-1
SDG: 03e1558033

Job ID: 890-2304-1

Laboratory: Eurofins Carlsbad

Narrative

**Job Narrative
890-2304-1**

Receipt

The sample was received on 5/12/2022 11:01 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.8°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-25638 and analytical batch 880-25671 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-25531 and analytical batch 880-25492 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

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 880-25540 and analytical batch 880-25678 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2304-1
SDG: 03e1558033

Client Sample ID: SS04

Lab Sample ID: 890-2304-1

Date Collected: 05/11/22 13:25

Matrix: Solid

Date Received: 05/12/22 11:01

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/16/22 13:46	05/17/22 14:59	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/16/22 13:46	05/17/22 14:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/16/22 13:46	05/17/22 14:59	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		05/16/22 13:46	05/17/22 14:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/16/22 13:46	05/17/22 14:59	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		05/16/22 13:46	05/17/22 14:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	05/16/22 13:46	05/17/22 14:59	1
1,4-Difluorobenzene (Surr)	99		70 - 130	05/16/22 13:46	05/17/22 14:59	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			05/17/22 17:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			05/16/22 12:00	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9	mg/Kg		05/13/22 11:17	05/14/22 02:38	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		05/13/22 11:17	05/14/22 02:38	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/13/22 11:17	05/14/22 02:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	05/13/22 11:17	05/14/22 02:38	1
o-Terphenyl	113		70 - 130	05/13/22 11:17	05/14/22 02:38	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.8		5.05	mg/Kg			05/17/22 16:27	1

Eurofins Carlsbad

Surrogate Summary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2304-1
SDG: 03e1558033

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)
890-2303-A-1-E MS	Matrix Spike	110	96
890-2303-A-1-F MSD	Matrix Spike Duplicate	104	93
890-2304-1	SS04	107	99
LCS 880-25638/1-A	Lab Control Sample	105	96
LCSD 880-25638/2-A	Lab Control Sample Dup	105	95
MB 880-25638/5-A	Method Blank	102	92
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-14735-A-3-C MS	Matrix Spike	86	83
880-14735-A-3-D MSD	Matrix Spike Duplicate	83	80
890-2304-1	SS04	106	113
LCS 880-25531/2-A	Lab Control Sample	108	108
LCSD 880-25531/3-A	Lab Control Sample Dup	105	108
MB 880-25531/1-A	Method Blank	102	108
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2304-1
SDG: 03e1558033

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-25638/5-A

Matrix: Solid

Analysis Batch: 25671

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 25638

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/16/22 13:46	05/17/22 12:34	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/16/22 13:46	05/17/22 12:34	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/16/22 13:46	05/17/22 12:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/16/22 13:46	05/17/22 12:34	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/16/22 13:46	05/17/22 12:34	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/16/22 13:46	05/17/22 12:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	05/16/22 13:46	05/17/22 12:34	1
1,4-Difluorobenzene (Surr)	92		70 - 130	05/16/22 13:46	05/17/22 12:34	1

Lab Sample ID: LCS 880-25638/1-A

Matrix: Solid

Analysis Batch: 25671

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25638

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1010		mg/Kg		101	70 - 130
Toluene	0.100	0.1123		mg/Kg		112	70 - 130
Ethylbenzene	0.100	0.1158		mg/Kg		116	70 - 130
m-Xylene & p-Xylene	0.200	0.2346		mg/Kg		117	70 - 130
o-Xylene	0.100	0.1168		mg/Kg		117	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: LCSD 880-25638/2-A

Matrix: Solid

Analysis Batch: 25671

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 25638

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09697		mg/Kg		97	70 - 130	4	35
Toluene	0.100	0.1065		mg/Kg		106	70 - 130	5	35
Ethylbenzene	0.100	0.1108		mg/Kg		111	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.2249		mg/Kg		112	70 - 130	4	35
o-Xylene	0.100	0.1119		mg/Kg		112	70 - 130	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: 890-2303-A-1-E MS

Matrix: Solid

Analysis Batch: 25671

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 25638

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F2 F1	0.101	0.06816	F1	mg/Kg		67	70 - 130
Toluene	<0.00201	U F2 F1	0.101	0.07512		mg/Kg		74	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2304-1
SDG: 03e1558033

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

Lab Sample ID: 890-2303-A-1-E MS

Matrix: Solid

Analysis Batch: 25671

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 25638

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F2 F1	0.101	0.07397		mg/Kg		73	70 - 130
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.202	0.1496		mg/Kg		74	70 - 130
o-Xylene	<0.00201	U F2 F1	0.101	0.07506		mg/Kg		74	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: 890-2303-A-1-F MSD

Matrix: Solid

Analysis Batch: 25671

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 25638

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F2 F1	0.100	0.07943		mg/Kg		79	70 - 130	15	35
Toluene	<0.00201	U F2 F1	0.100	0.08921		mg/Kg		89	70 - 130	17	35
Ethylbenzene	<0.00201	U F2 F1	0.100	0.09057		mg/Kg		90	70 - 130	20	35
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.200	0.1847		mg/Kg		92	70 - 130	21	35
o-Xylene	<0.00201	U F2 F1	0.100	0.09235		mg/Kg		92	70 - 130	21	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

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

Lab Sample ID: MB 880-25531/1-A

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 25531

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		05/13/22 11:17	05/13/22 21:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/13/22 11:17	05/13/22 21:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/13/22 11:17	05/13/22 21:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	05/13/22 11:17	05/13/22 21:34	1
o-Terphenyl	108		70 - 130	05/13/22 11:17	05/13/22 21:34	1

Lab Sample ID: LCS 880-25531/2-A

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25531

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	883.9		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1071		mg/Kg		107	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2304-1
SDG: 03e1558033

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

Lab Sample ID: LCS 880-25531/2-A

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25531

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

Lab Sample ID: LCSD 880-25531/3-A

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 25531

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1141	*1	mg/Kg		114	70 - 130	25	20
Diesel Range Organics (Over C10-C28)	1000	1077		mg/Kg		108	70 - 130	1	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	108		70 - 130

Lab Sample ID: 880-14735-A-3-C MS

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 25531

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	1000	817.2		mg/Kg		80	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	945.2		mg/Kg		95	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	83		70 - 130

Lab Sample ID: 880-14735-A-3-D MSD

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 25531

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 *1	998	812.7		mg/Kg		80	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	917.5		mg/Kg		92	70 - 130	3	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	83		70 - 130
o-Terphenyl	80		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2304-1
SDG: 03e1558033

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-25540/1-A

Matrix: Solid

Analysis Batch: 25678

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			05/17/22 13:27	1

Lab Sample ID: LCS 880-25540/2-A

Matrix: Solid

Analysis Batch: 25678

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	256.0		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-25540/3-A

Matrix: Solid

Analysis Batch: 25678

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	273.7		mg/Kg		109	90 - 110	7	20

Lab Sample ID: 890-2302-A-5-C MS

Matrix: Solid

Analysis Batch: 25678

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	71.2	F1	248	357.6	F1	mg/Kg		116	90 - 110

Lab Sample ID: 890-2302-A-5-D MSD

Matrix: Solid

Analysis Batch: 25678

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	71.2	F1	248	305.5		mg/Kg		95	90 - 110	16	20

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QC Association Summary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2304-1
SDG: 03e1558033

GC VOA

Prep Batch: 25638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2304-1	SS04	Total/NA	Solid	5035	
MB 880-25638/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-25638/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-25638/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2303-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-2303-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 25671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2304-1	SS04	Total/NA	Solid	8021B	25638
MB 880-25638/5-A	Method Blank	Total/NA	Solid	8021B	25638
LCS 880-25638/1-A	Lab Control Sample	Total/NA	Solid	8021B	25638
LCSD 880-25638/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	25638
890-2303-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	25638
890-2303-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	25638

Analysis Batch: 25765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2304-1	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 25492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2304-1	SS04	Total/NA	Solid	8015B NM	25531
MB 880-25531/1-A	Method Blank	Total/NA	Solid	8015B NM	25531
LCS 880-25531/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	25531
LCSD 880-25531/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	25531
880-14735-A-3-C MS	Matrix Spike	Total/NA	Solid	8015B NM	25531
880-14735-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	25531

Prep Batch: 25531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2304-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-25531/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-25531/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-25531/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-14735-A-3-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-14735-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 25629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2304-1	SS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 25540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2304-1	SS04	Soluble	Solid	DI Leach	
MB 880-25540/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-25540/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-25540/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2304-1
SDG: 03e1558033

HPLC/IC (Continued)

Leach Batch: 25540 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2302-A-5-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2302-A-5-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 25678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2304-1	SS04	Soluble	Solid	300.0	25540
MB 880-25540/1-A	Method Blank	Soluble	Solid	300.0	25540
LCS 880-25540/2-A	Lab Control Sample	Soluble	Solid	300.0	25540
LCSD 880-25540/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	25540
890-2302-A-5-C MS	Matrix Spike	Soluble	Solid	300.0	25540
890-2302-A-5-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	25540

Lab Chronicle

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2304-1
SDG: 03e1558033

Client Sample ID: SS04

Lab Sample ID: 890-2304-1

Date Collected: 05/11/22 13:25

Matrix: Solid

Date Received: 05/12/22 11:01

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	25638	05/16/22 13:46	MR	XEN MID
Total/NA	Analysis	8021B		1			25671	05/17/22 14:59	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25765	05/17/22 17:09	SM	XEN MID
Total/NA	Analysis	8015 NM		1			25629	05/16/22 12:00	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	25531	05/13/22 11:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25492	05/14/22 02:38	SM	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	25540	05/13/22 12:13	SC	XEN MID
Soluble	Analysis	300.0		1			25678	05/17/22 16:27	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2304-1
SDG: 03e1558033

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	T104704400-21-22	06-30-22

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: Big Sinks 25 CTB

Job ID: 890-2304-1
SDG: 03e1558033

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2304-1
SDG: 03e1558033

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2304-1	SS04	Solid	05/11/22 13:25	05/12/22 11:01	0.5

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

Chain of Custody

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

Environment Testing

Xenco

Work Order No:

Page 1 of 1
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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 I	<input type="checkbox"/>	Level II	<input type="checkbox"/>	Level III	<input type="checkbox"/>	PST/UST	<input type="checkbox"/>	TRRP	<input type="checkbox"/>
Deliverables:		EDD	<input type="checkbox"/>	ADaPT	<input type="checkbox"/>	Other:					

Project Manager:	Kenley Jennings		Bill To: (if different)	John Baker
Company Name:	Ensolaw		Company Name:	ENL
Address:			Address:	
City, State ZIP:			City, State ZIP:	
			Email:	kenley@ensolaw.com

[illegible][illegible]

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco. Its affiliates and subcontractors. It assigns standard terms and conditions of sale to Eurofins Xenco. The client company agrees to indemnify Eurofins Xenco and its affiliates and subcontractors for any losses or expenses incurred by Eurofins Xenco or its affiliates and subcontractors if such losses are due to circumstances beyond the control of Eurofins Xenco or its affiliates and subcontractors. These terms will be enforced, unless precluded by applicable law.

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	<i>[Signature]</i>	<i>Kyle Graw</i>	5/12/2022	2	<i>[Signature]</i>	5.12.22 1101
3			7:02	4		
				6		

Revised Date: 08/25/2020 Rev. 2020 2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2304-1

SDG Number: 03e1558033

Login Number: 2304

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2304-1

SDG Number: 03e1558033

Login Number: 2304

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 05/13/22 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	



Environment Testing
America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2305-1

Laboratory Sample Delivery Group: 03E1558033

Client Project/Site: Big Sinks 25 CTB

For:

Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

Authorized for release by:

5/19/2022 10:38:05 AM

Jessica Kramer, Project Manager
(432)704-5440

Jessica.Kramer@et.eurofinsus.com

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

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

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Laboratory Job ID: 890-2305-1
SDG: 03E1558033

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	6
QC Sample Results	7
QC Association Summary	11
Lab Chronicle	13
Certification Summary	14
Method Summary	15
Sample Summary	16
Chain of Custody	17
Receipt Checklists	18

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

Definitions/Glossary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2305-1
SDG: 03E1558033

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
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: Big Sinks 25 CTB

Job ID: 890-2305-1
SDG: 03E1558033

Job ID: 890-2305-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2305-1

Receipt

The sample was received on 5/12/2022 11:01 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.8°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-25531 and analytical batch 880-25492 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

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 880-25540 and analytical batch 880-25678 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2305-1
SDG: 03E1558033

Client Sample ID: SS01

Lab Sample ID: 890-2305-1

Date Collected: 05/11/22 13:40

Matrix: Solid

Date Received: 05/12/22 11:01

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/18/22 12:00	05/18/22 17:57	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/18/22 12:00	05/18/22 17:57	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/18/22 12:00	05/18/22 17:57	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		05/18/22 12:00	05/18/22 17:57	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/18/22 12:00	05/18/22 17:57	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/18/22 12:00	05/18/22 17:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	05/18/22 12:00	05/18/22 17:57	1
1,4-Difluorobenzene (Surr)	94		70 - 130	05/18/22 12:00	05/18/22 17:57	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			05/19/22 11:21	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/16/22 12:00	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0	mg/Kg		05/13/22 11:17	05/14/22 03:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/13/22 11:17	05/14/22 03:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/13/22 11:17	05/14/22 03:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	05/13/22 11:17	05/14/22 03:21	1
o-Terphenyl	101		70 - 130	05/13/22 11:17	05/14/22 03:21	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	341		4.97	mg/Kg			05/17/22 16:34	1

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Surrogate Summary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2305-1
SDG: 03E1558033

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)
890-2305-1	SS01	106	94
890-2306-A-1-D MS	Matrix Spike	101	98
890-2306-A-1-E MSD	Matrix Spike Duplicate	102	95
LCS 880-25749/1-A	Lab Control Sample	101	98
LCSD 880-25749/2-A	Lab Control Sample Dup	97	97
MB 880-25749/5-A	Method Blank	97	98
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)
880-14735-A-3-C MS	Matrix Spike	86	83
880-14735-A-3-D MSD	Matrix Spike Duplicate	83	80
890-2305-1	SS01	96	101
LCS 880-25531/2-A	Lab Control Sample	108	108
LCSD 880-25531/3-A	Lab Control Sample Dup	105	108
MB 880-25531/1-A	Method Blank	102	108
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2305-1
SDG: 03E1558033

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-25749/5-A

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 25749

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/17/22 14:18	05/18/22 13:06	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/17/22 14:18	05/18/22 13:06	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/17/22 14:18	05/18/22 13:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/17/22 14:18	05/18/22 13:06	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/17/22 14:18	05/18/22 13:06	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/17/22 14:18	05/18/22 13:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	05/17/22 14:18	05/18/22 13:06	1
1,4-Difluorobenzene (Surr)	98		70 - 130	05/17/22 14:18	05/18/22 13:06	1

Lab Sample ID: LCS 880-25749/1-A

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25749

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09743		mg/Kg		97	70 - 130
Toluene	0.100	0.09874		mg/Kg		99	70 - 130
Ethylbenzene	0.100	0.1144		mg/Kg		114	70 - 130
m-Xylene & p-Xylene	0.200	0.2050		mg/Kg		103	70 - 130
o-Xylene	0.100	0.09655		mg/Kg		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: LCSD 880-25749/2-A

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 25749

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08840		mg/Kg		88	70 - 130	10	35
Toluene	0.100	0.08787		mg/Kg		88	70 - 130	12	35
Ethylbenzene	0.100	0.1000		mg/Kg		100	70 - 130	13	35
m-Xylene & p-Xylene	0.200	0.1796		mg/Kg		90	70 - 130	13	35
o-Xylene	0.100	0.08469		mg/Kg		85	70 - 130	13	35

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

Lab Sample ID: 890-2306-A-1-D MS

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 25749

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.100	0.09042		mg/Kg		90	70 - 130
Toluene	<0.00199	U	0.100	0.08913		mg/Kg		88	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2305-1
SDG: 03E1558033

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

Lab Sample ID: 890-2306-A-1-D MS

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 25749

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.100	0.1015		mg/Kg		101	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.201	0.1822		mg/Kg		91	70 - 130
o-Xylene	<0.00199	U	0.100	0.08657		mg/Kg		86	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: 890-2306-A-1-E MSD

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 25749

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.09636		mg/Kg		96	70 - 130	6	35
Toluene	<0.00199	U	0.100	0.09963		mg/Kg		99	70 - 130	11	35
Ethylbenzene	<0.00199	U	0.100	0.1164		mg/Kg		116	70 - 130	14	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2064		mg/Kg		103	70 - 130	12	35
o-Xylene	<0.00199	U	0.100	0.09745		mg/Kg		97	70 - 130	12	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

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

Lab Sample ID: MB 880-25531/1-A

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 25531

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		05/13/22 11:17	05/13/22 21:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/13/22 11:17	05/13/22 21:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/13/22 11:17	05/13/22 21:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	05/13/22 11:17	05/13/22 21:34	1
o-Terphenyl	108		70 - 130	05/13/22 11:17	05/13/22 21:34	1

Lab Sample ID: LCS 880-25531/2-A

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25531

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	883.9		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1071		mg/Kg		107	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2305-1
SDG: 03E1558033

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

Lab Sample ID: LCS 880-25531/2-A

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25531

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

Lab Sample ID: LCSD 880-25531/3-A

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 25531

			Spike	LCSD	LCSD				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1141	*1	mg/Kg		114	70 - 130	25	20
Diesel Range Organics (Over C10-C28)			1000	1077		mg/Kg		108	70 - 130	1	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	108		70 - 130

Lab Sample ID: 880-14735-A-3-C MS

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 25531

	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	1000	817.2		mg/Kg		80	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	945.2		mg/Kg		95	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	83		70 - 130

Lab Sample ID: 880-14735-A-3-D MSD

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 25531

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	998	812.7		mg/Kg		80	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	917.5		mg/Kg		92	70 - 130	3	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	83		70 - 130
o-Terphenyl	80		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2305-1
SDG: 03E1558033

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-25540/1-A

Matrix: Solid

Analysis Batch: 25678

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			05/17/22 13:27	1

Lab Sample ID: LCS 880-25540/2-A

Matrix: Solid

Analysis Batch: 25678

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	256.0		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-25540/3-A

Matrix: Solid

Analysis Batch: 25678

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	273.7		mg/Kg		109	90 - 110	7	20

Lab Sample ID: 890-2302-A-5-C MS

Matrix: Solid

Analysis Batch: 25678

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	71.2	F1	248	357.6	F1	mg/Kg		116	90 - 110

Lab Sample ID: 890-2302-A-5-D MSD

Matrix: Solid

Analysis Batch: 25678

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	71.2	F1	248	305.5		mg/Kg		95	90 - 110	16	20

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QC Association Summary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2305-1
SDG: 03E1558033

GC VOA

Prep Batch: 25749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2305-1	SS01	Total/NA	Solid	5035	
MB 880-25749/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-25749/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-25749/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2306-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-2306-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 25806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2305-1	SS01	Total/NA	Solid	8021B	25749
MB 880-25749/5-A	Method Blank	Total/NA	Solid	8021B	25749
LCS 880-25749/1-A	Lab Control Sample	Total/NA	Solid	8021B	25749
LCSD 880-25749/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	25749
890-2306-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	25749
890-2306-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	25749

Analysis Batch: 25885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2305-1	SS01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 25492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2305-1	SS01	Total/NA	Solid	8015B NM	25531
MB 880-25531/1-A	Method Blank	Total/NA	Solid	8015B NM	25531
LCS 880-25531/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	25531
LCSD 880-25531/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	25531
880-14735-A-3-C MS	Matrix Spike	Total/NA	Solid	8015B NM	25531
880-14735-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	25531

Prep Batch: 25531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2305-1	SS01	Total/NA	Solid	8015NM Prep	
MB 880-25531/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-25531/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-25531/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-14735-A-3-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-14735-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 25630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2305-1	SS01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 25540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2305-1	SS01	Soluble	Solid	DI Leach	
MB 880-25540/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-25540/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-25540/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2305-1
SDG: 03E1558033

HPLC/IC (Continued)

Leach Batch: 25540 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2302-A-5-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2302-A-5-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 25678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2305-1	SS01	Soluble	Solid	300.0	25540
MB 880-25540/1-A	Method Blank	Soluble	Solid	300.0	25540
LCS 880-25540/2-A	Lab Control Sample	Soluble	Solid	300.0	25540
LCSD 880-25540/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	25540
890-2302-A-5-C MS	Matrix Spike	Soluble	Solid	300.0	25540
890-2302-A-5-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	25540

Lab Chronicle

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2305-1
SDG: 03E1558033

Client Sample ID: SS01
Date Collected: 05/11/22 13:40
Date Received: 05/12/22 11:01

Lab Sample ID: 890-2305-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	25749	05/18/22 12:00	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25806	05/18/22 17:57	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25885	05/19/22 11:21	SM	XEN MID
Total/NA	Analysis	8015 NM		1			25630	05/16/22 12:00	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	25531	05/13/22 11:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25492	05/14/22 03:21	SM	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	25540	05/13/22 12:13	SC	XEN MID
Soluble	Analysis	300.0		1			25678	05/17/22 16:34	CH	XEN MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2305-1
SDG: 03E1558033

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	T104704400-21-22	06-30-22

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: Big Sinks 25 CTB

Job ID: 890-2305-1
SDG: 03E1558033

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2305-1
SDG: 03E1558033

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2305-1	SS01	Solid	05/11/22 13:40	05/12/22 11:01	0.5

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

Chain of Custody



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

Work Order No: _____

www.xenco.com Page (of)

Project Manager: <u>Kalel Jennings</u>		Bill to: (if different)	
Company Name: <u>Enrolum</u>		Company Name: <u>Adrian Baker</u>	
Address: _____		Address: _____	
City, State ZIP: _____		City, State ZIP: _____	
Phone: _____		Email: <u>K.jennings@enrolum.com</u>	

Project Name: <u>Big Sinter 25 CTB</u>		Turn Around	
Project Number: <u>0361558033</u>		<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	
Project Location: _____		Due Date: _____	
Sampler's Name: <u>Kase Parker</u>		TAT starts the day received by the lab, if received by 4:30pm	
P.O. #: _____		TAT starts the day received by the lab, if received by 4:30pm	

SAMPLE RECEIPT		Temp Blank: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Wet Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Samples Received Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Thermometer ID: <u>TM-007</u>		Correction Factor: <u>-0.0</u>	
Cooler Custody Seals: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Temperature Reading: <u>46.0</u>		Corrected Temperature: <u>5.0</u>	
Sample Custody Seals: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Date Sampled: <u>5/11/22</u>		Time Sampled: <u>1340</u>	
Total Containers: _____		Matrix: <u>5</u>		Depth: <u>0.5'</u>	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Pres. Code	ANALYSIS REQUEST	Preservative Codes	Sample Comments
5501	5	5/11/22	1340	0.5'			BT, TP, Chlorides			None: NO Cool: Cool HCL: HC H ₂ SO ₄ : H ₂ H ₃ PO ₄ : HP NaHSO ₄ : NABIS Na ₂ S ₂ O ₃ : NaSO ₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC	Incident #: <u>NADP213502531</u> <u>CC: 10K1011001</u>

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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its analysts and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco for analysis 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
<u>Kalel Jennings</u>	<u>Kase Parker</u>	<u>5/11/2022</u>	<u>Adrian Baker</u>	<u>5/12/22</u>	<u>1101</u>

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2305-1

SDG Number: 03E1558033

Login Number: 2305

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2305-1

SDG Number: 03E1558033

Login Number: 2305

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 05/13/22 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	



Environment Testing
America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2306-1

Laboratory Sample Delivery Group: 03E1558033

Client Project/Site: Big Sinks 25 CTB

For:

Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:

5/19/2022 10:38:34 AM

Jessica Kramer, Project Manager
(432)704-5440

Jessica.Kramer@et.eurofinsus.com

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

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

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Laboratory Job ID: 890-2306-1
SDG: 03E1558033

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	6
QC Sample Results	7
QC Association Summary	11
Lab Chronicle	13
Certification Summary	14
Method Summary	15
Sample Summary	16
Chain of Custody	17
Receipt Checklists	18

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

Definitions/Glossary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2306-1
SDG: 03E1558033

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2306-1
SDG: 03E1558033

Job ID: 890-2306-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2306-1

Receipt

The sample was received on 5/12/2022 11:01 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.8°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-25531 and analytical batch 880-25492 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

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

HPLC/IC

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

Client Sample Results

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2306-1
SDG: 03E1558033

Client Sample ID: SS02

Lab Sample ID: 890-2306-1

Date Collected: 05/11/22 12:55

Matrix: Solid

Date Received: 05/12/22 11:01

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/17/22 14:18	05/18/22 13:36	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/17/22 14:18	05/18/22 13:36	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/17/22 14:18	05/18/22 13:36	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		05/17/22 14:18	05/18/22 13:36	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/17/22 14:18	05/18/22 13:36	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/17/22 14:18	05/18/22 13:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	05/17/22 14:18	05/18/22 13:36	1
1,4-Difluorobenzene (Surr)	101		70 - 130	05/17/22 14:18	05/18/22 13:36	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			05/19/22 11:21	1

Method: 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			05/16/22 12:00	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8	mg/Kg		05/13/22 11:17	05/14/22 03:43	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		05/13/22 11:17	05/14/22 03:43	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		05/13/22 11:17	05/14/22 03:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	05/13/22 11:17	05/14/22 03:43	1
o-Terphenyl	102		70 - 130	05/13/22 11:17	05/14/22 03:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23.5		5.03	mg/Kg			05/16/22 13:13	1

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Surrogate Summary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2306-1
SDG: 03E1558033

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)
890-2306-1	SS02	104	101
890-2306-1 MS	SS02	101	98
890-2306-1 MSD	SS02	102	95
LCS 880-25749/1-A	Lab Control Sample	101	98
LCSD 880-25749/2-A	Lab Control Sample Dup	97	97
MB 880-25749/5-A	Method Blank	97	98
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)
880-14735-A-3-C MS	Matrix Spike	86	83
880-14735-A-3-D MSD	Matrix Spike Duplicate	83	80
890-2306-1	SS02	97	102
LCS 880-25531/2-A	Lab Control Sample	108	108
LCSD 880-25531/3-A	Lab Control Sample Dup	105	108
MB 880-25531/1-A	Method Blank	102	108
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2306-1
SDG: 03E1558033

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-25749/5-A

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 25749

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/17/22 14:18	05/18/22 13:06	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/17/22 14:18	05/18/22 13:06	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/17/22 14:18	05/18/22 13:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/17/22 14:18	05/18/22 13:06	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/17/22 14:18	05/18/22 13:06	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/17/22 14:18	05/18/22 13:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	05/17/22 14:18	05/18/22 13:06	1
1,4-Difluorobenzene (Surr)	98		70 - 130	05/17/22 14:18	05/18/22 13:06	1

Lab Sample ID: LCS 880-25749/1-A

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25749

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09743		mg/Kg		97	70 - 130
Toluene	0.100	0.09874		mg/Kg		99	70 - 130
Ethylbenzene	0.100	0.1144		mg/Kg		114	70 - 130
m-Xylene & p-Xylene	0.200	0.2050		mg/Kg		103	70 - 130
o-Xylene	0.100	0.09655		mg/Kg		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: LCSD 880-25749/2-A

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 25749

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08840		mg/Kg		88	70 - 130	10	35
Toluene	0.100	0.08787		mg/Kg		88	70 - 130	12	35
Ethylbenzene	0.100	0.1000		mg/Kg		100	70 - 130	13	35
m-Xylene & p-Xylene	0.200	0.1796		mg/Kg		90	70 - 130	13	35
o-Xylene	0.100	0.08469		mg/Kg		85	70 - 130	13	35

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

Lab Sample ID: 890-2306-1 MS

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: SS02

Prep Type: Total/NA

Prep Batch: 25749

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.100	0.09042		mg/Kg		90	70 - 130
Toluene	<0.00199	U	0.100	0.08913		mg/Kg		88	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2306-1
SDG: 03E1558033

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

Lab Sample ID: 890-2306-1 MS

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: SS02

Prep Type: Total/NA

Prep Batch: 25749

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.100	0.1015		mg/Kg		101	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.201	0.1822		mg/Kg		91	70 - 130
o-Xylene	<0.00199	U	0.100	0.08657		mg/Kg		86	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: 890-2306-1 MSD

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: SS02

Prep Type: Total/NA

Prep Batch: 25749

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.09636		mg/Kg		96	70 - 130	6	35
Toluene	<0.00199	U	0.100	0.09963		mg/Kg		99	70 - 130	11	35
Ethylbenzene	<0.00199	U	0.100	0.1164		mg/Kg		116	70 - 130	14	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2064		mg/Kg		103	70 - 130	12	35
o-Xylene	<0.00199	U	0.100	0.09745		mg/Kg		97	70 - 130	12	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

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

Lab Sample ID: MB 880-25531/1-A

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 25531

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		05/13/22 11:17	05/13/22 21:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/13/22 11:17	05/13/22 21:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/13/22 11:17	05/13/22 21:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	05/13/22 11:17	05/13/22 21:34	1
o-Terphenyl	108		70 - 130	05/13/22 11:17	05/13/22 21:34	1

Lab Sample ID: LCS 880-25531/2-A

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25531

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	883.9		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1071		mg/Kg		107	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2306-1
SDG: 03E1558033

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

Lab Sample ID: LCS 880-25531/2-A

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25531

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

Lab Sample ID: LCSD 880-25531/3-A

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 25531

	Spike	LCSD	LCSD						%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit			
Gasoline Range Organics (GRO)-C6-C10	1000	1141	*1	mg/Kg		114	70 - 130	25	20			
Diesel Range Organics (Over C10-C28)	1000	1077		mg/Kg		108	70 - 130	1	20			

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	108		70 - 130

Lab Sample ID: 880-14735-A-3-C MS

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 25531

	Sample	Sample	Spike	MS	MS				%Rec			
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	1000	817.2		mg/Kg		80	70 - 130			
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	945.2		mg/Kg		95	70 - 130			

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	83		70 - 130

Lab Sample ID: 880-14735-A-3-D MSD

Matrix: Solid

Analysis Batch: 25492

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 25531

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	998	812.7		mg/Kg		80	70 - 130	1	20	
Diesel Range Organics (Over C10-C28)	<50.0	U	998	917.5		mg/Kg		92	70 - 130	3	20	

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	83		70 - 130
o-Terphenyl	80		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2306-1
SDG: 03E1558033

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-25552/1-A

Matrix: Solid

Analysis Batch: 25608

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			05/16/22 08:45	1

Lab Sample ID: LCS 880-25552/2-A

Matrix: Solid

Analysis Batch: 25608

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	249.3		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-25552/3-A

Matrix: Solid

Analysis Batch: 25608

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	257.6		mg/Kg		103	90 - 110	3	20

Lab Sample ID: 880-14732-A-19-B MS

Matrix: Solid

Analysis Batch: 25608

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	49.9		249	297.8		mg/Kg		100	90 - 110

Lab Sample ID: 880-14732-A-19-C MSD

Matrix: Solid

Analysis Batch: 25608

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	49.9		249	307.4		mg/Kg		103	90 - 110	3	20

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QC Association Summary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2306-1
SDG: 03E1558033

GC VOA

Prep Batch: 25749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2306-1	SS02	Total/NA	Solid	5035	
MB 880-25749/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-25749/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-25749/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2306-1 MS	SS02	Total/NA	Solid	5035	
890-2306-1 MSD	SS02	Total/NA	Solid	5035	

Analysis Batch: 25806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2306-1	SS02	Total/NA	Solid	8021B	25749
MB 880-25749/5-A	Method Blank	Total/NA	Solid	8021B	25749
LCS 880-25749/1-A	Lab Control Sample	Total/NA	Solid	8021B	25749
LCSD 880-25749/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	25749
890-2306-1 MS	SS02	Total/NA	Solid	8021B	25749
890-2306-1 MSD	SS02	Total/NA	Solid	8021B	25749

Analysis Batch: 25881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2306-1	SS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 25492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2306-1	SS02	Total/NA	Solid	8015B NM	25531
MB 880-25531/1-A	Method Blank	Total/NA	Solid	8015B NM	25531
LCS 880-25531/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	25531
LCSD 880-25531/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	25531
880-14735-A-3-C MS	Matrix Spike	Total/NA	Solid	8015B NM	25531
880-14735-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	25531

Prep Batch: 25531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2306-1	SS02	Total/NA	Solid	8015NM Prep	
MB 880-25531/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-25531/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-25531/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-14735-A-3-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-14735-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 25631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2306-1	SS02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 25552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2306-1	SS02	Soluble	Solid	DI Leach	
MB 880-25552/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-25552/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-25552/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2306-1
SDG: 03E1558033

HPLC/IC (Continued)

Leach Batch: 25552 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14732-A-19-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-14732-A-19-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 25608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2306-1	SS02	Soluble	Solid	300.0	25552
MB 880-25552/1-A	Method Blank	Soluble	Solid	300.0	25552
LCS 880-25552/2-A	Lab Control Sample	Soluble	Solid	300.0	25552
LCSD 880-25552/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	25552
880-14732-A-19-B MS	Matrix Spike	Soluble	Solid	300.0	25552
880-14732-A-19-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	25552

Lab Chronicle

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2306-1
SDG: 03E1558033

Client Sample ID: SS02
Date Collected: 05/11/22 12:55
Date Received: 05/12/22 11:01

Lab Sample ID: 890-2306-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	25749	05/17/22 14:18	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25806	05/18/22 13:36	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25881	05/19/22 11:21	SM	XEN MID
Total/NA	Analysis	8015 NM		1			25631	05/16/22 12:00	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	25531	05/13/22 11:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25492	05/14/22 03:43	SM	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	25552	05/13/22 15:16	SC	XEN MID
Soluble	Analysis	300.0		1			25608	05/16/22 13:13	CH	XEN MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2306-1
SDG: 03E1558033

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	T104704400-21-22	06-30-22

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: Big Sinks 25 CTB

Job ID: 890-2306-1
SDG: 03E1558033

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Big Sinks 25 CTB

Job ID: 890-2306-1
SDG: 03E1558033

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2306-1	SS02	Solid	05/11/22 12:55	05/12/22 11:01	0.5

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

Chain of Custody



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

Work Order No:

www.xenco.com Page 1 of 1

Project Manager:	Kylei Jennings	Bill to: (if different)	Adrian Byker
Company Name:	Enclosure	Company Name:	ATD
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:		Email:	Kjennings@ensidyn.com

Project Name:	Big Sinks 25 CTB	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03E1558033	Due Date:			
Project Location:		TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Kase Byker	Temp Blank:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
P.O. #:		Thermometer ID:	144-007		
SAMPLE RECEIPT		Correction Factor:	-0.0		
Samples Received Intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Temperature Reading:	6.0		
Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Corrected Temperature:	5.0		
Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Total Containers:					

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont
5802	5	5/11/22	12:55	0.5		

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

Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	5/11/2022
				5:02
				6

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2306-1

SDG Number: 03E1558033

Login Number: 2306

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2306-1

SDG Number: 03E1558033

Login Number: 2306

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 05/13/22 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	



Environment Testing
America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2307-1

Laboratory Sample Delivery Group: 03E1558033

Client Project/Site: BIG SINKS 25 CTB

For:

Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:

5/19/2022 10:38:53 AM

Jessica Kramer, Project Manager
(432)704-5440

Jessica.Kramer@et.eurofinsus.com

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

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

Client: Ensolum
Project/Site: BIG SINKS 25 CTB

Laboratory Job ID: 890-2307-1
SDG: 03E1558033

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	6
QC Sample Results	7
QC Association Summary	11
Lab Chronicle	13
Certification Summary	14
Method Summary	15
Sample Summary	16
Chain of Custody	17
Receipt Checklists	18

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

Definitions/Glossary

Client: Ensolum
Project/Site: BIG SINKS 25 CTB

Job ID: 890-2307-1
SDG: 03E1558033

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
SQL	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: BIG SINKS 25 CTB

Job ID: 890-2307-1
SDG: 03E1558033

Job ID: 890-2307-1

Laboratory: Eurofins Carlsbad

Narrative	
	Job Narrative 890-2307-1

Receipt

The sample was received on 5/12/2022 11:01 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.8°C

GC VOA

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

GC Semi VOA

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

HPLC/IC

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: BIG SINKS 25 CTB

Job ID: 890-2307-1
SDG: 03E1558033

Client Sample ID: SS03

Lab Sample ID: 890-2307-1

Date Collected: 05/11/22 12:20

Matrix: Solid

Date Received: 05/12/22 11:01

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		05/17/22 14:18	05/18/22 13:56	1
Toluene	<0.00198	U	0.00198	mg/Kg		05/17/22 14:18	05/18/22 13:56	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		05/17/22 14:18	05/18/22 13:56	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		05/17/22 14:18	05/18/22 13:56	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		05/17/22 14:18	05/18/22 13:56	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		05/17/22 14:18	05/18/22 13:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	05/17/22 14:18	05/18/22 13:56	1
1,4-Difluorobenzene (Surr)	93		70 - 130	05/17/22 14:18	05/18/22 13:56	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			05/19/22 11:21	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/17/22 09:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/16/22 08:41	05/16/22 12:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/16/22 08:41	05/16/22 12:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/16/22 08:41	05/16/22 12:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	05/16/22 08:41	05/16/22 12:35	1
o-Terphenyl	109		70 - 130	05/16/22 08:41	05/16/22 12:35	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11.5		5.04	mg/Kg			05/16/22 13:22	1

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Surrogate Summary

Client: Ensolum
Project/Site: BIG SINKS 25 CTB

Job ID: 890-2307-1
SDG: 03E1558033

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)
890-2306-A-1-D MS	Matrix Spike	101	98
890-2306-A-1-E MSD	Matrix Spike Duplicate	102	95
890-2307-1	SS03	103	93
LCS 880-25749/1-A	Lab Control Sample	101	98
LCSD 880-25749/2-A	Lab Control Sample Dup	97	97
MB 880-25749/5-A	Method Blank	97	98
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)
890-2307-1	SS03	105	109
890-2307-1 MS	SS03	100	88
890-2307-1 MSD	SS03	98	87
LCS 880-25590/2-A	Lab Control Sample	113	104
LCSD 880-25590/3-A	Lab Control Sample Dup	108	104
MB 880-25590/1-A	Method Blank	113	123
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: BIG SINKS 25 CTB

Job ID: 890-2307-1
SDG: 03E1558033

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-25749/5-A

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 25749

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/17/22 14:18	05/18/22 13:06	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/17/22 14:18	05/18/22 13:06	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/17/22 14:18	05/18/22 13:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/17/22 14:18	05/18/22 13:06	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/17/22 14:18	05/18/22 13:06	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/17/22 14:18	05/18/22 13:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	05/17/22 14:18	05/18/22 13:06	1
1,4-Difluorobenzene (Surr)	98		70 - 130	05/17/22 14:18	05/18/22 13:06	1

Lab Sample ID: LCS 880-25749/1-A

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25749

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09743		mg/Kg		97	70 - 130
Toluene	0.100	0.09874		mg/Kg		99	70 - 130
Ethylbenzene	0.100	0.1144		mg/Kg		114	70 - 130
m-Xylene & p-Xylene	0.200	0.2050		mg/Kg		103	70 - 130
o-Xylene	0.100	0.09655		mg/Kg		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: LCSD 880-25749/2-A

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 25749

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08840		mg/Kg		88	70 - 130	10	35
Toluene	0.100	0.08787		mg/Kg		88	70 - 130	12	35
Ethylbenzene	0.100	0.1000		mg/Kg		100	70 - 130	13	35
m-Xylene & p-Xylene	0.200	0.1796		mg/Kg		90	70 - 130	13	35
o-Xylene	0.100	0.08469		mg/Kg		85	70 - 130	13	35

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

Lab Sample ID: 890-2306-A-1-D MS

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 25749

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.100	0.09042		mg/Kg		90	70 - 130
Toluene	<0.00199	U	0.100	0.08913		mg/Kg		88	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: BIG SINKS 25 CTB

Job ID: 890-2307-1
SDG: 03E1558033

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

Lab Sample ID: 890-2306-A-1-D MS

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 25749

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.100	0.1015		mg/Kg		101	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.201	0.1822		mg/Kg		91	70 - 130
o-Xylene	<0.00199	U	0.100	0.08657		mg/Kg		86	70 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: 890-2306-A-1-E MSD

Matrix: Solid

Analysis Batch: 25806

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 25749

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.09636		mg/Kg		96	70 - 130	6	35
Toluene	<0.00199	U	0.100	0.09963		mg/Kg		99	70 - 130	11	35
Ethylbenzene	<0.00199	U	0.100	0.1164		mg/Kg		116	70 - 130	14	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2064		mg/Kg		103	70 - 130	12	35
o-Xylene	<0.00199	U	0.100	0.09745		mg/Kg		97	70 - 130	12	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

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

Lab Sample ID: MB 880-25590/1-A

Matrix: Solid

Analysis Batch: 25580

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 25590

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		05/16/22 08:41	05/16/22 11:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/16/22 08:41	05/16/22 11:32	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/16/22 08:41	05/16/22 11:32	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	113		70 - 130	05/16/22 08:41	05/16/22 11:32	1
o-Terphenyl	123		70 - 130	05/16/22 08:41	05/16/22 11:32	1

Lab Sample ID: LCS 880-25590/2-A

Matrix: Solid

Analysis Batch: 25580

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25590

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1299		mg/Kg		130	70 - 130
Diesel Range Organics (Over C10-C28)	1000	927.4		mg/Kg		93	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: BIG SINKS 25 CTB

Job ID: 890-2307-1
SDG: 03E1558033

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

Lab Sample ID: LCS 880-25590/2-A

Matrix: Solid

Analysis Batch: 25580

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25590

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	104		70 - 130

Lab Sample ID: LCSD 880-25590/3-A

Matrix: Solid

Analysis Batch: 25580

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 25590

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1165		mg/Kg		117	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	1000	884.5		mg/Kg		88	70 - 130	5	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	104		70 - 130

Lab Sample ID: 890-2307-1 MS

Matrix: Solid

Analysis Batch: 25580

Client Sample ID: SS03

Prep Type: Total/NA

Prep Batch: 25590

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1269		mg/Kg		123	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	903.5		mg/Kg		90	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	88		70 - 130

Lab Sample ID: 890-2307-1 MSD

Matrix: Solid

Analysis Batch: 25580

Client Sample ID: SS03

Prep Type: Total/NA

Prep Batch: 25590

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	998	1250		mg/Kg		121	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	948.0		mg/Kg		95	70 - 130	5	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	87		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: BIG SINKS 25 CTB

Job ID: 890-2307-1
SDG: 03E1558033

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-25552/1-A

Matrix: Solid

Analysis Batch: 25608

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			05/16/22 08:45	1

Lab Sample ID: LCS 880-25552/2-A

Matrix: Solid

Analysis Batch: 25608

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	249.3		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-25552/3-A

Matrix: Solid

Analysis Batch: 25608

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	257.6		mg/Kg		103	90 - 110	3	20

Lab Sample ID: 880-14732-A-19-B MS

Matrix: Solid

Analysis Batch: 25608

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	49.9		249	297.8		mg/Kg		100	90 - 110

Lab Sample ID: 880-14732-A-19-C MSD

Matrix: Solid

Analysis Batch: 25608

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	49.9		249	307.4		mg/Kg		103	90 - 110	3	20

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QC Association Summary

Client: Ensolum
Project/Site: BIG SINKS 25 CTB

Job ID: 890-2307-1
SDG: 03E1558033

GC VOA

Prep Batch: 25749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2307-1	SS03	Total/NA	Solid	5035	
MB 880-25749/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-25749/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-25749/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2306-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-2306-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 25806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2307-1	SS03	Total/NA	Solid	8021B	25749
MB 880-25749/5-A	Method Blank	Total/NA	Solid	8021B	25749
LCS 880-25749/1-A	Lab Control Sample	Total/NA	Solid	8021B	25749
LCSD 880-25749/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	25749
890-2306-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	25749
890-2306-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	25749

Analysis Batch: 25882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2307-1	SS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 25580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2307-1	SS03	Total/NA	Solid	8015B NM	25590
MB 880-25590/1-A	Method Blank	Total/NA	Solid	8015B NM	25590
LCS 880-25590/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	25590
LCSD 880-25590/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	25590
890-2307-1 MS	SS03	Total/NA	Solid	8015B NM	25590
890-2307-1 MSD	SS03	Total/NA	Solid	8015B NM	25590

Prep Batch: 25590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2307-1	SS03	Total/NA	Solid	8015NM Prep	
MB 880-25590/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-25590/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-25590/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2307-1 MS	SS03	Total/NA	Solid	8015NM Prep	
890-2307-1 MSD	SS03	Total/NA	Solid	8015NM Prep	

Analysis Batch: 25680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2307-1	SS03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 25552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2307-1	SS03	Soluble	Solid	DI Leach	
MB 880-25552/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-25552/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-25552/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum
Project/Site: BIG SINKS 25 CTB

Job ID: 890-2307-1
SDG: 03E1558033

HPLC/IC (Continued)

Leach Batch: 25552 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14732-A-19-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-14732-A-19-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 25608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2307-1	SS03	Soluble	Solid	300.0	25552
MB 880-25552/1-A	Method Blank	Soluble	Solid	300.0	25552
LCS 880-25552/2-A	Lab Control Sample	Soluble	Solid	300.0	25552
LCSD 880-25552/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	25552
880-14732-A-19-B MS	Matrix Spike	Soluble	Solid	300.0	25552
880-14732-A-19-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	25552

Lab Chronicle

Client: Ensolum
Project/Site: BIG SINKS 25 CTB

Job ID: 890-2307-1
SDG: 03E1558033

Client Sample ID: SS03

Lab Sample ID: 890-2307-1

Date Collected: 05/11/22 12:20

Matrix: Solid

Date Received: 05/12/22 11:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	25749	05/17/22 14:18	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25806	05/18/22 13:56	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25882	05/19/22 11:21	SM	XEN MID
Total/NA	Analysis	8015 NM		1			25680	05/17/22 09:43	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	25590	05/16/22 08:41	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25580	05/16/22 12:35	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	25552	05/13/22 15:16	SC	XEN MID
Soluble	Analysis	300.0		1			25608	05/16/22 13:22	CH	XEN MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BIG SINKS 25 CTB

Job ID: 890-2307-1
SDG: 03E1558033

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	T104704400-21-22	06-30-22

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: BIG SINKS 25 CTB

Job ID: 890-2307-1
SDG: 03E1558033

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: BIG SINKS 25 CTB

Job ID: 890-2307-1
SDG: 03E1558033

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2307-1	SS03	Solid	05/11/22 12:20	05/12/22 11:01	0.5

- 1
- 2
- 3
- 4
- 5
- 6
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- 14



Environment Testing
Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 7 of 7

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

Project Name:		Turn Around	
P Project Number:		Routine <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:		Wet Ice: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Temp Blank:		Thermometer ID:	
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Correction Factor:	
Cooler Custody Seals:		Temperature Reading:	
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Corrected Temperature:	
Sample Custody Seals:		Corrected Temperature:	
Total Containers:		Corrected Temperature:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Pres. Code	ANALYSIS REQUEST	Preservative Codes	Sample Comments
5503	S	5/12/2022	1220	0.5		6	Aluminum, BTEX, PCBs			None: NO Cool: Cool HCL: HC H ₂ SO ₄ : H ₂ H ₃ PO ₄ : HP NaHSO ₄ : NABIS Na ₂ S ₂ O ₃ : NaSO ₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC	Incident #: NAPP213503251 GC: 108 b1100x

Total 2007 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti-Sa U V Zn
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471	

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$500 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	5/12/2022	5:12pm

Revised Date 08/25/2020 Rev. 2002

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2307-1

SDG Number: 03E1558033

Login Number: 2307

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2307-1

SDG Number: 03E1558033

Login Number: 2307

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 05/13/22 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

Collins, Melanie

From: Green, Garrett J
Sent: Monday, December 13, 2021 4:30 PM
To: Mike Bratcher; Victoria Venegas; Rob Hamlet
Cc: Pennington, Shelby G; Baker, Adrian; Sanders, David; DelawareSpills /SM
Subject: XTO 48 hour liner inspection notification

Good afternoon,

This is sent as a 48-hour notification, XTO is scheduled to inspect the lined containment at Big Sinks 25 Battery released on (12/6/21), on Wednesday, December 15, 2021, at 3pm MST. A 24 hour release notification was not sent out since the release was less than 25 barrels in volume. Please call us with any questions or concerns.

GPS Coordinates: (32.18183,-103.83299)

Thank you,

Garrett Green

Environmental Coordinator

Delaware Business Unit

(575) 200-0729

Garrett.Green@ExxonMobil.com

XTO Energy, Inc.

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

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 113167

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 113167
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved. Please implement 19.15.29.13 NMAC when completing P&A.	8/18/2022