ENSOLUM

September 8, 2022

District 1
New Mexico Oil Conservation Division
1625 North French Drive
Hobbs, New Mexico 88240

Re: Closure Request
Baseball Cap Federal 25P
Incident Number NAPP2217836904
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of COG Operating, LLC (COG), has prepared this Closure Request to document site assessment and soil sampling activities performed at the Baseball Cap Federal 25P (Site; 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 condensate flare fire at the Site. Based on assessment activities and laboratory analytical results from the soil sampling event, COG is requesting closure for Incident Number NAPP2217836904.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit P, Section 25, Township 24 South, Range 34 East, in Lea County, New Mexico (32.183792° N, 103.417283° W) and is associated with oil and gas exploration and production operations on privately owned surface managed by Quail Ranch, LLC.

On June 12, 2022, oil made its way up the flare stack resulting in the release of approximately 0.356 barrels (bbls) of condensate. No fluids were recovered due to the fire burning off any residual flammable fluids. COG reported the release immediately via email to the New Mexico Oil Conservation Division (NMOCD) on June 13, 2022, and submitted a Release Notification Form C-141 (Form C-141) on June 27, 2022. The release was assigned Incident Number NAPP2217836904.

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 5 of the Form C-141 (Appendix A), Site Assessment/Characterization. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) permitted well 321039103243402, located approximately 3,222 southeast of the Site. The groundwater well has

a reported depth to groundwater of 139 feet bgs and an unknown total depth. Ground surface elevation at the groundwater well location is 3,347 feet above mean sea level (amsl), which is approximately 24-feet lower in elevation than the Site. In addition, there are 4 water wells within 2 miles of the Site that all have a recoreded depth to water of greater than 100 feet. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well record are included in Appendix B.

The closest continuously flowing or significant watercourse to the Site is an intermittent stream, located approximately 2,178 feet northeast 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, and 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

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the pasture area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top 4 feet of areas that will be reclaimed following remediation.

In addition to the the reclamation requirements and the NMOCD Closure Criteria, the Site has a Surface Use and Compensation Agreement (SUCA) with the private landowner. This SUCA states in addition to the above descibed siting criteria, soil within a reclamation area on the private surface will also have a Sodium Adsorbtion Ratio (SAR) of less than 2.0.

SITE ASSESSMENT ACTIVITIES

On July 27, 2022, site assessment activities were conducted to evaluate the release based on information provided on the Form C-141 and visual observations. No visible indications of the release or fire were observed. Five preliminary assessment soil samples (SS01 through SS05) were collected within the inferred release area at a depth of 0.2 feet bgs, to assess for the presence or absence of impacted soil resulting from the condensate flare fire. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was conducted during the Site visit. A photograpgic 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 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; chloride following EPA Method 300.0; and SAR following EPA method 29B.

ANALYTICAL RESULTS

Laboratory analytical results for preliminary assessment soil samples SS01 through SS05 indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, chloride concentrations, and SAR values were compliant with the Site Closure Criteria, the most stringent of NMOCD Table 1 Closure Criteria, and the SUCA. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical report is included as Appendix D.

CLOSURE REQUEST

Site assessment activities were conducted at the Site to assess for the presence or absence of impacted soil resulting from the June 12, 2022, condensate flare fire. Laboratory analytical results for soil samples collected within the inferred release area indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, chloride concentrations, and SAR values were compliant with the Site Closure Criteria, compliant with the most stringent Table 1 Closure Criteria, and the SUCA. Additionally, no visible indications of the release or fire were observed.

Based on soil sample laboratory analytical results compliant with the most stringent Table 1 Closure Criteria and SUCA, impacted soil was not identified and as a result, excavation activities did not appear warranted related to the condensate fire. COG believes these remedial actions have been protective of human health, the environment, and groundwater. As such, COG respectfully requests closure for Incident Number NAPP2217836904. The Final C-141 is included in Appendix A.

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

Sincerely,
Ensolum, LLC

Josh Adams, PG
Project Geologist

Kalei Jennings
Senior Scientist

cc: Charles Beauvais, COG Operating, LLC

Appendices:

Figure 1	Site Receptor Map
Figure 2	Preliminary Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Final C-141
Appendix B	Referenced Well Records
Appendix C	Photographic Log
Appendix D	Laboratory Analytical Reports & Chain-of-Custody

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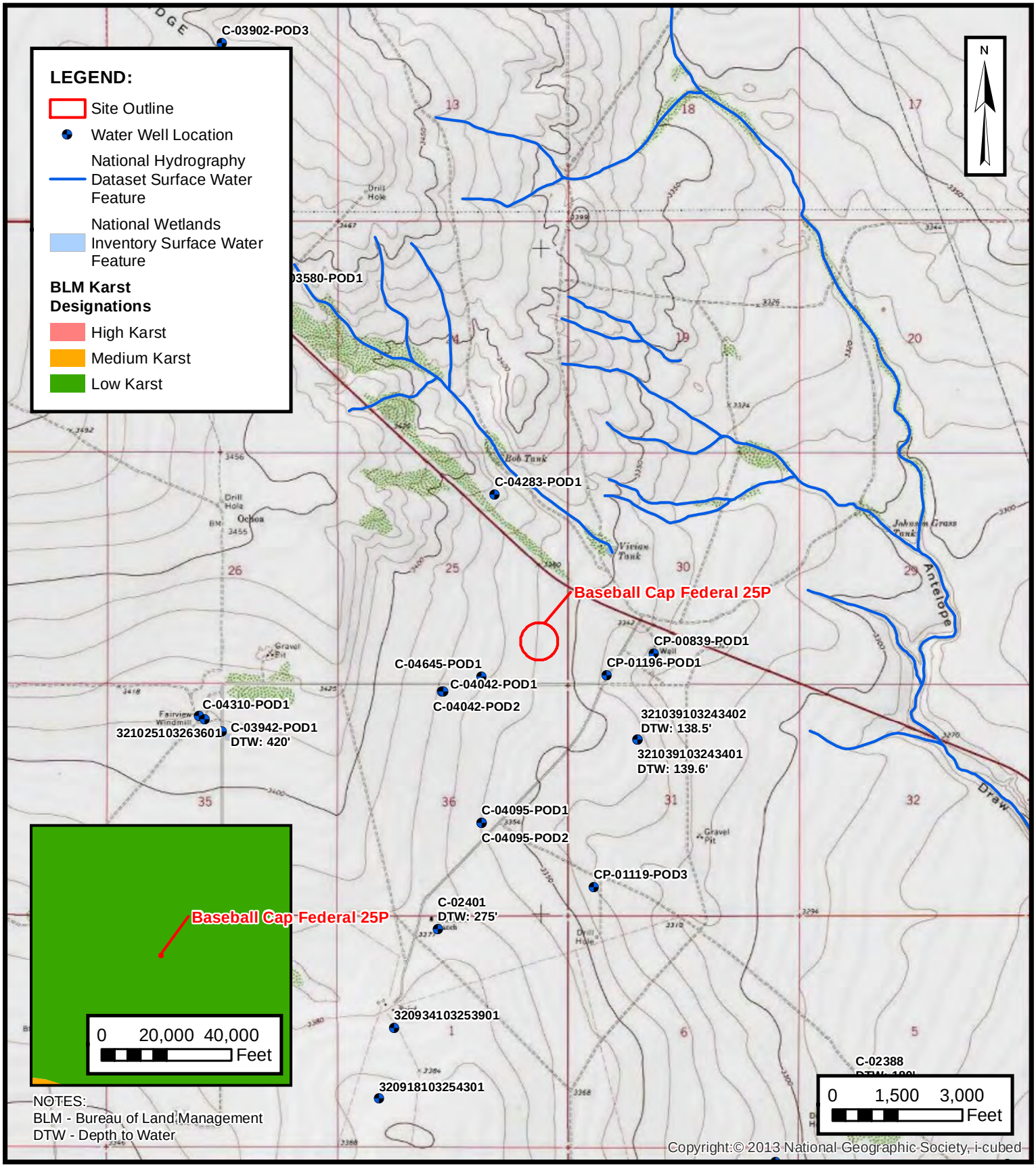
FIGURES



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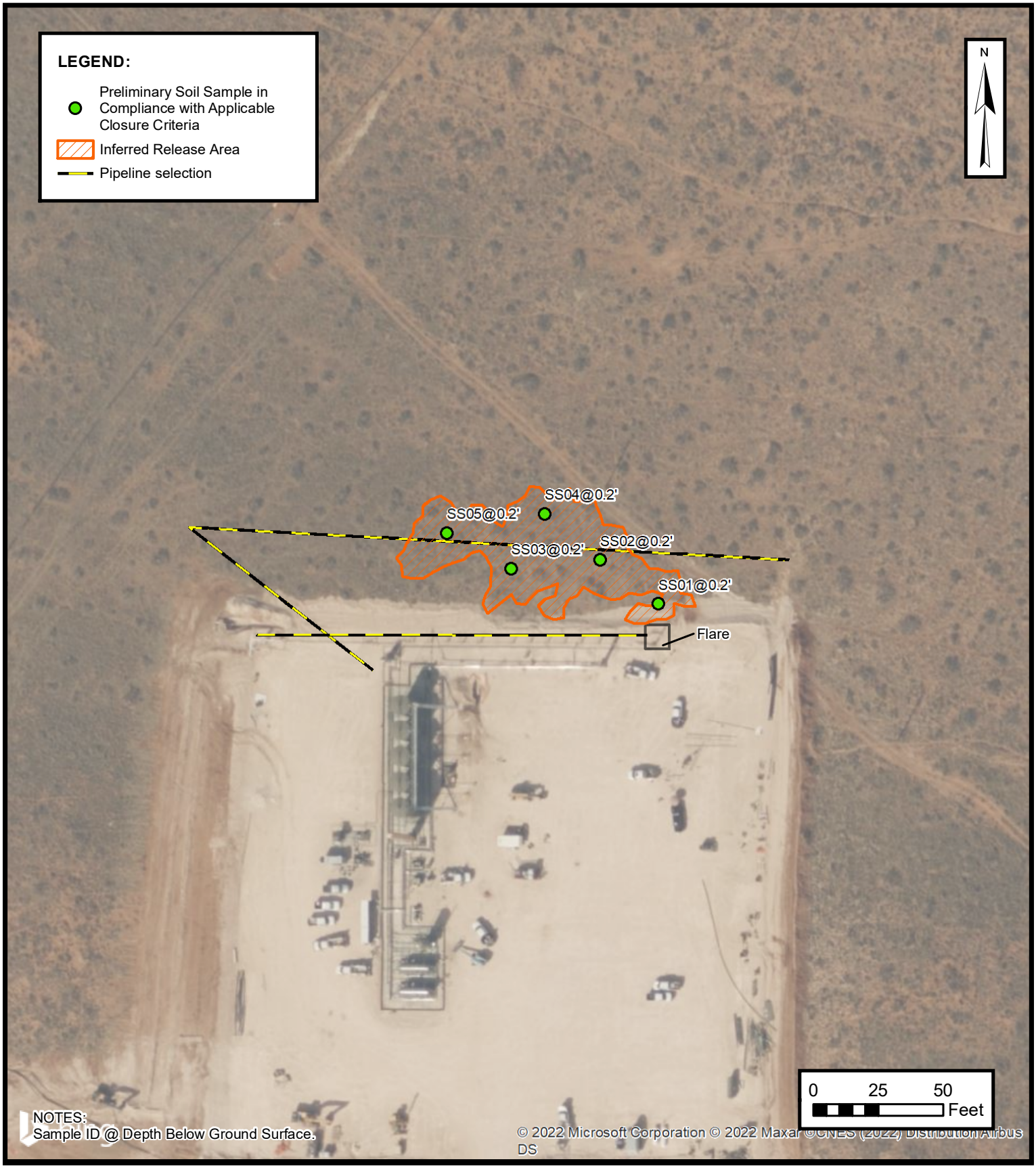
Environmental, Engineering and Hydrogeologic Consultants

SITE RECEPTOR MAP

COG OPERATING, LLC
BASEBALL CAP FEDERAL 25P
NAPP2217836904
Unit P, Sec 25, T24S, R34E
Lea County, New Mexico

FIGURE
1



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Environmental, Engineering and Hydrogeologic Consultants

PRELIMINARY SOIL SAMPLE LOCATIONS

COG OPERATING, LLC
BASEBALL CAP FEDERAL 25P
NAPP2217836904
Unit P, Sec 25, T24S, R34E
Lea County, New Mexico

FIGURE
2

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TABLE

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Baseball Cap Federal 25P
COG Operating, LLC
Lea County, New Mexico

Sample Designation	Date	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)	SAR**	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**2.0**	**20,000**
Preliminary Assessment Soil Samples											
SS01*	7/27/2022	0.2	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	0.209	20.0
SS02*	7/27/2022	0.2	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	0.164	12.9
SS03*	7/27/2022	0.2	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	0.177	11.9
SS04*	7/27/2022	0.2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	0.179	8.48
SS05*	7/27/2022	0.2	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	0.108	10.8

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
SAR: Sodium adsorption ratio (unitless)
** indicates sample was collected in area to be reclaimed after remediation is complete*
*** Private Surface specific requirement*

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APPENDIX A

Final C141

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	NAPP2217836904
District RP	
Facility ID	fAPP2135130425
Application ID	

Release Notification

Responsible Party

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Charles Beauvais	Contact Telephone	(575) 988-2043
Contact email	Charles.R.Beauvais@ConocoPhillips.com	Incident # *(assigned by OCD)*	NAPP2217836904
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.183792 Longitude -103.417283

(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Baseball Cap Federal 25P	Site Type	Tank Battery
Date Release Discovered	June 12, 2022	API# *(if applicable)*	

Unit Letter	Section	Township	Range	County
P	25	24S	34E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* Quail Ranch, LLC.)

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls) 0.356	Volume Recovered (bbls) 0
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was caused by oil making its way up the stack igniting the flare. The release resulted in a flare fire on and off pad.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2217836904
District RP	
Facility ID	fAPP2135130425
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? The release involved a fire.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Immediate notice was given by Charles Beauvais via e-mail June 13, 2022 at 3:20 pm to blm_nm_cfo_spill@blm.gov and ocd.enviro@state.nm.us.

Initial Response

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

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

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

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

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

Printed Name: Brittany N. Esparza Title: Environmental Technician

Signature: Brittany Esparza Date: 6/27/2022

email: Brittany.Esparza@ConocoPhillips.com Telephone: (432) 221-0398

OCD Only

Received by: Jocelyn Harimon Date:

L48 Spill Volume Estimate Form

Facility Name & Number:	Baseball Cap 25 P Battery
Asset Area:	DELAWARE BASIN EAST
Release Discovery Date & Time:	6/12/2022 17:00
Release Type:	Oil
Provide any known details about the event:	FLARE FIRE

NAPP2217836904

Spill Calculation - Subsurface Spill - Rectangle

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

Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Depth (in.)	Soil Spilled-Fluid Saturation	Estimated volume of each area (bbl.)	Total Estimated Volume of Spill (bbl.)
Rectangle A	300.0	50.0	0.02	8.00%	4.450	0.356
Rectangle B					0.000	0.000
Rectangle C					0.000	0.000
Rectangle D					0.000	0.000
Rectangle E					0.000	0.000
Rectangle F					0.000	0.000
Rectangle G					0.000	0.000
Rectangle H					0.000	0.000
Rectangle I					0.000	0.000
Rectangle J					0.000	0.000
					Total Volume Release:	0.356

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

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

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 122658
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

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

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2217836904
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2217836904
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: Charles Beauvais Title: Senior Environmental Engineer

Signature: Charles R. Beauvais II Date: 09/09/2022

email: Charles.R.Beauvais@conocophillips.com Telephone: 575-988-2043

OCD Only

Received by: Jocelyn Harimon Date: 09/09/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2217836904
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Charles Beauvais Title: Senior Environmental Engineer

Signature: Charles R. Beauvais II Date: 09/09/2022

email: Charles.R.Beauvais@conocophillips.com Telephone: 575-988-2043

OCD Only

Received by: Jocelyn Harimon Date: 09/09/2022

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: 09/13/2022

Printed Name: Jennifer Nobui Title: Environmental Specialist A

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APPENDIX B

Referenced Well Record

Click to hideNews Bulletins

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

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 321039103243402

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 321039103243402 24S.35E.30.342331

Lea County, New Mexico
Latitude 32°10'39", Longitude 103°24'34" NAD27
Land-surface elevation 3,343 feet above NAVD88
The depth of the well is 176 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measu
1970-12-08		D	62610		3201.64	NGVD29	1	Z		
1970-12-08		D	62611		3203.19	NAVD88	1	Z		
1970-12-08		D	72019	139.81			1	Z		
1976-01-15		D	62610		3202.27	NGVD29	1	Z		
1976-01-15		D	62611		3203.82	NAVD88	1	Z		
1976-01-15		D	72019	139.18			1	Z		
1981-03-20		D	62610		3201.85	NGVD29	1	Z		
1981-03-20		D	62611		3203.40	NAVD88	1	Z		
1981-03-20		D	72019	139.60			1	Z		

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet

Section	Code	Description
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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

Accessibility FOIA Privacy Policies and Notices

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

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2022-07-25 18:33:22 EDT
0.33 0.28 nadww01

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APPENDIX C

Photographic Log

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Photographic Log
COG Operating, LLC
Baseball Cap Federal 25P
NAPP2217836904

Photograph 1 Date: 7/27/2022
Description: View of the inferred release area within the pasture, looking north

Photograph 2 Date: 7/27/2022
Description: View of the inferred release area, looking west

Photograph 3 Date: 7/27/2022
Description: View of the inferred release area within the pasture, looking east

Photograph 4 Date: 7/27/2022
Description: View of the inferred release area within the pasture, looking west near the flare

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APPENDIX D

Laboratory Analytical Report

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2667-1
Laboratory Sample Delivery Group: Eddy County
Client Project/Site: Baseball Cap 25P
Revision: 1

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

Attn: Josh Adams

JKramer

Authorized for release by:
9/1/2022 2:51:33 PM

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

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

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

Client: Ensolum
Project/Site: Baseball Cap 25P

Laboratory Job ID: 890-2667-1
SDG: Eddy County

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

Job ID: 890-2667-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2667-1

Receipt
The samples were received on 7/27/2022 4:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

GC VOA
Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-31011 and analytical batch 880-30959 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

GC Semi VOA
Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-30992 and analytical batch 880-31051 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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 880-31016 and analytical batch 880-31319 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.

Narrative

Job Narrative
890-2667-2

Receipt
The samples were received on 7/27/2022 4:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

Metals
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: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

Client Sample ID: SS01
Date Collected: 07/27/22 10:00
Date Received: 07/27/22 16:40
Sample Depth: .2'

Lab Sample ID: 890-2667-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U *-	0.00202		mg/Kg		07/29/22 13:17	07/30/22 04:08	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/29/22 13:17	07/30/22 04:08	1
Ethylbenzene	<0.00202	U *-	0.00202		mg/Kg		07/29/22 13:17	07/30/22 04:08	1
m-Xylene & p-Xylene	<0.00403	U *-	0.00403		mg/Kg		07/29/22 13:17	07/30/22 04:08	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/29/22 13:17	07/30/22 04:08	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		07/29/22 13:17	07/30/22 04:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*07/29/22 13:17*	*07/30/22 04:08*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*07/29/22 13:17*	*07/30/22 04:08*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			07/30/22 18:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/31/22 10:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/29/22 11:03	07/30/22 14:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U *+	50.0		mg/Kg		07/29/22 11:03	07/30/22 14:47	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/29/22 11:03	07/30/22 14:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*07/29/22 11:03*	*07/30/22 14:47*	*1*
o-Terphenyl	*119*		*70 - 130*	*07/29/22 11:03*	*07/30/22 14:47*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**20.0**		5.01		mg/Kg			08/04/22 10:29	1

Method: 29B SAR - Sodium Adsorption Ratio

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sodium Adsorption Ratio	**0.209**		0.100		NONE		08/30/22 10:01	09/01/22 14:45	1

Client Sample ID: SS02
Date Collected: 07/27/22 10:10
Date Received: 07/27/22 16:40
Sample Depth: .2'

Lab Sample ID: 890-2667-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *-	0.00200		mg/Kg		07/29/22 13:17	07/30/22 06:59	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/29/22 13:17	07/30/22 06:59	1
Ethylbenzene	<0.00200	U *-	0.00200		mg/Kg		07/29/22 13:17	07/30/22 06:59	1
m-Xylene & p-Xylene	<0.00400	U *-	0.00400		mg/Kg		07/29/22 13:17	07/30/22 06:59	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/29/22 13:17	07/30/22 06:59	1

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Client Sample Results

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

Client Sample ID: SS02
Date Collected: 07/27/22 10:10
Date Received: 07/27/22 16:40
Sample Depth: .2'

Lab Sample ID: 890-2667-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/29/22 13:17	07/30/22 06:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*07/29/22 13:17*	*07/30/22 06:59*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*07/29/22 13:17*	*07/30/22 06:59*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			07/30/22 18:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/31/22 10:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/29/22 11:03	07/30/22 15:08	1
Diesel Range Organics (Over C10-C28)	<50.0	U *+	50.0		mg/Kg		07/29/22 11:03	07/30/22 15:08	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/29/22 11:03	07/30/22 15:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*07/29/22 11:03*	*07/30/22 15:08*	*1*
o-Terphenyl	*126*		*70 - 130*	*07/29/22 11:03*	*07/30/22 15:08*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**12.9**		5.01		mg/Kg			08/04/22 10:37	1

Method: 29B SAR - Sodium Adsorption Ratio

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sodium Adsorption Ratio	**0.164**		0.100		NONE		08/30/22 10:01	09/01/22 14:45	1

Client Sample ID: SS03
Date Collected: 07/27/22 10:20
Date Received: 07/27/22 16:40
Sample Depth: .2'

Lab Sample ID: 890-2667-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *-	0.00200		mg/Kg		07/29/22 13:17	07/30/22 07:20	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/29/22 13:17	07/30/22 07:20	1
Ethylbenzene	<0.00200	U *-	0.00200		mg/Kg		07/29/22 13:17	07/30/22 07:20	1
m-Xylene & p-Xylene	<0.00399	U *-	0.00399		mg/Kg		07/29/22 13:17	07/30/22 07:20	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/29/22 13:17	07/30/22 07:20	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/29/22 13:17	07/30/22 07:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*07/29/22 13:17*	*07/30/22 07:20*	*1*
1,4-Difluorobenzene (Surr)	*4*	*S1-*	*70 - 130*	*07/29/22 13:17*	*07/30/22 07:20*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

Client Sample ID: SS03
Date Collected: 07/27/22 10:20
Date Received: 07/27/22 16:40
Sample Depth: .2'

Lab Sample ID: 890-2667-3
Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			07/30/22 18:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/31/22 10:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/29/22 11:03	07/30/22 15:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U *+	50.0		mg/Kg		07/29/22 11:03	07/30/22 15:51	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/29/22 11:03	07/30/22 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*07/29/22 11:03*	*07/30/22 15:51*	*1*
o-Terphenyl	*128*		*70 - 130*	*07/29/22 11:03*	*07/30/22 15:51*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11.9**		5.00		mg/Kg			08/04/22 11:01	1

Method: 29B SAR - Sodium Adsorption Ratio

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sodium Adsorption Ratio	**0.177**		0.100		NONE		08/30/22 10:01	09/01/22 14:45	1

Client Sample ID: SS04
Date Collected: 07/27/22 10:30
Date Received: 07/27/22 16:40
Sample Depth: .2'

Lab Sample ID: 890-2667-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *-	0.00199		mg/Kg		07/29/22 13:17	07/30/22 07:40	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/29/22 13:17	07/30/22 07:40	1
Ethylbenzene	<0.00199	U *-	0.00199		mg/Kg		07/29/22 13:17	07/30/22 07:40	1
m-Xylene & p-Xylene	<0.00398	U *-	0.00398		mg/Kg		07/29/22 13:17	07/30/22 07:40	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/29/22 13:17	07/30/22 07:40	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/29/22 13:17	07/30/22 07:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*07/29/22 13:17*	*07/30/22 07:40*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*07/29/22 13:17*	*07/30/22 07:40*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/30/22 18:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/31/22 10:27	1

Client Sample Results

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

Client Sample ID: SS04
Date Collected: 07/27/22 10:30
Date Received: 07/27/22 16:40
Sample Depth: .2'

Lab Sample ID: 890-2667-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/29/22 11:03	07/30/22 16:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U *+	50.0		mg/Kg		07/29/22 11:03	07/30/22 16:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/29/22 11:03	07/30/22 16:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*07/29/22 11:03*	*07/30/22 16:13*	*1*
o-Terphenyl	*124*		*70 - 130*	*07/29/22 11:03*	*07/30/22 16:13*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8.48**		5.00		mg/Kg			08/04/22 11:09	1

Method: 29B SAR - Sodium Adsorption Ratio

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sodium Adsorption Ratio	**0.179**		0.100		NONE		08/30/22 10:01	09/01/22 14:45	1

Client Sample ID: SS05
Date Collected: 07/27/22 10:40
Date Received: 07/27/22 16:40
Sample Depth: .2'

Lab Sample ID: 890-2667-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *-	0.00201		mg/Kg		07/29/22 13:17	07/30/22 08:01	1
Toluene	<0.00201	U	0.00201		mg/Kg		07/29/22 13:17	07/30/22 08:01	1
Ethylbenzene	<0.00201	U *-	0.00201		mg/Kg		07/29/22 13:17	07/30/22 08:01	1
m-Xylene & p-Xylene	<0.00402	U *-	0.00402		mg/Kg		07/29/22 13:17	07/30/22 08:01	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		07/29/22 13:17	07/30/22 08:01	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		07/29/22 13:17	07/30/22 08:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*07/29/22 13:17*	*07/30/22 08:01*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*07/29/22 13:17*	*07/30/22 08:01*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			07/30/22 18:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/31/22 10:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/29/22 11:03	07/30/22 16:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U *+	49.9		mg/Kg		07/29/22 11:03	07/30/22 16:34	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/29/22 11:03	07/30/22 16:34	1

Client Sample Results

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

Client Sample ID: SS05

Date Collected: 07/27/22 10:40
Date Received: 07/27/22 16:40
Sample Depth: .2'

Lab Sample ID: 890-2667-5

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*07/29/22 11:03*	*07/30/22 16:34*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*07/29/22 11:03*	*07/30/22 16:34*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10.8**		4.96		mg/Kg			08/04/22 11:32	1

Method: 29B SAR - Sodium Adsorption Ratio

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sodium Adsorption Ratio	**0.108**		0.100		NONE		08/30/22 10:01	09/01/22 14:45	1

Surrogate Summary

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

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)
890-2667-1	SS01	98	100
890-2667-2	SS02	106	101
890-2667-3	SS03	105	4 S1-
890-2667-4	SS04	102	100
890-2667-5	SS05	109	101
LCS 880-31011/1-A	Lab Control Sample	104	97
LCSD 880-31011/2-A	Lab Control Sample Dup	104	99
MB 880-30988/5-A	Method Blank	95	101
MB 880-31011/5-A	Method Blank	96	101

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)
890-2667-1	SS01	107	119
890-2667-2	SS02	109	126
890-2667-3	SS03	104	128
890-2667-4	SS04	103	124
890-2667-5	SS05	104	131 S1+
LCS 880-30992/2-A	Lab Control Sample	115	110
LCSD 880-30992/3-A	Lab Control Sample Dup	118	117
MB 880-30992/1-A	Method Blank	101	115

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30988/5-A
Matrix: Solid
Analysis Batch: 30959

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30988

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/29/22 10:52	07/29/22 13:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/29/22 10:52	07/29/22 13:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/29/22 10:52	07/29/22 13:46	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/29/22 10:52	07/29/22 13:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/29/22 10:52	07/29/22 13:46	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/29/22 10:52	07/29/22 13:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*07/29/22 10:52*	*07/29/22 13:46*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*07/29/22 10:52*	*07/29/22 13:46*	*1*

Lab Sample ID: MB 880-31011/5-A
Matrix: Solid
Analysis Batch: 30959

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31011

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/29/22 13:17	07/30/22 01:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/29/22 13:17	07/30/22 01:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/29/22 13:17	07/30/22 01:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/29/22 13:17	07/30/22 01:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/29/22 13:17	07/30/22 01:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/29/22 13:17	07/30/22 01:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*07/29/22 13:17*	*07/30/22 01:37*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*07/29/22 13:17*	*07/30/22 01:37*	*1*

Lab Sample ID: LCS 880-31011/1-A
Matrix: Solid
Analysis Batch: 30959

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31011

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07777		mg/Kg		78	70 - 130		
Toluene			0.100	0.09255		mg/Kg		93	70 - 130		
Ethylbenzene			0.100	0.08154		mg/Kg		82	70 - 130		
m-Xylene & p-Xylene			0.200	0.1658		mg/Kg		83	70 - 130		
o-Xylene			0.100	0.09992		mg/Kg		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: LCSD 880-31011/2-A
Matrix: Solid
Analysis Batch: 30959

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31011

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.06253	*-	mg/Kg		63	70 - 130	22	35

QC Sample Results

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

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

Lab Sample ID: LCSD 880-31011/2-A
Matrix: Solid
Analysis Batch: 30959

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31011

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.07063		mg/Kg		71	70 - 130	27	35
Ethylbenzene			0.100	0.06380	*-	mg/Kg		64	70 - 130	24	35
m-Xylene & p-Xylene			0.200	0.1309	*-	mg/Kg		65	70 - 130	24	35
o-Xylene			0.100	0.07995		mg/Kg		80	70 - 130	22	35

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

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

Lab Sample ID: MB 880-30992/1-A
Matrix: Solid
Analysis Batch: 31051

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30992

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/29/22 11:03	07/30/22 10:06	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/29/22 11:03	07/30/22 10:06	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/29/22 11:03	07/30/22 10:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*07/29/22 11:03*	*07/30/22 10:06*	*1*
o-Terphenyl	*115*		*70 - 130*	*07/29/22 11:03*	*07/30/22 10:06*	*1*

Lab Sample ID: LCS 880-30992/2-A
Matrix: Solid
Analysis Batch: 31051

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30992

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1068		mg/Kg		107	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1467	*+	mg/Kg		147	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*115*		*70 - 130*
o-Terphenyl	*110*		*70 - 130*

Lab Sample ID: LCSD 880-30992/3-A
Matrix: Solid
Analysis Batch: 31051

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30992

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1074		mg/Kg		107	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	1539	*+	mg/Kg		154	70 - 130	5	20

QC Sample Results

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

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

Lab Sample ID: LCSD 880-30992/3-A
Matrix: Solid
Analysis Batch: 31051

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30992

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*118*		*70 - 130*
o-Terphenyl	*117*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-31016/1-A
Matrix: Solid
Analysis Batch: 31319

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			08/04/22 08:23	1

Lab Sample ID: LCS 880-31016/2-A
Matrix: Solid
Analysis Batch: 31319

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	247.1		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-31016/3-A
Matrix: Solid
Analysis Batch: 31319

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	247.0		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-2667-2 MS
Matrix: Solid
Analysis Batch: 31319

Client Sample ID: SS02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	12.9		251	266.4		mg/Kg		101	90 - 110		

Lab Sample ID: 890-2667-2 MSD
Matrix: Solid
Analysis Batch: 31319

Client Sample ID: SS02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	12.9		251	265.9		mg/Kg		101	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

GC VOA

Analysis Batch: 30959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2667-1	SS01	Total/NA	Solid	8021B	31011
890-2667-2	SS02	Total/NA	Solid	8021B	31011
890-2667-3	SS03	Total/NA	Solid	8021B	31011
890-2667-4	SS04	Total/NA	Solid	8021B	31011
890-2667-5	SS05	Total/NA	Solid	8021B	31011
MB 880-30988/5-A	Method Blank	Total/NA	Solid	8021B	30988
MB 880-31011/5-A	Method Blank	Total/NA	Solid	8021B	31011
LCS 880-31011/1-A	Lab Control Sample	Total/NA	Solid	8021B	31011
LCSD 880-31011/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31011

Prep Batch: 30988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-30988/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 31011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2667-1	SS01	Total/NA	Solid	5035	
890-2667-2	SS02	Total/NA	Solid	5035	
890-2667-3	SS03	Total/NA	Solid	5035	
890-2667-4	SS04	Total/NA	Solid	5035	
890-2667-5	SS05	Total/NA	Solid	5035	
MB 880-31011/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31011/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31011/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 31076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2667-1	SS01	Total/NA	Solid	Total BTEX	
890-2667-2	SS02	Total/NA	Solid	Total BTEX	
890-2667-3	SS03	Total/NA	Solid	Total BTEX	
890-2667-4	SS04	Total/NA	Solid	Total BTEX	
890-2667-5	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 30992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2667-1	SS01	Total/NA	Solid	8015NM Prep	
890-2667-2	SS02	Total/NA	Solid	8015NM Prep	
890-2667-3	SS03	Total/NA	Solid	8015NM Prep	
890-2667-4	SS04	Total/NA	Solid	8015NM Prep	
890-2667-5	SS05	Total/NA	Solid	8015NM Prep	
MB 880-30992/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30992/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30992/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2667-1	SS01	Total/NA	Solid	8015B NM	30992
890-2667-2	SS02	Total/NA	Solid	8015B NM	30992
890-2667-3	SS03	Total/NA	Solid	8015B NM	30992

QC Association Summary

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

GC Semi VOA (Continued)

Analysis Batch: 31051 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2667-4	SS04	Total/NA	Solid	8015B NM	30992
890-2667-5	SS05	Total/NA	Solid	8015B NM	30992
MB 880-30992/1-A	Method Blank	Total/NA	Solid	8015B NM	30992
LCS 880-30992/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30992
LCSD 880-30992/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30992

Analysis Batch: 31105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2667-1	SS01	Total/NA	Solid	8015 NM	
890-2667-2	SS02	Total/NA	Solid	8015 NM	
890-2667-3	SS03	Total/NA	Solid	8015 NM	
890-2667-4	SS04	Total/NA	Solid	8015 NM	
890-2667-5	SS05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 31016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2667-1	SS01	Soluble	Solid	DI Leach	
890-2667-2	SS02	Soluble	Solid	DI Leach	
890-2667-3	SS03	Soluble	Solid	DI Leach	
890-2667-4	SS04	Soluble	Solid	DI Leach	
890-2667-5	SS05	Soluble	Solid	DI Leach	
MB 880-31016/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31016/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31016/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2667-2 MS	SS02	Soluble	Solid	DI Leach	
890-2667-2 MSD	SS02	Soluble	Solid	DI Leach	

Analysis Batch: 31319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2667-1	SS01	Soluble	Solid	300.0	31016
890-2667-2	SS02	Soluble	Solid	300.0	31016
890-2667-3	SS03	Soluble	Solid	300.0	31016
890-2667-4	SS04	Soluble	Solid	300.0	31016
890-2667-5	SS05	Soluble	Solid	300.0	31016
MB 880-31016/1-A	Method Blank	Soluble	Solid	300.0	31016
LCS 880-31016/2-A	Lab Control Sample	Soluble	Solid	300.0	31016
LCSD 880-31016/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31016
890-2667-2 MS	SS02	Soluble	Solid	300.0	31016
890-2667-2 MSD	SS02	Soluble	Solid	300.0	31016

Metals

Prep Batch: 67132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2667-1	SS01	Total/NA	Solid	29B	
890-2667-2	SS02	Total/NA	Solid	29B	
890-2667-3	SS03	Total/NA	Solid	29B	
890-2667-4	SS04	Total/NA	Solid	29B	
890-2667-5	SS05	Total/NA	Solid	29B	

QC Association Summary

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

Metals

Prep Batch: 67360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2667-1	SS01	Total/NA	Solid	29B	67132
890-2667-2	SS02	Total/NA	Solid	29B	67132
890-2667-3	SS03	Total/NA	Solid	29B	67132
890-2667-4	SS04	Total/NA	Solid	29B	67132
890-2667-5	SS05	Total/NA	Solid	29B	67132

Analysis Batch: 67564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2667-1	SS01	Total/NA	Solid	29B SAR	67360
890-2667-2	SS02	Total/NA	Solid	29B SAR	67360
890-2667-3	SS03	Total/NA	Solid	29B SAR	67360
890-2667-4	SS04	Total/NA	Solid	29B SAR	67360
890-2667-5	SS05	Total/NA	Solid	29B SAR	67360

Lab Chronicle

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

Client Sample ID: SS01
Date Collected: 07/27/22 10:00
Date Received: 07/27/22 16:40

Lab Sample ID: 890-2667-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	31011	07/29/22 13:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30959	07/30/22 04:08	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			31076	07/30/22 18:57	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			31105	07/31/22 10:27	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30992	07/29/22 11:03	DM	XEN MID
Total/NA	Analysis	8015B NM		1			31051	07/30/22 14:47	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	31016	07/29/22 14:03	SMC	XEN MID
Soluble	Analysis	300.0		1			31319	08/04/22 10:29	CH	XEN MID
Total/NA	Prep	29B			80 g	80 g	67132	08/30/22 10:01	PB	EET HOU
Total/NA	Prep	29B			80 g	80 mL	67360	08/31/22 12:57	PB	EET HOU
Total/NA	Analysis	29B SAR		1			67564	09/01/22 14:45	DP	EET HOU

Client Sample ID: SS02
Date Collected: 07/27/22 10:10
Date Received: 07/27/22 16:40

Lab Sample ID: 890-2667-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	31011	07/29/22 13:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30959	07/30/22 06:59	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			31076	07/30/22 18:57	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			31105	07/31/22 10:27	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30992	07/29/22 11:03	DM	XEN MID
Total/NA	Analysis	8015B NM		1			31051	07/30/22 15:08	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	31016	07/29/22 14:03	SMC	XEN MID
Soluble	Analysis	300.0		1			31319	08/04/22 10:37	CH	XEN MID
Total/NA	Prep	29B			85 g	85 g	67132	08/30/22 10:01	PB	EET HOU
Total/NA	Prep	29B			85 g	85 mL	67360	08/31/22 12:57	PB	EET HOU
Total/NA	Analysis	29B SAR		1			67564	09/01/22 14:45	DP	EET HOU

Client Sample ID: SS03
Date Collected: 07/27/22 10:20
Date Received: 07/27/22 16:40

Lab Sample ID: 890-2667-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	31011	07/29/22 13:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30959	07/30/22 07:20	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			31076	07/30/22 18:57	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			31105	07/31/22 10:27	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30992	07/29/22 11:03	DM	XEN MID
Total/NA	Analysis	8015B NM		1			31051	07/30/22 15:51	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	31016	07/29/22 14:03	SMC	XEN MID
Soluble	Analysis	300.0		1			31319	08/04/22 11:01	CH	XEN MID
Total/NA	Prep	29B			80 g	80 g	67132	08/30/22 10:01	PB	EET HOU
Total/NA	Prep	29B			80 g	80 mL	67360	08/31/22 12:57	PB	EET HOU
Total/NA	Analysis	29B SAR		1			67564	09/01/22 14:45	DP	EET HOU

Lab Chronicle

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

Client Sample ID: SS04
Date Collected: 07/27/22 10:30
Date Received: 07/27/22 16:40

Lab Sample ID: 890-2667-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	31011	07/29/22 13:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30959	07/30/22 07:40	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			31076	07/30/22 18:57	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			31105	07/31/22 10:27	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30992	07/29/22 11:03	DM	XEN MID
Total/NA	Analysis	8015B NM		1			31051	07/30/22 16:13	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	31016	07/29/22 14:03	SMC	XEN MID
Soluble	Analysis	300.0		1			31319	08/04/22 11:09	CH	XEN MID
Total/NA	Prep	29B			80 g	80 g	67132	08/30/22 10:01	PB	EET HOU
Total/NA	Prep	29B			80 g	80 mL	67360	08/31/22 12:57	PB	EET HOU
Total/NA	Analysis	29B SAR		1			67564	09/01/22 14:45	DP	EET HOU

Client Sample ID: SS05
Date Collected: 07/27/22 10:40
Date Received: 07/27/22 16:40

Lab Sample ID: 890-2667-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	31011	07/29/22 13:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30959	07/30/22 08:01	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			31076	07/30/22 18:57	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			31105	07/31/22 10:27	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30992	07/29/22 11:03	DM	XEN MID
Total/NA	Analysis	8015B NM		1			31051	07/30/22 16:34	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	31016	07/29/22 14:03	SMC	XEN MID
Soluble	Analysis	300.0		1			31319	08/04/22 11:32	CH	XEN MID
Total/NA	Prep	29B			75 g	75 g	67132	08/30/22 10:01	PB	EET HOU
Total/NA	Prep	29B			75 g	75 mL	67360	08/31/22 12:57	PB	EET HOU
Total/NA	Analysis	29B SAR		1			67564	09/01/22 14:45	DP	EET HOU

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

Laboratory: Eurofins Houston

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215-22-47	06-30-23

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

Analysis Method	Prep Method	Matrix	Analyte

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

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: Baseball Cap 25P

Job ID: 890-2667-1
SDG: Eddy County

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2667-1	SS01	Solid	07/27/22 10:00	07/27/22 16:40	.2'
890-2667-2	SS02	Solid	07/27/22 10:10	07/27/22 16:40	.2'
890-2667-3	SS03	Solid	07/27/22 10:20	07/27/22 16:40	.2'
890-2667-4	SS04	Solid	07/27/22 10:30	07/27/22 16:40	.2'
890-2667-5	SS05	Solid	07/27/22 10:40	07/27/22 16:40	.2'

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum	Company Name:	Ensolum
Address:	3122 National Parks Hwy	Address:	
City, State ZIP:	Carlsbad NM	City, State ZIP:	
Phone:	303-517-8437	Email:	Kjennings@ensolum.com

Work Order Comments

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

Project Name:	Baseball Cap 25P	Turn Around	☐Routine ☐Rush
Project Number:	03D 2024062	Due Date:	
Project Location:	Eddy County	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	CS		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TNM 007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.2
Total Containers:		Corrected Temperature:	1.0

Preservative Codes

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

ANALYSIS REQUEST

Parameters: CHL / BTEX / TPH

890-2667 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code
SS01	S	7-27	1000	.2	G	1	
SS02	S		1010	.2		1	
SS03	S		1020	.2		1	
SS04	S		1030	.2		1	
SS05	S		1040	.2		1	

Sample Comments

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuf	7/27/22 1640	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2667-1
SDG Number: Eddy County

Login Number: 2667
List Number: 1
Creator: Stutzman, Amanda

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: 890-2667-1
SDG Number: Eddy County

Login Number: 2667
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/29/22 10:24 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	

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 141951

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 141951
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved.	9/13/2022