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	nAPP2214759497
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	Armstrong Energy Corporation	OGRID	1092
Contact Name	Jeffery Tew	Contact Telephone	575-623-2999
Contact email	jtew@aecnm.com	Incident # *(assigned by OCD)*	nAPP2214759497
Contact mailing address	P.o Box 1973 Roswell, NM 88202-1973		

Location of Release Source

Latitude 33.85189 Longitude 103.41567
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Mustang Sally #1	Site Type	Production Facility
Date Release Discovered	5/26/2022	API# *(if applicable)*	30-041-20943

Unit Letter	Section	Township	Range	County
N	19	5S	34E	Roosevelt

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* Roy Lee Criswell)

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

Cause of Release

This well is TA'd and this release is an old release that was recently discovered due to cattle licking the soil. While the exact cause of the release is not known it is suspected that it was a stuffing box that leaked and caused the fluid to be distributed on the ground near the wellhead.

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Page 2

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2214759497
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? [X] Yes [ ] No	If YES, for what reason(s) does the responsible party consider this a major release? A release greater than 25 barrels.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, by Jeffery Tew to NMOCD via OCD portal on 5/27/2022.	

Initial Response

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

- [X] The source of the release has been stopped.
- [X] The impacted area has been secured to protect human health and the environment.
- [X] Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- [X] 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: Jeffery Tew Title: Operations Engineer

Signature: Jeffery Tew Date: 5/27/2022

email: jtew@aecnm.com Telephone: 575-420-7600

OCD Only

Received by: Jocelyn Harimon Date: 05/31/2022

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2214759497
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?	51-100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2214759497
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: Jeffery Tew Title: Operations Engineer

Signature: Jeffery Tew Date: 7/29/2022

email: jtew@acenm.com Telephone: 575-420-7600

OCD Only

Received by: Jocelyn Harimon Date: 08/08/2022

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Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2214759497
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☒ Extents of contamination must be fully delineated.

☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Jeffery Tew Title: Operations Engineer

Signature: Jeffery Tew Date: 7/29/2022

email: jtew@acenm.com Telephone: 575-420-7600

OCD Only

Received by: Jocelyn Harimon Date: 08/08/2022

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☒ Deferral Approved

Signature: Jennifer Nobui Date: 08/11/2022

ENSOLUM

June 29, 2022

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

Re: Deferral Request
Mustang Sally #1
Incident Number nAPP2214759497
Roosevelt County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Armstrong Energy Corporation (AEC), has prepared this Deferral Request to document site assessment, excavation, and soil sampling activities performed at the Mustang Sally #1 (Site), located in Unit N, Section 19, Township 5 South, Range 34 East, in Roosevelt County, New Mexico (**Figure 1 in Appendix A**). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil resulting from observations made by an inspector with the New Mexico Oil Conservation Division (NMOCD). Based on field observations and screening activities, excavation activities to-date, delineation activities, and laboratory analytical results, AEC is submitting this Deferral Request and requesting deferral for Incident Number nAPP2214759497, specifically deferring remediation of residual chloride-impacted soil in the vicinity of the wellhead until the well is plugged and abandoned (P&Ad) and the Site is reclaimed.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Roosevelt County, New Mexico (33.85189° N, 103.41567° W) and is associated with oil and gas exploration and production operations on private land owned by Mr. Roy Lee Criswell. **Figure 2 in Appendix A** depicts the Site.

AEC contracted with Ensolum to assess discolored soil identified east of the Site's temporarily abandoned (TA'd) wellhead. Based on delineation activities described below, AEC estimated a release of approximately 77 barrels (bbls) of produced water that likely emanated from a leaking stuffing box. The volume of fluids lost was estimated by calculated the volume of potentially contaminated soil and not based on known fluid loss or visual estimated on saturate soils. No fluids were recovered since no standing fluids or saturated soils was present when assessing the potential release. Following receipt of laboratory analytical results from the assessment activities, AEC notified the NMOCD via email and reported the release to the NMOCD on a Release Notification Form C-141 (Form C-141) on May 27, 2022. The release was assigned Incident Number nAPP2214759497.

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 in Appendix A**.

Depth to water beneath the the Site is estimated to be greater than 100 feet below ground surface (bgs) based on a data collected from New Mexico Office of the Stae Engineer (NMOSE) point of diversion (POD) boring POD 1 (C-00398), which was drilled on September 9, 2021. The total depth of the boring was 268 feet bgs and did not encounter a water bearing unit. The borehole is located approximately 4,357 feet north-northwest of the Site and therefore does not meet the NMOD guidance for reasonably estimating the depth to water beneath the Site. The Well Record and Log for POD 1 is included in **Appendix B**.

The closest continuously flowing or significant watercourse to the Site is greater than 300 feet away. 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).

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) 100 mg/kg
- Chloride: 600 mg/kg

SITE ASSESSMENT ACTIVITIES

On May 13, 2022, site assessment activities were conducted to evaluate the suspected release based on visual observations provided by NMOCD. Ensolum personnel advanced two boreholes (BH01 and BH02) via hand-auger within the discolored caliched area east of the TA'd wellhead to assess the vertical extent of soil conditions as they relate to potential contaminants and four boreholes (BH03 through BH06) outside of the discolored area for laterial delineation of potential contaminants. Discrete delineation soil samples were collected from the borehole and field screened for volatile aromatic hydrocarbons 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 lithologic/soil sampling logs, which which are included as **Appendix C**. The boreholes were backfilled with soil removed following sampling activities. The borehole and soil sample locations are depicted on **Figure 3 in Appendix A**. Photographic documentation was conducted during the Site visit. A photographic log is included in **Appendix D**.

The soil samples were collected from the highest field screened depths and the borehole terminuses and 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-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for the delineation soil samples from borehole BH01, BH02, and BH06 indicated chloride concentrations exceeded the Site Closure Criteria. Benzene, BTEX, and TPH

concentrations in all soil samples were compliant with the Closure Criteria. Laboratory analytical results depicted on **Figure 3 in Appendix A** and are summarized in **Table 1 in Appendix E**. The complete laboratory analytical report is included as **Appendix F**.

EXCAVATION ACTIVITIES

Based on soil analytical results from delineation activities, remediation of chloride-impacted soil appeared warranted. As such, Ensolum oversaw the excavation and proper disposal of impacted soil on June 10, 2022. Excavation activities were directed by previously failed soil sample and field screening results for volatile aromatic hydrocarbons and chloride. Upon identifying field screening results indicating impacted soils were adequately remediated, Ensolum proceeded to collect confirmation soil samples from the floor and sidewalls of the excavation. The total aerial extent of the excavation was approximately 2,509 square feet in size and an average depth of approximately 2.5 feet bgs with the excavation extending to approximately 4.5 feet bgs in the northern portion of the excavation, totaling approximately 2,509 cubic yards of impacted material removed from the Site.

Ensolum collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavations. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS13 were collected from the floor of the excavations at depths ranging from 2.5 feet to 4.5 feet bgs. Composite soil samples SW01 through SW05 was collected from the sidewalls at the ground surface to approximately 2.5 feet bgs. The excavation soil samples were collected, handled, and analyzed as described above. The excavation extents and excavation soil sample locations are presented on Figure 4. Photographic documentation of the excavation is presented in **Appendix D**.

Analytical results from confirmation soil samples collected on June 10, 2022 indicated chloride exceeded the Closure Criteria in soil samples FS08 at approximately 2.5 feet bgs, SW02 at approximately the ground surface to 2.5 feet bgs, and SW04 at approximately the ground surface to 2.5 feet bgs. Analytical results for the rest of the confirmation soil samples indicated concentrations of benzene, BTEX, TPH, and chloride were in compliance with the Closure Criteria. **Table 1 in Appendix E** summarizes confirmation soil analytical results.

Based on the June 10, 2022 analytical results, additional excavation of residual chloride-impacted soil appeared warranted. As such, Ensolum was onsite June 15, 2022 to complete excavation activities. Following field screening results indicating residual impacts were excavated from the Site, confirmation samples were collected in the comparable manner described above. With the expansion of the excavation, another confirmation floor sample (FS14) was collected at approximately 2.5 feet bgs in order to comply with NMOCD's confirmation sampling frequency requirement. Confirmation floor soil sample FS08 was resampled at approximately 4.5 feet bgs. Confirmation sidewall soil samples SW06 and SW07 were collected at the ground surface to approximately 2.5 feet bgs in along the western excavation extent.

The total excavation size extended to approximately 2,543 square feet with approximately 280 cubic yards excavated and properly disposed of at a New Mexico-permitted landfarm, specifically to the Gandy Marley, Inc. Commercial Landfill (NM-01-0019) located in Roswell, New Mexico.

Analytical results of all floor and sidewall confirmation soil samples indicated concentrations of benzene, BTEX, TPH, and chloride were in compliance with the Closure Criteria with the exception of sidewall confirmation soil sample SW06. **Table 1 in Appendix E** summarizes confirmation soil analytical results.

DEFERRAL ACTIVITIES

Due to the location of the western sidewall in proximity of the wellhead, it was deemed unsafe to excavate closer to the wellhead to remove soil containing 630 mg/kg of chloride at this time. As a result, Ensolum completed follow-up delineation activities to define the area to be deferred for remediation until the well is P&Ad and the pad is reclaimed. Ensolum oversaw delineation activities on July 11, 2022 utilizing mechanical equipment via backhoe to collect delineation soil samples west and north of the wellhead. Two pothole locations, PH01 and PH02, were advanced north and west of the wellhead, respectively, to a total depth of approximately 2.5 feet bgs. In addition, three surficial soil samples, SS01 through SS03, were collected to aid in delineating residual impacted soil. Field screening and sample handling was completed as described above.

Analytical results indicated concentrations of benzene, BTEX, TPH, and chloride in soil from pothole PH02 were in compliance with the Closure Criteria. Analytical results for pothole PH01 indicated chloride exceeded the Closure Criteria for chloride; however, analytical results from surficial soil samples SS01 through SS03, collected at 0.5 feet bgs on the north, west, and south sides of PH02, indicated concentrations of benzene, BTEX, TPH, and chloride were in compliance with the Closure Criteria. **Table 1 in Appendix E** summarizes confirmation soil analytical results.

Based on field activities, including soil samples that were analyzed, approximately 80 cubic yards of chloride impacted soil have been left in place due to the proximity to the wellhead. Due to the proximity of residual chloride-containing soil to the wellhead, safety concerns prohibit removal of all impacted soil. The area to be deferred will be fenced off to protect from cattle encountering the soil until the well is P&Ad and the pad is reclaimed. AEC is tentatively scheduled to P&A the well by the end of 2022.

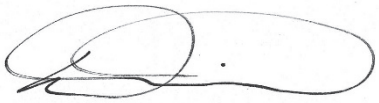
DEFERRAL REQUEST

In total, 280 cubic yards of chloride-impacted soil were excavated and properly disposed of at a New Mexico permitted landfill. Approximately 80 cubic yards of soil to a total depth of approximately 3 feet bgs is present at the Site near the wellhead. Remaining impacted soil has been delineated to the strictest Closure Criteria both laterally and vertically. It has been determined that the proximity of residual chloride-impacted soil to the wellhead presents a safety concern and based on AEC's plans to P&A the well by the end of the year, deferring the remaining remediation until that time. The residual impacted area will be fenced off until the well is P&Ad and the soil is remediated to limit potential exposure to nearby grazing cattle. At that time, residual chloride impacted soil will be excavated and disposed of at an approved New Mexico permitted landfill. Non-waste containing caliche has been stockpiled next to the excavation in preparation of backfilling the excavation.

Groundwater beneath the Site is estimated to be greater than 100 feet bgs, but the strictest Closure Criteria are being applied since there is no nearby water well data and reclamation is imminent. Remaining chloride concentrations range from 630 mg/kg to 2,610 mg/kg. The gross impacts have been removed from the Site via excavation and the limited residual impacts are in close proximity to the wellhead, preventing full excavation due to safety concerns. Based on excavation activities and existing delineation data, AEC respectfully requests deferral of final remedial actions for Incident Number nAPP2214759497 until the well is P&Ad and the pad is reclaimed.

If you have any questions or comments, please contact Mr. Daniel Moir at (303) 887-2946 or dmoir@ensolum.com.

Sincerely,
Ensolum, LLC



Daniel R. Moir, P.G.
Senior Managing Geologist

cc: Jeff Tew, Armstrong Energy Corporation
Roy Lee Criswell, private landowner

Appendices:

Appendix A Figures
- Figure 1 Site Receptor Map
- Figure 2 Site Map
- Figure 3 Delineation Soil Sample Locations
- Figure 4 Excavation Confirmation Soil Sample Locations

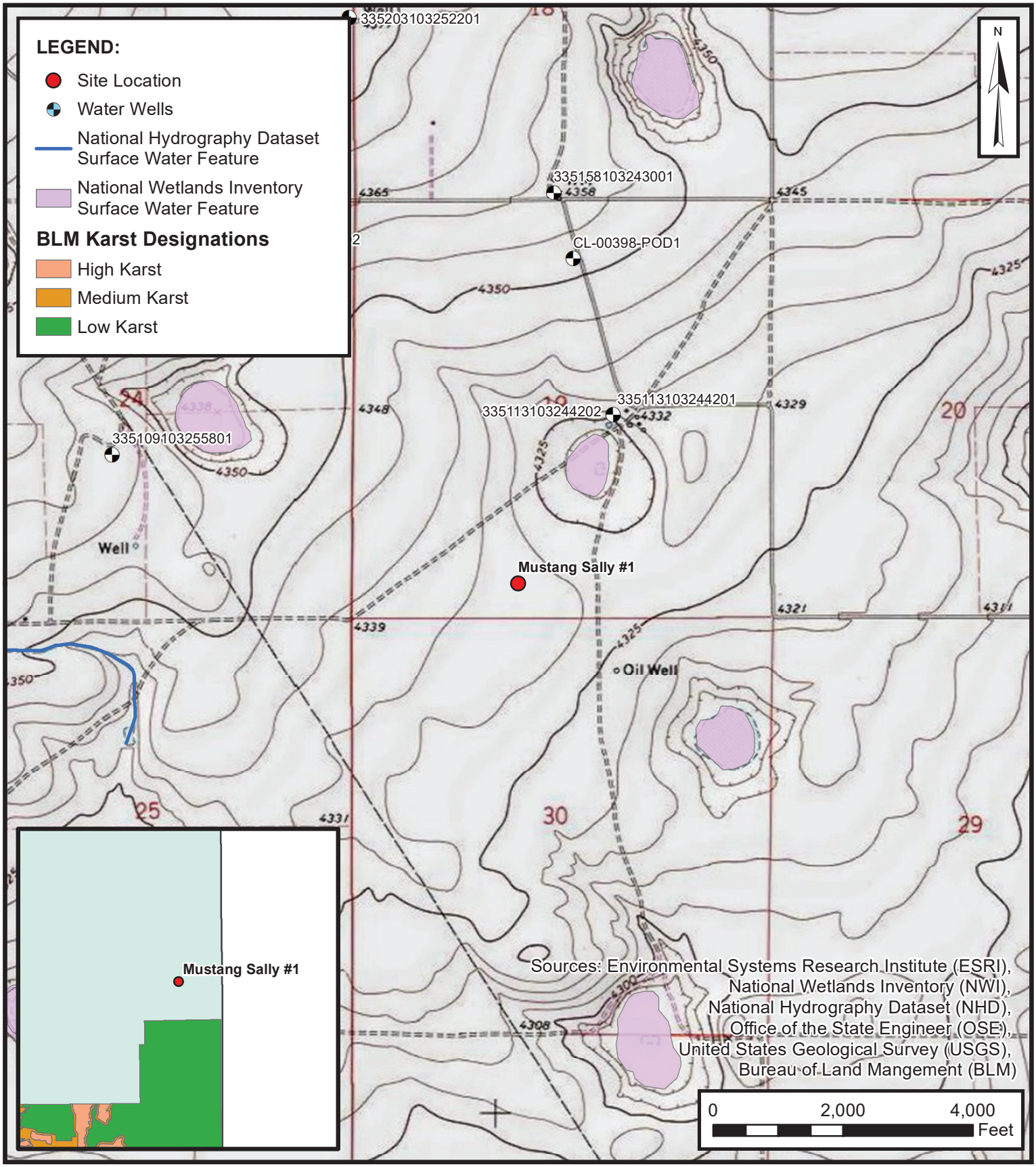
Appendix B Well Record and Log
Appendix C Lithologic Soil Sampling Logs
Appendix D Photographic Log
Appendix E Table
- Table 1 Soil Sample Analytical Results

Appendix F Laboratory Analytical Reports & Chain-of-Custody Documentation

ENSOLUM

APPENDIX A

Figures

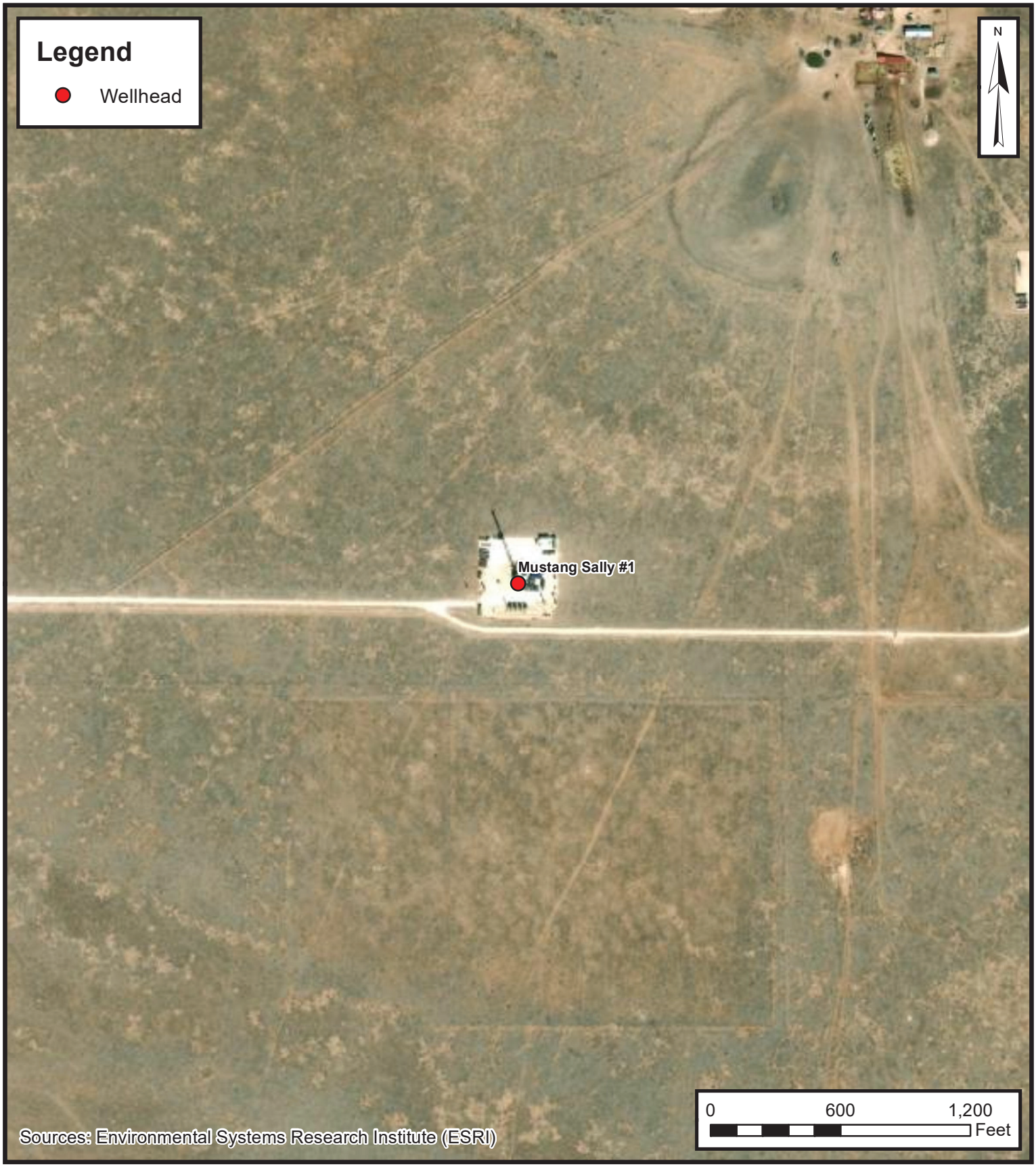


ENSOLUM
Environmental & Hydrogeologic Consultants

Site Receptor Map

Mustang Sally #1
Armstrong Energy Corporation
33.85189, -103.41567
Roosevelt County, NM

FIGURE
#1

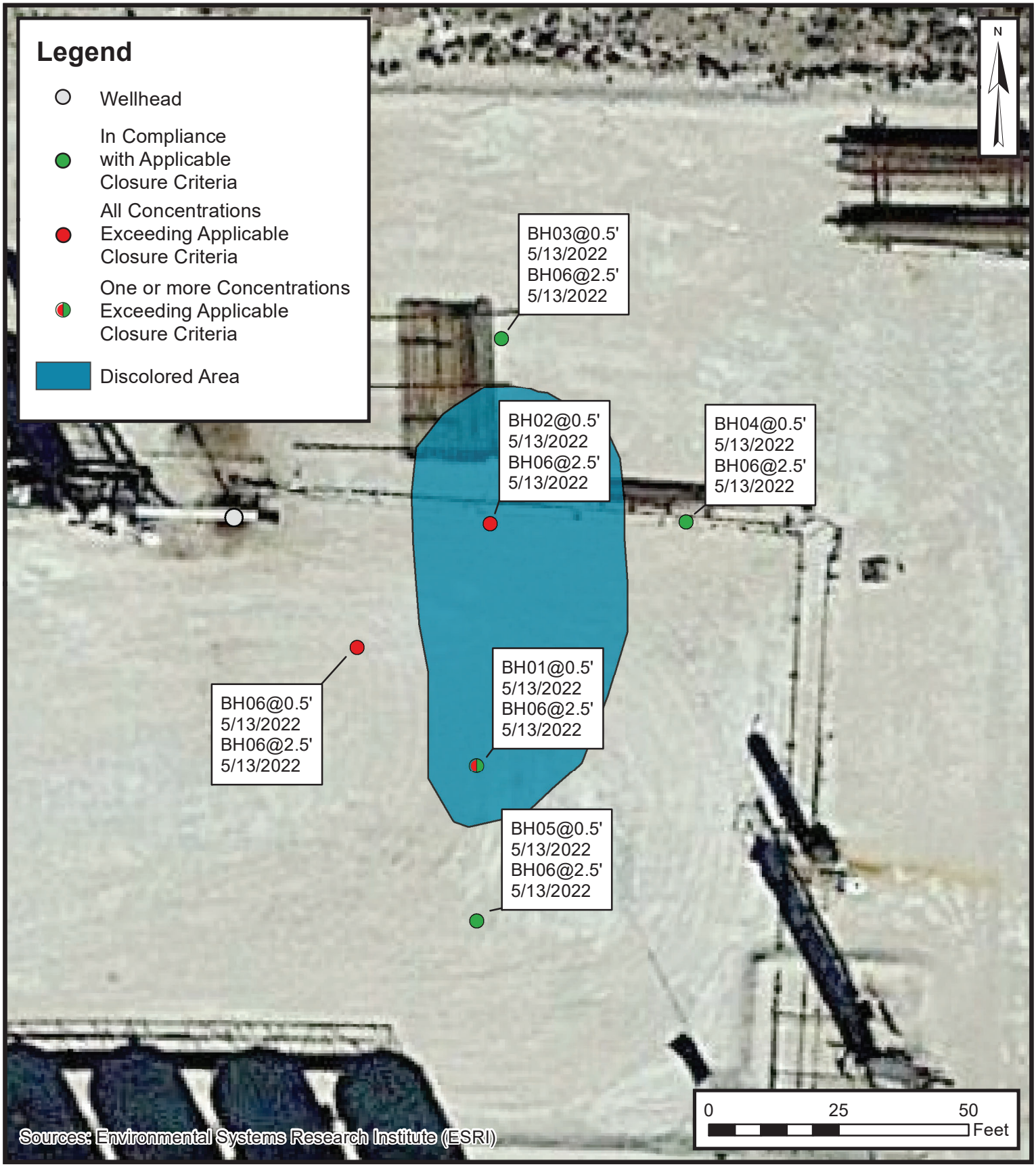


ENSOLUM
Environmental & Hydrogeologic Consultants

Site Map

Mustang Sally #1
Armstrong Energy Corporation
33.85189, -103.41567
Roosevelt County, NM

FIGURE
#2



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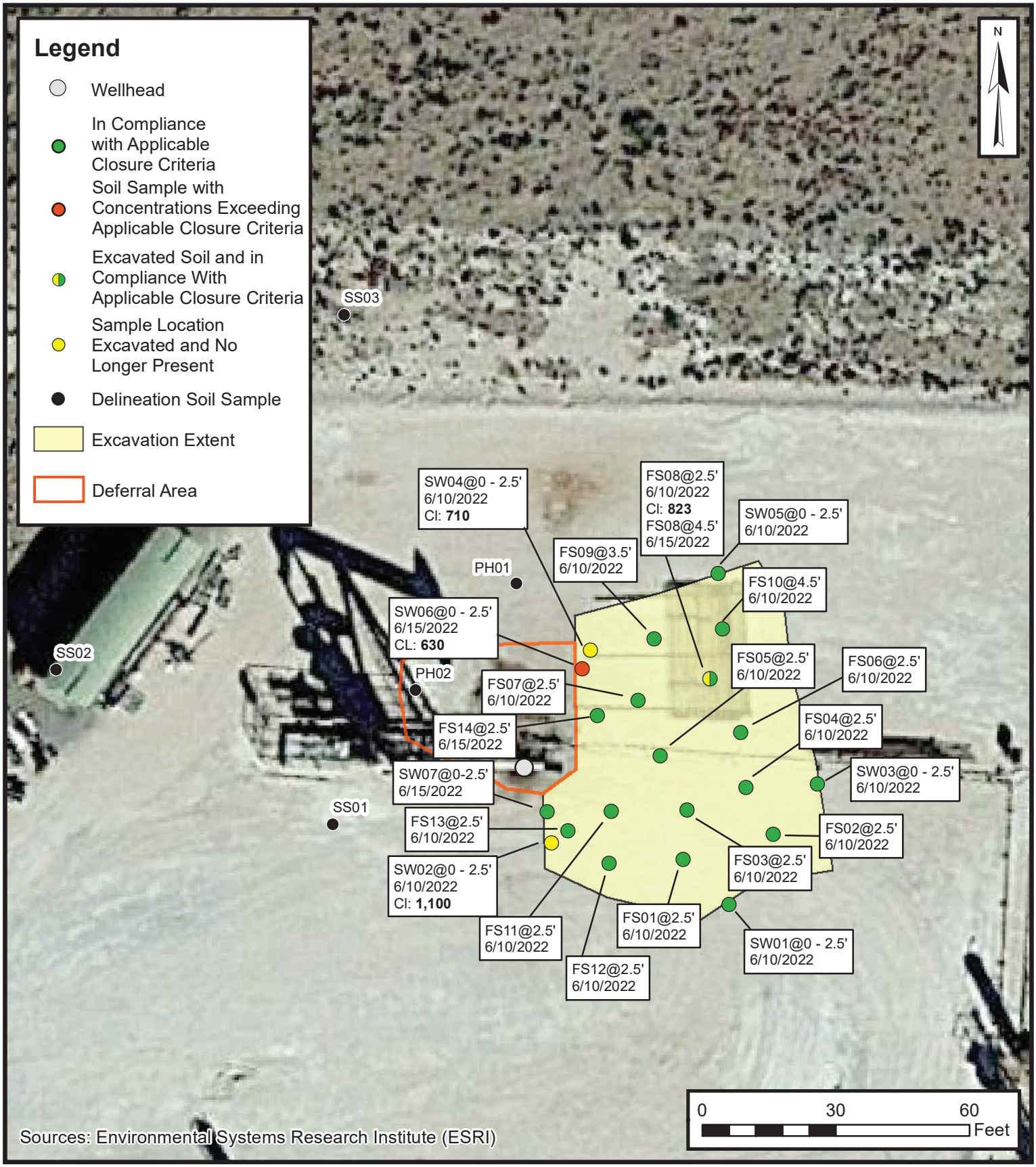
Delineation Soil Sample Location Map

Mustang Sally #1
Armstrong Energy Company
33.85189, -103.41567
Roosevelt County, NM

FIGURE
#3



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Environmental & Hydrogeologic Consultants

Excavation Confirmation Soil Sample Locations

Mustang Sally #1
Armstrong Energy Company
33.85189, -103.41567
Roosevelt County, NM

FIGURE
#4

ENSOLUM

APPENDIX B

Well Record and Log

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD 1	20F82	CL - 00398

WELL OWNER NAME(S)	PHONE (OPTIONAL)
ROY LEE CRISWELL	575-914-5755

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
2750 S. ROOSEVELT ROAD V	PEP	NM	88126

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	33	51	48.000000	N
	LONGITUDE	-103	24	49.900000	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHJIP, RANGE) WHERE AVAILABLE

NW 1/4 of SW 1/4 of NW 1/4 of NE 1/4 of Section 19, Township 05S, Range 34E

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1737	JUSTIN MULLINS	SHADE TREE DRILLING

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
9-19-21	9-21-21	N/A	268	N/A

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DRILLING FLUID: ☐ AIR ☑ MUD ADDITIVES – SPECIFY: DRILLED WITH FRESH WATER ONLY

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	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)
0	268	10.5	NO CASING INSTALLED				

OSE DII OCT 21 2021 PM2:52

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	20	10.50	BENTONITE HOLE PLUG	13	TOP POUR / HAND
20	268	10.50	CLEAN CUTTINGS	150	TOP POUR / HAND

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

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

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	2	2	Topsoil	Y ✔ N	
2	35	33	Caliche	Y ✔ N	
35	58	23	Sand & Gravel	Y ✔ N	
58	77	19	Sandstone & Gravel	Y ✔ N	
77	120	43	Grey Clay	Y ✔ N	
120	143	23	Red Clay	Y ✔ N	
143	195	52	Blue Clay	Y ✔ N	
195	218	23	Red Clay & Gravel	Y ✔ N	
218	258	40	Blue Clay & Gravel	Y ✔ N	
258	268	10	Red Clay	Y ✔ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☑ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: NO WATER WAS ENCOUNTERED AT ALL. ALL FORMATIONS THAT SHOULD HAVE HELD WATER WERE DRY. TEST PUMPED WITH 0 GPM YIELD. NO CASING IS INSTALLED AND THE WELL IS PROPERLY PLUGGED AND SEALED.

OSE DIT OCT 21 2021 PM2:52

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:
BENJAMIN LOEWEN

6. SIGNATURE

BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.

JUSTIN MULLINS — 9-21-21

Justin Mullins

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/2019)

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

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: BH01	Date: 5/13/2022
	Site Name: Mustang Sally #1	
	Incident Number: NAPP2135032531	
	Job Number: 09C2041001	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: DRM	Method: hand auger
Coordinates:	Hole Diameter: 2.5"	Total Depth:

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. 1.4 correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Time	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	caliche, fine-grained to coase-grained sand, silt and gravel, grayish-brown, little moist, slight discoloraion in top few inches, no odor
M	7,095	0.0	y	BH01@ 0.25'	0940	0.25		
M	3,461	0.0	n			0.5		
						0.75		
M	1,624	0.5	n			1	SM	Silty sand, fine-grained to coarse-grained, dark brown, moist, organics present, no staining
						1.25		
M	241	0.8	n	BH01@ 1.5'	0945	1.5		TD = 1.5 feet bgs
						1.75		
						2		
						2.25		
						2.5		
						2.75		
						3		

ENSOLUM

	Sample Name: BH02	Date: 5/13/2022
	Site Name: Mustang Sally #1	
	Incident Number: NAPP2135032531	
	Job Number: 09C2041001	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: DRM	Method: hand auger
Coordinates:	Hole Diameter: 2.5"	Total Depth:

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. 1.4 correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Time	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	caliche, fine-grained to coase-grained sand, silt and gravel, grayish-brown, little moist, slight discoloraion in top few inches, no odor
						0.25		
M	6,076	0.3	y	BH02A @0.5'	0947	0.5	SM	Silty sand, fine-grained to coarse-grained, dark brown, moist, organics present, no staining
						0.75		
M	4,430	0.8	n			1		
						1.25		
M	4,430	0.7	n			1.5		
						1.75		
						2		
						2.25		
M	572	1.0	n	BH02B @2.5'	0952	2.5		
						2.75		
						3		TD = 2.5 feet bgs

ENSOLUM	Sample Name: BH03	Date: 5/13/2022
	Site Name: Mustang Sally #1	
	Incident Number: NAPP2135032531	
	Job Number: 09C2041001	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: DRM	Method: hand auger
Coordinates:	Hole Diameter: 2.5"	Total Depth:

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. 1.4 correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Time	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	caliche, fine-grained to coase-grained sand, silt and gravel, grayish-brown, little moist, no odor or staining
	M	241	1	n	BH03A @0.5'	0.25		
						0.5		
						0.75	SM	Silty sand, fine-grained to coarse-grained, dark brown, moist, organics present, no staining
						1		
						1.25		
M	202	1.4	n			1.5		
						1.75		
						2		
						2.25		
M	<168	0.1	n	BH03B @2.5'	1045	2.5		
						2.75		
						3		TD = 2.5 feet bgs

ENSOLUM

	Sample Name: BH04	Date: 5/13/2022
	Site Name: Mustang Sally #1	
	Incident Number: NAPP2135032531	
	Job Number: 09C2041001	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: DRM	Method: hand auger
Coordinates:	Hole Diameter: 2.5"	Total Depth:

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. 1.4 correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Time	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	<168	1.8	n	BH04A @0.5'	1050	0 – 0.5	CCHE	caliche, fine-grained to coase-grained sand, silt and gravel, grayish-brown, little moist, no odor or staining
M	<168	0.0	n			0.5 – 2.25	SM	Silty sand, fine-grained to coarse-grained, dark brown, moist, organics present, no staining
M	<168	0.7	n	BH04B @2.5"	1055	2.25 – 3		TD = 2.5 feet bgs

ENSOLUM

	Sample Name: BH05	Date: 5/13/2022
	Site Name: Mustang Sally #1	
	Incident Number: NAPP2135032531	
	Job Number: 09C2041001	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: DRM	Method: hand auger
Coordinates:	Hole Diameter: 2.5"	Total Depth:

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. 1.4 correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Time	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	<168	1.0	n	BH05A @0.5'	1115	0	CCHE	caliche, fine-grained to coase-grained sand, silt and gravel, grayish-brown, little moist, no odor or staining
						0.25		
						0.5		
						0.75	SM	Silty sand, fine-grained to coarse-grained, dark brown, moist, organics present, no staining
						1		
						1.25		
M	<168	0.5	n			1.5		
						1.75		
						2		
						2.25		
M	<168	0.6	n	BH05B @2.5'	1120	2.5		
						2.75		
						3		TD = 2.5 feet bgs

ENSOLUM

	Sample Name: BH06	Date: 5/13/2022
	Site Name: Mustang Sally #1	
	Incident Number: NAPP2135032531	
	Job Number: 09C2041001	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: DRM	Method: hand auger
Coordinates:	Hole Diameter: 2.5"	Total Depth:

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. 1.4 correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Time	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	caliche, fine-grained to coase-grained sand, silt and gravel, grayish-brown, little moist, no odor or staining
M	572	0.4	n	BH06A @0.5'	1155	0.25 0.5		
						0.75	SM	Silty sand, fine-grained to coarse-grained, dark brown, moist, organics present, no staining
						1		
						1.25		
M	476	0.1	n			1.5		
						1.75		
						2		
						2.25		
M	476	0.8	n	BH06B @2.5'	1200	2.5		
						2.75		
						3		TD = 2.5 feet bgs

ENSOLUM

APPENDIX D

Photographic Log

ENSOLUM

Photographic Log
Armstrong Energy Corporation
Mustang Sally #1
Incident Number nAPP2214759497
Ensolum Job Number: 09C2041001

Photograph 1
Date: 5/10/2022 - wellhead (left), discolored soil (center), view north)

Photograph 2
Date: 5/10/2022 - wellhead and discolored soil in front, view west

Photograph 3
Date: 6/10/2022 - pre-excavation preparation, view northwest

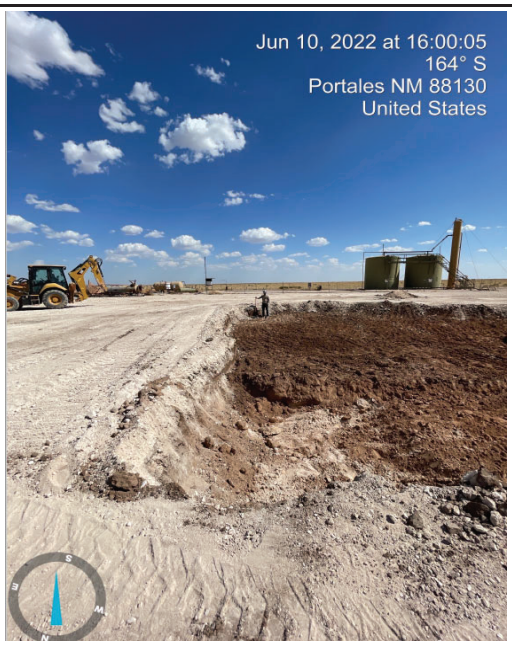
Photograph 4
Date: 6/10/2022 - excavation progress, view north

ENSOLUM

Photographic Log
Armstrong Energy Corporation
Mustang Sally #1
Incident Number nAPP2214759497
Ensolum Job Number: 09C2041001

Photograph 5
Date: 6/10/202 - final excavation, southeastern excavation extent - first view, view south

Photograph 6
Date: 6/10/2022 - final excavation, southeastern excavation extent - second view, view south



Photograph 7
Date: 6/10/2022 - final excavation, southeastern excavation extent - third view, view south

Photograph 8
Date: 6/10/2022 - final excavation, northeastern excavation extent - first view, view northeast

ENSOLUM

Photographic Log
Armstrong Energy Corporation
Mustang Sally #1
Incident Number nAPP2214759497
Ensolum Job Number: 09C2041001

Photograph 9
Date: 6/10/2022 - final excavation, northeast excavation extent - second view, view northeast

Photograph 10
Date: 6/10/2022 - final excavation, northeastern excavation extent - third view, northwestern excavation extent - first view, view north

Photograph 11
Date: 6/10/2022 - final excavation, northwestern excavation extent - second view, view northeast

Photograph 12
Date: 6/10/2022 - final excavation, northwestern excavation extent - third view, view east

ENSOLUM

Photographic Log
Armstrong Energy Corporation
Mustang Sally #1
Incident Number nAPP2214759497
Ensolum Job Number: 09C2041001

Photograph 1
Date: 6/10/2022 - final excavation, southwestern excavation extent - first view, view north

Photograph 2
Date: 6/10/2022 - final excavation, southwestern excavation extent, second view, view north

Photograph 3
Date: 6/10/2022 - final excavation, southwestern excavation extent, third view, view west

Photograph 4
Date: 6/10/2022 - final excavation fenced off, view west-northwest

ENSOLUM

APPENDIX E

Table

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Armstrong Energy Corporation - Mustang Sally #001
Roosevelt County, New Mexico

Ensolum Project No. 09C2041001

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total TPH (GRO+DRO+MRO) (mg/kg)	Chloride (mg/kg)
NMOCD Closure Criteria for Soils Impacted by a Release (Groundwater <50 feet)			**10**	NE	NE	NE	**50**	NE	NE	NE	**100**	**600**
Delineation Soil Sample Analytical Results												
BH01	5/13/2022	0.25	<0.00200	<0.00200	<0.00200	<0.00400	<0.00400	<49.9	<49.9	<49.9	<49.9	**2,910**
BH01	5/13/2022	1.5	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	<49.8	<49.8	<49.8	<49.8	252
BH02	5/13/2022	0.5	<0.00202	<0.00202	<0.00202	<0.00404	<0.00404	<50.0	<50.0	<50.0	<50.0	**7,200**
BH02	5/13/2022	2.5	<0.00202	<0.00202	<0.00202	<0.00403	<0.00403	<49.9	<49.9	<49.9	<49.9	**960**
BH03	5/13/2022	0.5	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	<50.0	<50.0	<50.0	<50.0	368
BH03	5/13/2022	2.5	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<49.9	<49.9	<49.9	<49.9	265
BH04	5/13/2022	0.5	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<49.9	<49.9	<49.9	<49.9	71.1
BH04	5/13/2022	2.5	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	<49.9	<49.9	<49.9	<49.9	72.4
BH05	5/13/2022	0.5	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	<49.9	<49.9	<49.9	<49.9	108
BH05	5/13/2022	2.5	<0.00198	<0.00198	<0.00198	<0.00396	<0.00396	<50.0	<50.0	<50.0	<50.0	26.5
BH06	5/13/2022	0.5	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<49.9	<49.9	<49.9	<49.9	**1,310**
BH06	5/13/2022	2.5	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	<50.0	<50.0	<50.0	<50.0	**740**
PH01	7/11/2022	0.5	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<50.0	<50.1	<50.2	<50.3	427
PH01A	7/11/2022	3	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	<49.9	<49.9	<49.9	<49.9	216
PH02	7/11/2022	0.5	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	<49.8	<49.8	<49.8	<49.8	**2,610**
PH02A	7/11/2022	3	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	<49.9	<49.9	<49.9	<49.9	**867**
SS01	7/11/2022	0.5	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<50.0	<50.0	<50.0	<50.0	395
SS02	7/11/2022	0.5	<0.00200	<0.00200	<0.00200	<0.00400	<0.00400	<50.0	<50.0	<50.0	<50.0	268
SS03	7/11/2022	0.5	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<50.0	<50.0	<50.0	<50.0	407
Excavation Confirmation Soil Sample Analytical Results												
FS01	6/10/2022	2.5	<0.00200	<0.00200	<0.00200	0.0102	0.0102	<49.9	<49.9	<49.9	<49.9	93.4
FS02	6/10/2022	2.5	<0.00199	<0.00199	<0.00199	0.0172	0.0172	<49.9	<49.9	<49.9	<49.9	49.2
FS03	6/10/2022	2.5	<0.00200	<0.00200	<0.00200	0.0121	0.0121	<50.0	<50.0	<50.0	<50.0	126
FS04	6/10/2022	2.5	<0.00201	<0.00201	<0.00201	0.0111	0.0111	<49.9	<49.9	<49.9	<49.9	88.7
FS05	6/10/2022	2.5	<0.00202	<0.00202	<0.00202	0.0152	0.0152	<50.0	<50.0	<50.0	<50.0	248
FS06	6/10/2022	2.5	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	<49.9	<49.9	<49.9	<49.9	169
FS07	6/10/2022	2.5	<0.00199	<0.00199	<0.00199	0.0041	0.0041	<50.0	<50.0	<50.0	<50.0	217
FS08	6/10/2022	2.5	<0.00200	<0.00200	<0.00200	0.00506	0.00506	<50.0	<50.0	<50.0	<50.0	**823**
FS08	6/15/2022	4	<0.00200	<0.00200	<0.00200	<0.00400	<0.00400	<49.8	<49.8	<49.8	<49.8	275
FS09	6/10/2022	3.5	<0.00199	<0.00199	<0.00199	0.00532	0.00532	<50.0	<50.0	<50.0	<50.0	250
FS10	6/10/2022	4.5	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<49.9	<49.9	<49.9	<49.9	121
FS11	6/10/2022	2.5	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	<49.9	<49.9	<49.9	<49.9	208
FS12	6/10/2022	2.5	<0.00201	<0.00201	<0.00201	0.00449	0.00449	<49.9	<49.9	<49.9	<49.9	158
FS13	6/10/2022	2.5	<0.00202	<0.00202	<0.00202	0.0124	0.0124	<50.0	<50.0	<50.0	<50.0	92.6
FS14	6/15/2022	2.5	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	<50.0	<50.0	<50.0	<50.0	128
SW01	6/10/2022	0 - 2.5	<0.00200	<0.00200	<0.00200	0.0106	0.0106	<50.0	<50.0	<50.0	<50.0	127
SW02	6/10/2022	0 - 2.5	<0.00199	<0.00199	<0.00199	0.00708	0.00708	<50.0	53.4	<50.0	53.4	**1,100**
SW03	6/10/2022	0 - 2.5	<0.00199	<0.00199	<0.00199	0.0135	0.0135	<50.0	<50.0	<50.0	<50.0	199
SW04	6/10/2022	0 - 2.5	<0.00199	<0.00199	<0.00199	0.0147	0.0147	<50.0	<50.0	<50.0	<50.0	**710**
SW05	6/10/2022	0 - 2.5	<0.00202	<0.00202	<0.00202	0.0116	0.0116	<50.0	<50.0	<50.0	<50.0	384
SW06	6/15/2022	0 - 2.5	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	<49.9	<49.9	<49.9	<49.9	**630**
SW07	06/15/2022	0 - 2.5	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<50.0	<50.0	<50.0	<50.0	453

Notes:

bgs: below ground surface

J: The target analyte was positively identified below the quantitation limit and above the detection limit.

mg/kg: milligrams per kilogram

NA: Not Applicable

NE: Not Established

NS: Not Sampled

NMOCD: New Mexico Oil Conservation Division

PID: Photoionization Detector

ppm: parts per million

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

MRO: Motor Oil/Lube Oil Range Organics

TPH: Total Petroleum Hydrocarbon

<49.9: indicates result less than the stated laboratory reporting limit (RL)

*Concentrations in **bold** and shaded exceed the New Mexico Oil Conservation Division Table 1 Closure Criteria for Soils Impacted by a Release*

gray text indicates soil has been excavated and is not present in the location

ENSOLUM

APPENDIX F

Laboratory Analytical Reports & Chain-of-Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2311-1
Laboratory Sample Delivery Group: Roosevelt County NM
Client Project/Site: Mustang Sally #1

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

Attn: Daniel Moir

JKramer

Authorized for release by:
5/19/2022 11:18:35 AM

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

Client: Ensolum
Project/Site: Mustang Sally #1

Laboratory Job ID: 890-2311-1
SDG: Roosevelt County NM

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2311-1
Project/Site: Mustang Sally #1 SDG: Roosevelt County NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
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: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Job ID: 890-2311-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2311-1

Receipt
The samples were received on 5/13/2022 2:50 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-25650 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.

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-25651 and analytical batch 880-25672 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
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: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Client Sample ID: BH01A
Date Collected: 05/13/22 09:40
Date Received: 05/13/22 14:50
Sample Depth: 0.25

Lab Sample ID: 890-2311-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:49	05/18/22 05:15	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:49	05/18/22 05:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:49	05/18/22 05:15	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/16/22 15:49	05/18/22 05:15	1
o-Xylene	<0.00200	U *-	0.00200		mg/Kg		05/16/22 15:49	05/18/22 05:15	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/16/22 15:49	05/18/22 05:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*05/16/22 15:49*	*05/18/22 05:15*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*05/16/22 15:49*	*05/18/22 05:15*	*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			05/18/22 09:14	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			05/18/22 08:44	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		05/17/22 09:20	05/17/22 18:16	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/17/22 09:20	05/17/22 18:16	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/17/22 09:20	05/17/22 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*05/17/22 09:20*	*05/17/22 18:16*	*1*
o-Terphenyl	*120*		*70 - 130*	*05/17/22 09:20*	*05/17/22 18:16*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2910**		25.1		mg/Kg			05/18/22 14:52	5

Client Sample ID: BH01B
Date Collected: 05/13/22 09:45
Date Received: 05/13/22 14:50
Sample Depth: 1.5

Lab Sample ID: 890-2311-2
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		05/16/22 15:49	05/18/22 05:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:49	05/18/22 05:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:49	05/18/22 05:35	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		05/16/22 15:49	05/18/22 05:35	1
o-Xylene	<0.00200	U *-	0.00200		mg/Kg		05/16/22 15:49	05/18/22 05:35	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		05/16/22 15:49	05/18/22 05:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*05/16/22 15:49*	*05/18/22 05:35*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Client Sample ID: BH01B

Date Collected: 05/13/22 09:45
Date Received: 05/13/22 14:50
Sample Depth: 1.5

Lab Sample ID: 890-2311-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*05/16/22 15:49*	*05/18/22 05:35*	*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			05/18/22 09:14	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			05/18/22 08:44	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		05/17/22 09:20	05/17/22 18:39	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		05/17/22 09:20	05/17/22 18:39	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		05/17/22 09:20	05/17/22 18:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*05/17/22 09:20*	*05/17/22 18:39*	*1*
o-Terphenyl	*109*		*70 - 130*	*05/17/22 09:20*	*05/17/22 18:39*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**252**		4.98	mg/Kg			05/18/22 15:20	1

Client Sample ID: BH02A

Date Collected: 05/13/22 09:47
Date Received: 05/13/22 14:50
Sample Depth: 0.5

Lab Sample ID: 890-2311-3
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		05/16/22 15:49	05/18/22 05:56	1
Toluene	<0.00202	U	0.00202	mg/Kg		05/16/22 15:49	05/18/22 05:56	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		05/16/22 15:49	05/18/22 05:56	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		05/16/22 15:49	05/18/22 05:56	1
o-Xylene	<0.00202	U *-	0.00202	mg/Kg		05/16/22 15:49	05/18/22 05:56	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		05/16/22 15:49	05/18/22 05:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*05/16/22 15:49*	*05/18/22 05:56*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*05/16/22 15:49*	*05/18/22 05:56*	*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			05/18/22 09:14	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			05/18/22 08:44	1

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Client Sample Results

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Client Sample ID: BH02A
Date Collected: 05/13/22 09:47
Date Received: 05/13/22 14:50
Sample Depth: 0.5

Lab Sample ID: 890-2311-3
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		05/17/22 09:20	05/17/22 19:01	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/17/22 09:20	05/17/22 19:01	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/17/22 09:20	05/17/22 19:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*05/17/22 09:20*	*05/17/22 19:01*	*1*
o-Terphenyl	*111*		*70 - 130*	*05/17/22 09:20*	*05/17/22 19:01*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7200		50.5		mg/Kg			05/18/22 15:29	10

Client Sample ID: BH02B
Date Collected: 05/13/22 09:52
Date Received: 05/13/22 14:50
Sample Depth: 2.5

Lab Sample ID: 890-2311-4
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		05/16/22 15:49	05/18/22 06:16	1
Toluene	<0.00202	U	0.00202		mg/Kg		05/16/22 15:49	05/18/22 06:16	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		05/16/22 15:49	05/18/22 06:16	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		05/16/22 15:49	05/18/22 06:16	1
o-Xylene	<0.00202	U *-	0.00202		mg/Kg		05/16/22 15:49	05/18/22 06:16	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		05/16/22 15:49	05/18/22 06:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*05/16/22 15:49*	*05/18/22 06:16*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*05/16/22 15:49*	*05/18/22 06:16*	*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			05/18/22 09:14	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			05/18/22 08:44	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		05/17/22 09:20	05/17/22 19:26	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/17/22 09:20	05/17/22 19:26	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/17/22 09:20	05/17/22 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*05/17/22 09:20*	*05/17/22 19:26*	*1*
o-Terphenyl	*100*		*70 - 130*	*05/17/22 09:20*	*05/17/22 19:26*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Client Sample ID: BH02B
Date Collected: 05/13/22 09:52
Date Received: 05/13/22 14:50
Sample Depth: 2.5

Lab Sample ID: 890-2311-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	960		25.0		mg/Kg			05/18/22 15:38	5

Client Sample ID: BH03A
Date Collected: 05/13/22 10:40
Date Received: 05/13/22 14:50
Sample Depth: 0.5

Lab Sample ID: 890-2311-5
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		05/16/22 15:49	05/18/22 06:37	1
Toluene	<0.00201	U	0.00201		mg/Kg		05/16/22 15:49	05/18/22 06:37	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		05/16/22 15:49	05/18/22 06:37	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		05/16/22 15:49	05/18/22 06:37	1
o-Xylene	<0.00201	U *-	0.00201		mg/Kg		05/16/22 15:49	05/18/22 06:37	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		05/16/22 15:49	05/18/22 06:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*05/16/22 15:49*	*05/18/22 06:37*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*05/16/22 15:49*	*05/18/22 06:37*	*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			05/18/22 09:14	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			05/18/22 08:44	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		05/17/22 09:20	05/17/22 19:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/17/22 09:20	05/17/22 19:51	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/17/22 09:20	05/17/22 19:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*05/17/22 09:20*	*05/17/22 19:51*	*1*
o-Terphenyl	*113*		*70 - 130*	*05/17/22 09:20*	*05/17/22 19:51*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	368		4.95		mg/Kg			05/18/22 15:47	1

Client Sample Results

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Client Sample ID: BH03B

Date Collected: 05/13/22 10:45
Date Received: 05/13/22 14:50
Sample Depth: 2.5

Lab Sample ID: 890-2311-6

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		05/16/22 15:49	05/18/22 06:57	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/16/22 15:49	05/18/22 06:57	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/16/22 15:49	05/18/22 06:57	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/16/22 15:49	05/18/22 06:57	1
o-Xylene	<0.00199	U *-	0.00199		mg/Kg		05/16/22 15:49	05/18/22 06:57	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/16/22 15:49	05/18/22 06:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*05/16/22 15:49*	*05/18/22 06:57*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*05/16/22 15:49*	*05/18/22 06:57*	*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			05/18/22 09:14	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			05/18/22 08:44	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		05/17/22 09:20	05/17/22 20:17	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/17/22 09:20	05/17/22 20:17	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/17/22 09:20	05/17/22 20:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*05/17/22 09:20*	*05/17/22 20:17*	*1*
o-Terphenyl	*117*		*70 - 130*	*05/17/22 09:20*	*05/17/22 20:17*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**265**		4.97		mg/Kg			05/18/22 16:15	1

Client Sample ID: BH04A

Date Collected: 05/13/22 10:50
Date Received: 05/13/22 14:50
Sample Depth: 1.5

Lab Sample ID: 890-2311-7

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		05/16/22 15:49	05/18/22 07:18	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/16/22 15:49	05/18/22 07:18	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/16/22 15:49	05/18/22 07:18	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/16/22 15:49	05/18/22 07:18	1
o-Xylene	<0.00199	U *-	0.00199		mg/Kg		05/16/22 15:49	05/18/22 07:18	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/16/22 15:49	05/18/22 07:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*05/16/22 15:49*	*05/18/22 07:18*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Client Sample ID: BH04A

Date Collected: 05/13/22 10:50
Date Received: 05/13/22 14:50
Sample Depth: 1.5

Lab Sample ID: 890-2311-7

Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*05/16/22 15:49*	*05/18/22 07:18*	*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			05/18/22 09:14	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			05/18/22 08:44	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		05/17/22 09:20	05/17/22 20:43	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		05/17/22 09:20	05/17/22 20:43	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/17/22 09:20	05/17/22 20:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*99*		*70 - 130*	*05/17/22 09:20*	*05/17/22 20:43*	*1*
o-Terphenyl	*105*		*70 - 130*	*05/17/22 09:20*	*05/17/22 20:43*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**71.1**		5.00	mg/Kg			05/18/22 16:24	1

Client Sample ID: BH05A

Date Collected: 05/13/22 11:20
Date Received: 05/13/22 14:50
Sample Depth: 0.5

Lab Sample ID: 890-2311-8

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		05/16/22 15:49	05/18/22 07:38	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/16/22 15:49	05/18/22 07:38	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/16/22 15:49	05/18/22 07:38	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		05/16/22 15:49	05/18/22 07:38	1
o-Xylene	<0.00200	U *-	0.00200	mg/Kg		05/16/22 15:49	05/18/22 07:38	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/16/22 15:49	05/18/22 07:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*05/16/22 15:49*	*05/18/22 07:38*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*05/16/22 15:49*	*05/18/22 07:38*	*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			05/18/22 09:14	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			05/18/22 08:44	1

Client Sample Results

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Client Sample ID: BH05A

Date Collected: 05/13/22 11:20
Date Received: 05/13/22 14:50
Sample Depth: 0.5

Lab Sample ID: 890-2311-8

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	<49.9	U	49.9		mg/Kg		05/17/22 09:20	05/17/22 21:08	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/17/22 09:20	05/17/22 21:08	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/17/22 09:20	05/17/22 21:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*05/17/22 09:20*	*05/17/22 21:08*	*1*
o-Terphenyl	*118*		*70 - 130*	*05/17/22 09:20*	*05/17/22 21:08*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	108		4.95		mg/Kg			05/18/22 16:33	1

Client Sample ID: BH05B

Date Collected: 05/13/22 12:00
Date Received: 05/13/22 14:50
Sample Depth: 2.5

Lab Sample ID: 890-2311-9

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		05/16/22 15:49	05/18/22 07:58	1
Toluene	<0.00198	U	0.00198		mg/Kg		05/16/22 15:49	05/18/22 07:58	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		05/16/22 15:49	05/18/22 07:58	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		05/16/22 15:49	05/18/22 07:58	1
o-Xylene	<0.00198	U *-	0.00198		mg/Kg		05/16/22 15:49	05/18/22 07:58	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		05/16/22 15:49	05/18/22 07:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*05/16/22 15:49*	*05/18/22 07:58*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*05/16/22 15:49*	*05/18/22 07:58*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			05/18/22 09:14	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			05/18/22 08:44	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		05/17/22 09:20	05/17/22 21:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/17/22 09:20	05/17/22 21:56	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/17/22 09:20	05/17/22 21:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*05/17/22 09:20*	*05/17/22 21:56*	*1*
o-Terphenyl	*118*		*70 - 130*	*05/17/22 09:20*	*05/17/22 21:56*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Client Sample ID: BH05B
Date Collected: 05/13/22 12:00
Date Received: 05/13/22 14:50
Sample Depth: 2.5

Lab Sample ID: 890-2311-9
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26.5		5.04		mg/Kg			05/18/22 16:43	1

Client Sample ID: BH04B
Date Collected: 05/13/22 10:55
Date Received: 05/13/22 14:50
Sample Depth: 2.5

Lab Sample ID: 890-2311-10
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U F1 F2	0.00201		mg/Kg		05/16/22 15:47	05/17/22 23:35	1
Toluene	<0.00201	U F1 F2	0.00201		mg/Kg		05/16/22 15:47	05/17/22 23:35	1
Ethylbenzene	<0.00201	U F1 F2	0.00201		mg/Kg		05/16/22 15:47	05/17/22 23:35	1
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.00402		mg/Kg		05/16/22 15:47	05/17/22 23:35	1
o-Xylene	<0.00201	U F1 F2	0.00201		mg/Kg		05/16/22 15:47	05/17/22 23:35	1
Xylenes, Total	<0.00402	U F1 F2	0.00402		mg/Kg		05/16/22 15:47	05/17/22 23:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*05/16/22 15:47*	*05/17/22 23:35*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*05/16/22 15:47*	*05/17/22 23:35*	*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			05/18/22 09:14	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			05/18/22 08:44	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		05/17/22 09:20	05/17/22 22:21	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/17/22 09:20	05/17/22 22:21	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/17/22 09:20	05/17/22 22:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*05/17/22 09:20*	*05/17/22 22:21*	*1*
o-Terphenyl	*93*		*70 - 130*	*05/17/22 09:20*	*05/17/22 22:21*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	72.4		4.99		mg/Kg			05/18/22 16:52	1

Client Sample Results

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Client Sample ID: BH06A

Date Collected: 05/13/22 11:55
Date Received: 05/13/22 14:50
Sample Depth: 0.5

Lab Sample ID: 890-2311-11
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		05/16/22 15:47	05/17/22 23:56	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/16/22 15:47	05/17/22 23:56	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/16/22 15:47	05/17/22 23:56	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/16/22 15:47	05/17/22 23:56	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/16/22 15:47	05/17/22 23:56	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/16/22 15:47	05/17/22 23:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*05/16/22 15:47*	*05/17/22 23:56*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*05/16/22 15:47*	*05/17/22 23:56*	*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			05/18/22 09:14	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			05/18/22 08:44	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		05/17/22 09:20	05/17/22 22:45	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/17/22 09:20	05/17/22 22:45	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/17/22 09:20	05/17/22 22:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*05/17/22 09:20*	*05/17/22 22:45*	*1*
o-Terphenyl	*102*		*70 - 130*	*05/17/22 09:20*	*05/17/22 22:45*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1310**		24.8		mg/Kg			05/18/22 17:01	5

Client Sample ID: BH06B

Date Collected: 05/13/22 12:00
Date Received: 05/13/22 14:50
Sample Depth: 2.5

Lab Sample ID: 890-2311-12
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		05/16/22 15:47	05/18/22 00:16	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:47	05/18/22 00:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:47	05/18/22 00:16	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		05/16/22 15:47	05/18/22 00:16	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:47	05/18/22 00:16	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		05/16/22 15:47	05/18/22 00:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*05/16/22 15:47*	*05/18/22 00:16*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Client Sample ID: BH06B

Date Collected: 05/13/22 12:00
Date Received: 05/13/22 14:50
Sample Depth: 2.5

Lab Sample ID: 890-2311-12

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*05/16/22 15:47*	*05/18/22 00:16*	*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			05/18/22 09:14	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			05/18/22 08:44	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		05/17/22 09:20	05/17/22 23:08	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/17/22 09:20	05/17/22 23:08	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/17/22 09:20	05/17/22 23:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*05/17/22 09:20*	*05/17/22 23:08*	*1*
o-Terphenyl	*115*		*70 - 130*	*05/17/22 09:20*	*05/17/22 23:08*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**740**		5.00		mg/Kg			05/18/22 17:29	1

Surrogate Summary

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

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)
880-14744-A-21-C MS	Matrix Spike	101	102
880-14744-A-21-D MSD	Matrix Spike Duplicate	105	102
890-2311-1	BH01A	105	91
890-2311-2	BH01B	103	98
890-2311-3	BH02A	109	92
890-2311-4	BH02B	108	96
890-2311-5	BH03A	109	97
890-2311-6	BH03B	105	97
890-2311-7	BH04A	117	95
890-2311-8	BH05A	113	95
890-2311-9	BH05B	102	97
890-2311-10	BH04B	109	95
890-2311-10 MS	BH04B	102	92
890-2311-10 MSD	BH04B	107	97
890-2311-11	BH06A	108	97
890-2311-12	BH06B	110	98
LCS 880-25650/1-A	Lab Control Sample	101	98
LCS 880-25651/1-A	Lab Control Sample	99	103
LCSD 880-25650/2-A	Lab Control Sample Dup	100	97
LCSD 880-25651/2-A	Lab Control Sample Dup	95	101
MB 880-25638/5-A	Method Blank	102	92
MB 880-25650/5-A	Method Blank	103	92
MB 880-25651/5-A	Method Blank	97	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-14811-A-1-B MS	Matrix Spike	91	82
880-14811-A-1-C MSD	Matrix Spike Duplicate	91	83
890-2311-1	BH01A	117	120
890-2311-2	BH01B	105	109
890-2311-3	BH02A	108	111
890-2311-4	BH02B	95	100
890-2311-5	BH03A	106	113
890-2311-6	BH03B	110	117
890-2311-7	BH04A	99	105
890-2311-8	BH05A	112	118
890-2311-9	BH05B	109	118
890-2311-10	BH04B	89	93
890-2311-11	BH06A	99	102
890-2311-12	BH06B	108	115
LCS 880-25676/2-A	Lab Control Sample	127	115
LCSD 880-25676/3-A	Lab Control Sample Dup	127	116

Surrogate Summary

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

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)	*105*		*70 - 130*	*05/16/22 13:46*	*05/17/22 12:34*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*05/16/22 13:46*	*05/17/22 12:34*	*1*

Lab Sample ID: MB 880-25650/5-A
Matrix: Solid
Analysis Batch: 25671

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 25650

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:47	05/17/22 23:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:47	05/17/22 23:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:47	05/17/22 23:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/16/22 15:47	05/17/22 23:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:47	05/17/22 23:14	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/16/22 15:47	05/17/22 23:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*05/16/22 15:47*	*05/17/22 23:14*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*05/16/22 15:47*	*05/17/22 23:14*	*1*

Lab Sample ID: LCS 880-25650/1-A
Matrix: Solid
Analysis Batch: 25671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 25650

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09107		mg/Kg		91	70 - 130		
Toluene			0.100	0.09370		mg/Kg		94	70 - 130		
Ethylbenzene			0.100	0.09393		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.1875		mg/Kg		94	70 - 130		
o-Xylene			0.100	0.09558		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*9i*		*70 - 130*

Lab Sample ID: LCSD 880-25650/2-A
Matrix: Solid
Analysis Batch: 25671

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 25650

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08989		mg/Kg		90	70 - 130	1	35

QC Sample Results

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

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

Lab Sample ID: LCSD 880-25650/2-A
Matrix: Solid
Analysis Batch: 25671

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 25650

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09176		mg/Kg		92	70 - 130	2	35
Ethylbenzene			0.100	0.09217		mg/Kg		92	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1838		mg/Kg		92	70 - 130	2	35
o-Xylene			0.100	0.09342		mg/Kg		93	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 890-2311-10 MS
Matrix: Solid
Analysis Batch: 25671

Client Sample ID: BH04B
Prep Type: Total/NA
Prep Batch: 25650

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F1 F2	0.101	0.03338	F1	mg/Kg		33	70 - 130
Toluene	<0.00201	U F1 F2	0.101	0.03913	F1	mg/Kg		39	70 - 130
Ethylbenzene	<0.00201	U F1 F2	0.101	0.04233	F1	mg/Kg		42	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.202	0.08890	F1	mg/Kg		44	70 - 130
o-Xylene	<0.00201	U F1 F2	0.101	0.04765	F1	mg/Kg		47	70 - 130

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

Lab Sample ID: 890-2311-10 MSD
Matrix: Solid
Analysis Batch: 25671

Client Sample ID: BH04B
Prep Type: Total/NA
Prep Batch: 25650

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1 F2	0.0998	0.06906	F1 F2	mg/Kg		69	70 - 130	70	35
Toluene	<0.00201	U F1 F2	0.0998	0.07275	F2	mg/Kg		73	70 - 130	60	35
Ethylbenzene	<0.00201	U F1 F2	0.0998	0.07396	F2	mg/Kg		74	70 - 130	54	35
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.200	0.1482	F2	mg/Kg		74	70 - 130	50	35
o-Xylene	<0.00201	U F1 F2	0.0998	0.07416	F2	mg/Kg		74	70 - 130	44	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: MB 880-25651/5-A
Matrix: Solid
Analysis Batch: 25672

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 25651

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:49	05/17/22 23:30	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:49	05/17/22 23:30	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:49	05/17/22 23:30	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/16/22 15:49	05/17/22 23:30	1

QC Sample Results

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

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

Lab Sample ID: MB 880-25651/5-A
Matrix: Solid
Analysis Batch: 25672

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 25651

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/16/22 15:49	05/17/22 23:30	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/16/22 15:49	05/17/22 23:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*05/16/22 15:49*	*05/17/22 23:30*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*05/16/22 15:49*	*05/17/22 23:30*	*1*

Lab Sample ID: LCS 880-25651/1-A
Matrix: Solid
Analysis Batch: 25672

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 25651

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08852		mg/Kg		89	70 - 130		
Toluene			0.100	0.08022		mg/Kg		80	70 - 130		
Ethylbenzene			0.100	0.09027		mg/Kg		90	70 - 130		
m-Xylene & p-Xylene			0.200	0.1609		mg/Kg		80	70 - 130		
o-Xylene			0.100	0.07864		mg/Kg		79	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: LCSD 880-25651/2-A
Matrix: Solid
Analysis Batch: 25672

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 25651

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.07903		mg/Kg		79	70 - 130	11	35
Toluene			0.100	0.07166		mg/Kg		72	70 - 130	11	35
Ethylbenzene			0.100	0.07996		mg/Kg		80	70 - 130	12	35
m-Xylene & p-Xylene			0.200	0.1426		mg/Kg		71	70 - 130	12	35
o-Xylene			0.100	0.06940	*-	mg/Kg		69	70 - 130	12	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-14744-A-21-C MS
Matrix: Solid
Analysis Batch: 25672

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 25651

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.101	0.09729		mg/Kg		97	70 - 130		
Toluene	<0.00201	U	0.101	0.08762		mg/Kg		87	70 - 130		
Ethylbenzene	<0.00201	U	0.101	0.09883		mg/Kg		98	70 - 130		
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1736		mg/Kg		86	70 - 130		
o-Xylene	<0.00201	U *-	0.101	0.08291		mg/Kg		82	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

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

Lab Sample ID: 880-14744-A-21-C MS
Matrix: Solid
Analysis Batch: 25672

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 25651

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: 880-14744-A-21-D MSD
Matrix: Solid
Analysis Batch: 25672

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 25651

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.09933		mg/Kg		99	70 - 130	2	35
Toluene	<0.00201	U	0.100	0.09045		mg/Kg		90	70 - 130	3	35
Ethylbenzene	<0.00201	U	0.100	0.1007		mg/Kg		101	70 - 130	2	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1779		mg/Kg		89	70 - 130	2	35
o-Xylene	<0.00201	U *-	0.100	0.08464		mg/Kg		84	70 - 130	2	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	10/		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

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

Lab Sample ID: LCS 880-25676/2-A
Matrix: Solid
Analysis Batch: 25684

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 25676

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1246		mg/Kg		125	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1072		mg/Kg		107	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	157		70 - 130
o-Terphenyl	11/		70 - 130

Lab Sample ID: LCSD 880-25676/3-A
Matrix: Solid
Analysis Batch: 25684

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 25676

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1186		mg/Kg		119	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	1079		mg/Kg		108	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	157		70 - 130
o-Terphenyl	11:		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

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

Lab Sample ID: 880-14811-A-1-B MS
Matrix: Solid
Analysis Batch: 25684

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 25676

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	1206		mg/Kg		118	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	951.8		mg/Kg		95	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*i 5*		*70 - 130*

Lab Sample ID: 880-14811-A-1-C MSD
Matrix: Solid
Analysis Batch: 25684

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 25676

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1167		mg/Kg		114	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	951.2		mg/Kg		95	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*i 3*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-25613/1-A
Matrix: Solid
Analysis Batch: 25823

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			05/18/22 13:38	1

Lab Sample ID: LCS 880-25613/2-A
Matrix: Solid
Analysis Batch: 25823

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	253.2		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-25613/3-A
Matrix: Solid
Analysis Batch: 25823

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	253.3		mg/Kg		101	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2311-1 MS
Matrix: Solid
Analysis Batch: 25823

Client Sample ID: BH01A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	2910		1250	4260		mg/Kg		108	90 - 110

Lab Sample ID: 890-2311-1 MSD
Matrix: Solid
Analysis Batch: 25823

Client Sample ID: BH01A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	2910		1250	4271		mg/Kg		109	90 - 110	0	20

Lab Sample ID: 890-2311-11 MS
Matrix: Solid
Analysis Batch: 25823

Client Sample ID: BH06A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1310		1240	2502		mg/Kg		97	90 - 110

Lab Sample ID: 890-2311-11 MSD
Matrix: Solid
Analysis Batch: 25823

Client Sample ID: BH06A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1310		1240	2501		mg/Kg		97	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

GC VOA

Prep Batch: 25638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-25638/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 25650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2311-10	BH04B	Total/NA	Solid	5035	
890-2311-11	BH06A	Total/NA	Solid	5035	
890-2311-12	BH06B	Total/NA	Solid	5035	
MB 880-25650/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-25650/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-25650/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2311-10 MS	BH04B	Total/NA	Solid	5035	
890-2311-10 MSD	BH04B	Total/NA	Solid	5035	

Prep Batch: 25651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2311-1	BH01A	Total/NA	Solid	5035	
890-2311-2	BH01B	Total/NA	Solid	5035	
890-2311-3	BH02A	Total/NA	Solid	5035	
890-2311-4	BH02B	Total/NA	Solid	5035	
890-2311-5	BH03A	Total/NA	Solid	5035	
890-2311-6	BH03B	Total/NA	Solid	5035	
890-2311-7	BH04A	Total/NA	Solid	5035	
890-2311-8	BH05A	Total/NA	Solid	5035	
890-2311-9	BH05B	Total/NA	Solid	5035	
MB 880-25651/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-25651/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-25651/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-14744-A-21-C MS	Matrix Spike	Total/NA	Solid	5035	
880-14744-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 25671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2311-10	BH04B	Total/NA	Solid	8021B	25650
890-2311-11	BH06A	Total/NA	Solid	8021B	25650
890-2311-12	BH06B	Total/NA	Solid	8021B	25650
MB 880-25638/5-A	Method Blank	Total/NA	Solid	8021B	25638
MB 880-25650/5-A	Method Blank	Total/NA	Solid	8021B	25650
LCS 880-25650/1-A	Lab Control Sample	Total/NA	Solid	8021B	25650
LCSD 880-25650/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	25650
890-2311-10 MS	BH04B	Total/NA	Solid	8021B	25650
890-2311-10 MSD	BH04B	Total/NA	Solid	8021B	25650

Analysis Batch: 25672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2311-1	BH01A	Total/NA	Solid	8021B	25651
890-2311-2	BH01B	Total/NA	Solid	8021B	25651
890-2311-3	BH02A	Total/NA	Solid	8021B	25651
890-2311-4	BH02B	Total/NA	Solid	8021B	25651
890-2311-5	BH03A	Total/NA	Solid	8021B	25651
890-2311-6	BH03B	Total/NA	Solid	8021B	25651
890-2311-7	BH04A	Total/NA	Solid	8021B	25651

QC Association Summary

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

GC VOA (Continued)

Analysis Batch: 25672 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2311-8	BH05A	Total/NA	Solid	8021B	25651
890-2311-9	BH05B	Total/NA	Solid	8021B	25651
MB 880-25651/5-A	Method Blank	Total/NA	Solid	8021B	25651
LCS 880-25651/1-A	Lab Control Sample	Total/NA	Solid	8021B	25651
LCSD 880-25651/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	25651
880-14744-A-21-C MS	Matrix Spike	Total/NA	Solid	8021B	25651
880-14744-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	25651

Analysis Batch: 25799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2311-1	BH01A	Total/NA	Solid	Total BTEX	
890-2311-2	BH01B	Total/NA	Solid	Total BTEX	
890-2311-3	BH02A	Total/NA	Solid	Total BTEX	
890-2311-4	BH02B	Total/NA	Solid	Total BTEX	
890-2311-5	BH03A	Total/NA	Solid	Total BTEX	
890-2311-6	BH03B	Total/NA	Solid	Total BTEX	
890-2311-7	BH04A	Total/NA	Solid	Total BTEX	
890-2311-8	BH05A	Total/NA	Solid	Total BTEX	
890-2311-9	BH05B	Total/NA	Solid	Total BTEX	
890-2311-10	BH04B	Total/NA	Solid	Total BTEX	
890-2311-11	BH06A	Total/NA	Solid	Total BTEX	
890-2311-12	BH06B	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 25676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2311-1	BH01A	Total/NA	Solid	8015NM Prep	
890-2311-2	BH01B	Total/NA	Solid	8015NM Prep	
890-2311-3	BH02A	Total/NA	Solid	8015NM Prep	
890-2311-4	BH02B	Total/NA	Solid	8015NM Prep	
890-2311-5	BH03A	Total/NA	Solid	8015NM Prep	
890-2311-6	BH03B	Total/NA	Solid	8015NM Prep	
890-2311-7	BH04A	Total/NA	Solid	8015NM Prep	
890-2311-8	BH05A	Total/NA	Solid	8015NM Prep	
890-2311-9	BH05B	Total/NA	Solid	8015NM Prep	
890-2311-10	BH04B	Total/NA	Solid	8015NM Prep	
890-2311-11	BH06A	Total/NA	Solid	8015NM Prep	
890-2311-12	BH06B	Total/NA	Solid	8015NM Prep	
LCS 880-25676/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-25676/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-14811-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-14811-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 25684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2311-1	BH01A	Total/NA	Solid	8015B NM	25676
890-2311-2	BH01B	Total/NA	Solid	8015B NM	25676
890-2311-3	BH02A	Total/NA	Solid	8015B NM	25676
890-2311-4	BH02B	Total/NA	Solid	8015B NM	25676
890-2311-5	BH03A	Total/NA	Solid	8015B NM	25676

QC Association Summary

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

GC Semi VOA (Continued)

Analysis Batch: 25684 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2311-6	BH03B	Total/NA	Solid	8015B NM	25676
890-2311-7	BH04A	Total/NA	Solid	8015B NM	25676
890-2311-8	BH05A	Total/NA	Solid	8015B NM	25676
890-2311-9	BH05B	Total/NA	Solid	8015B NM	25676
890-2311-10	BH04B	Total/NA	Solid	8015B NM	25676
890-2311-11	BH06A	Total/NA	Solid	8015B NM	25676
890-2311-12	BH06B	Total/NA	Solid	8015B NM	25676
LCS 880-25676/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	25676
LCSD 880-25676/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	25676
880-14811-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	25676
880-14811-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	25676

Analysis Batch: 25784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2311-1	BH01A	Total/NA	Solid	8015 NM	
890-2311-2	BH01B	Total/NA	Solid	8015 NM	
890-2311-3	BH02A	Total/NA	Solid	8015 NM	
890-2311-4	BH02B	Total/NA	Solid	8015 NM	
890-2311-5	BH03A	Total/NA	Solid	8015 NM	
890-2311-6	BH03B	Total/NA	Solid	8015 NM	
890-2311-7	BH04A	Total/NA	Solid	8015 NM	
890-2311-8	BH05A	Total/NA	Solid	8015 NM	
890-2311-9	BH05B	Total/NA	Solid	8015 NM	
890-2311-10	BH04B	Total/NA	Solid	8015 NM	
890-2311-11	BH06A	Total/NA	Solid	8015 NM	
890-2311-12	BH06B	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 25613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2311-1	BH01A	Soluble	Solid	DI Leach	
890-2311-2	BH01B	Soluble	Solid	DI Leach	
890-2311-3	BH02A	Soluble	Solid	DI Leach	
890-2311-4	BH02B	Soluble	Solid	DI Leach	
890-2311-5	BH03A	Soluble	Solid	DI Leach	
890-2311-6	BH03B	Soluble	Solid	DI Leach	
890-2311-7	BH04A	Soluble	Solid	DI Leach	
890-2311-8	BH05A	Soluble	Solid	DI Leach	
890-2311-9	BH05B	Soluble	Solid	DI Leach	
890-2311-10	BH04B	Soluble	Solid	DI Leach	
890-2311-11	BH06A	Soluble	Solid	DI Leach	
890-2311-12	BH06B	Soluble	Solid	DI Leach	
MB 880-25613/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-25613/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-25613/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2311-1 MS	BH01A	Soluble	Solid	DI Leach	
890-2311-1 MSD	BH01A	Soluble	Solid	DI Leach	
890-2311-11 MS	BH06A	Soluble	Solid	DI Leach	
890-2311-11 MSD	BH06A	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

HPLC/IC

Analysis Batch: 25823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2311-1	BH01A	Soluble	Solid	300.0	25613
890-2311-2	BH01B	Soluble	Solid	300.0	25613
890-2311-3	BH02A	Soluble	Solid	300.0	25613
890-2311-4	BH02B	Soluble	Solid	300.0	25613
890-2311-5	BH03A	Soluble	Solid	300.0	25613
890-2311-6	BH03B	Soluble	Solid	300.0	25613
890-2311-7	BH04A	Soluble	Solid	300.0	25613
890-2311-8	BH05A	Soluble	Solid	300.0	25613
890-2311-9	BH05B	Soluble	Solid	300.0	25613
890-2311-10	BH04B	Soluble	Solid	300.0	25613
890-2311-11	BH06A	Soluble	Solid	300.0	25613
890-2311-12	BH06B	Soluble	Solid	300.0	25613
MB 880-25613/1-A	Method Blank	Soluble	Solid	300.0	25613
LCS 880-25613/2-A	Lab Control Sample	Soluble	Solid	300.0	25613
LCSD 880-25613/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	25613
890-2311-1 MS	BH01A	Soluble	Solid	300.0	25613
890-2311-1 MSD	BH01A	Soluble	Solid	300.0	25613
890-2311-11 MS	BH06A	Soluble	Solid	300.0	25613
890-2311-11 MSD	BH06A	Soluble	Solid	300.0	25613

Lab Chronicle

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Client Sample ID: BH01A
Date Collected: 05/13/22 09:40
Date Received: 05/13/22 14:50

Lab Sample ID: 890-2311-1
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			5.00 g	5 mL	25651	05/16/22 15:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25672	05/18/22 05:15	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25799	05/18/22 09:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25784	05/18/22 08:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	25676	05/17/22 09:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25684	05/17/22 18:16	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	25613	05/16/22 10:51	CH	XEN MID
Soluble	Analysis	300.0		5			25823	05/18/22 14:52	CH	XEN MID

Client Sample ID: BH01B
Date Collected: 05/13/22 09:45
Date Received: 05/13/22 14:50

Lab Sample ID: 890-2311-2
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			4.99 g	5 mL	25651	05/16/22 15:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25672	05/18/22 05:35	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25799	05/18/22 09:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25784	05/18/22 08:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	25676	05/17/22 09:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25684	05/17/22 18:39	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	25613	05/16/22 10:51	CH	XEN MID
Soluble	Analysis	300.0		1			25823	05/18/22 15:20	CH	XEN MID

Client Sample ID: BH02A
Date Collected: 05/13/22 09:47
Date Received: 05/13/22 14:50

Lab Sample ID: 890-2311-3
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			4.95 g	5 mL	25651	05/16/22 15:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25672	05/18/22 05:56	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25799	05/18/22 09:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25784	05/18/22 08:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	25676	05/17/22 09:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25684	05/17/22 19:01	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	25613	05/16/22 10:51	CH	XEN MID
Soluble	Analysis	300.0		10			25823	05/18/22 15:29	CH	XEN MID

Client Sample ID: BH02B
Date Collected: 05/13/22 09:52
Date Received: 05/13/22 14:50

Lab Sample ID: 890-2311-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	25651	05/16/22 15:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25672	05/18/22 06:16	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25799	05/18/22 09:14	AJ	XEN MID

Lab Chronicle

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Client Sample ID: BH02B

Date Collected: 05/13/22 09:52
Date Received: 05/13/22 14:50

Lab Sample ID: 890-2311-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			25784	05/18/22 08:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	25676	05/17/22 09:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25684	05/17/22 19:26	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	25613	05/16/22 10:51	CH	XEN MID
Soluble	Analysis	300.0		5			25823	05/18/22 15:38	CH	XEN MID

Client Sample ID: BH03A

Date Collected: 05/13/22 10:40
Date Received: 05/13/22 14:50

Lab Sample ID: 890-2311-5
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			4.97 g	5 mL	25651	05/16/22 15:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25672	05/18/22 06:37	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25799	05/18/22 09:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25784	05/18/22 08:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	25676	05/17/22 09:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25684	05/17/22 19:51	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	25613	05/16/22 10:51	CH	XEN MID
Soluble	Analysis	300.0		1			25823	05/18/22 15:47	CH	XEN MID

Client Sample ID: BH03B

Date Collected: 05/13/22 10:45
Date Received: 05/13/22 14:50

Lab Sample ID: 890-2311-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	25651	05/16/22 15:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25672	05/18/22 06:57	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25799	05/18/22 09:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25784	05/18/22 08:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	25676	05/17/22 09:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25684	05/17/22 20:17	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	25613	05/16/22 10:51	CH	XEN MID
Soluble	Analysis	300.0		1			25823	05/18/22 16:15	CH	XEN MID

Client Sample ID: BH04A

Date Collected: 05/13/22 10:50
Date Received: 05/13/22 14:50

Lab Sample ID: 890-2311-7
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	25651	05/16/22 15:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25672	05/18/22 07:18	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25799	05/18/22 09:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25784	05/18/22 08:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	25676	05/17/22 09:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25684	05/17/22 20:43	AJ	XEN MID

Lab Chronicle

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Client Sample ID: BH04A
Date Collected: 05/13/22 10:50
Date Received: 05/13/22 14:50

Lab Sample ID: 890-2311-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	25613	05/16/22 10:51	CH	XEN MID
Soluble	Analysis	300.0		1			25823	05/18/22 16:24	CH	XEN MID

Client Sample ID: BH05A
Date Collected: 05/13/22 11:20
Date Received: 05/13/22 14:50

Lab Sample ID: 890-2311-8
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	25651	05/16/22 15:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25672	05/18/22 07:38	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25799	05/18/22 09:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25784	05/18/22 08:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	25676	05/17/22 09:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25684	05/17/22 21:08	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	25613	05/16/22 10:51	CH	XEN MID
Soluble	Analysis	300.0		1			25823	05/18/22 16:33	CH	XEN MID

Client Sample ID: BH05B
Date Collected: 05/13/22 12:00
Date Received: 05/13/22 14:50

Lab Sample ID: 890-2311-9
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			5.05 g	5 mL	25651	05/16/22 15:49	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25672	05/18/22 07:58	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25799	05/18/22 09:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25784	05/18/22 08:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	25676	05/17/22 09:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25684	05/17/22 21:56	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	25613	05/16/22 10:51	CH	XEN MID
Soluble	Analysis	300.0		1			25823	05/18/22 16:43	CH	XEN MID

Client Sample ID: BH04B
Date Collected: 05/13/22 10:55
Date Received: 05/13/22 14:50

Lab Sample ID: 890-2311-10
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	25650	05/16/22 15:47	MR	XEN MID
Total/NA	Analysis	8021B		1			25671	05/17/22 23:35	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25799	05/18/22 09:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25784	05/18/22 08:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	25676	05/17/22 09:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25684	05/17/22 22:21	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	25613	05/16/22 10:51	CH	XEN MID
Soluble	Analysis	300.0		1			25823	05/18/22 16:52	CH	XEN MID

Lab Chronicle

Client: Ensolum
Project/Site: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Client Sample ID: BH06A
Date Collected: 05/13/22 11:55
Date Received: 05/13/22 14:50

Lab Sample ID: 890-2311-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	25650	05/16/22 15:47	MR	XEN MID
Total/NA	Analysis	8021B		1			25671	05/17/22 23:56	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25799	05/18/22 09:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25784	05/18/22 08:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	25676	05/17/22 09:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25684	05/17/22 22:45	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	25613	05/16/22 10:51	CH	XEN MID
Soluble	Analysis	300.0		5			25823	05/18/22 17:01	CH	XEN MID

Client Sample ID: BH06B
Date Collected: 05/13/22 12:00
Date Received: 05/13/22 14:50

Lab Sample ID: 890-2311-12
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	25650	05/16/22 15:47	MR	XEN MID
Total/NA	Analysis	8021B		1			25671	05/18/22 00:16	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25799	05/18/22 09:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25784	05/18/22 08:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	25676	05/17/22 09:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25684	05/17/22 23:08	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	25613	05/16/22 10:51	CH	XEN MID
Soluble	Analysis	300.0		1			25823	05/18/22 17:29	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Job ID: 890-2311-1
Project/Site: Mustang Sally #1
SDG: Roosevelt County NM

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	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: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

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: Mustang Sally #1

Job ID: 890-2311-1
SDG: Roosevelt County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2311-1	BH01A	Solid	05/13/22 09:40	05/13/22 14:50	0.25
890-2311-2	BH01B	Solid	05/13/22 09:45	05/13/22 14:50	1.5
890-2311-3	BH02A	Solid	05/13/22 09:47	05/13/22 14:50	0.5
890-2311-4	BH02B	Solid	05/13/22 09:52	05/13/22 14:50	2.5
890-2311-5	BH03A	Solid	05/13/22 10:40	05/13/22 14:50	0.5
890-2311-6	BH03B	Solid	05/13/22 10:45	05/13/22 14:50	2.5
890-2311-7	BH04A	Solid	05/13/22 10:50	05/13/22 14:50	1.5
890-2311-8	BH05A	Solid	05/13/22 11:20	05/13/22 14:50	0.5
890-2311-9	BH05B	Solid	05/13/22 12:00	05/13/22 14:50	2.5
890-2311-10	BH04B	Solid	05/13/22 10:55	05/13/22 14:50	2.5
890-2311-11	BH06A	Solid	05/13/22 11:55	05/13/22 14:50	0.5
890-2311-12	BH06B	Solid	05/13/22 12:00	05/13/22 14:50	2.5

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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: _____

www.xenco.com Page 1 of 2

Project Manager:	Daniel Moir	Bill to: (if different)	
Company Name:	Ensolum, LLC	Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	303-887-2946 Email: dmoir@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:	Mustang Sally #1	Turn Around	
Project Number:		☑ Routine ☐ Rush	
Project Location:	Roosevelt County, NM	Due Date:	
Sampler's Name:	Daniel Moir	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	FNM-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.8
Total Containers:		Corrected Temperature:	5.6

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX (8021)	TPH (8015)	Chloride (300)
BH01A@ 0.25'	S	5/3	0940	0.25	G	1		X	X	X
BH01B@ 1.5'	S		0945	1.5	G	1				
BH02A@ 0.5'	S		0947	0.5	G	1				
BH02B@ 2.5'	S		0952	2.5	G	1				
BH03A@ 0.5'	S		1040	0.5	G	1				
BH03B@ 2.5'	S		1045	2.5	G	1				
BH04A@ 1.5'	S		1050	1.5	G	1				
BH05A@ 0.5'	S		1120	0.5	G	1				
BH05B@ 2.5'	S		1200	2.5	G	1				
BH04B@ 2.5'	S		1055	2.5	G	1				

890-2311 Chain of Custody

Preservative Codes

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

Sample Comments

time = 1120

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		1450 5/3/2022	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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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: _____

www.xenco.com Page 2 of 2

Project Manager:	Daniel Moir	Bill to: (if different)	
Company Name:	Ensolum, LLC	Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	303-887-2946 Email:	dmoir@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:	Mustang Sally #1	Turn Around	
Project Number:		☐ Routine ☐ Rush	
Project Location:	Roosevelt Co. NM	Due Date:	
Sampler's Name:	Daniel Moir	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	T-NM-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.8
Total Containers:		Corrected Temperature:	5.6

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX (8021)	TPH (8015)	Chloride (300)	Sample Comments
BH01A @ 0.5'	S	5/13	1155	0.5	G	1		X	X	X	
BH01B @ 2.5'	S	5/13	1200	2.5	G	1		X	X	X	

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			5/13/2022 1450			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2311-1
SDG Number: Roosevelt County NM

Login Number: 2311
List Number: 1
Creator: Olivas, Nathaniel

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: 890-2311-1
SDG Number: Roosevelt County NM

Login Number: 2311
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 05/17/22 10:54 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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2408-1
Laboratory Sample Delivery Group: 09C2041002
Client Project/Site: Touch of Grey State COM 1

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

Attn: Daniel Moir

JKramer

Authorized for release by:
6/14/2022 1:48:04 PM

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

Client: Ensolum
Project/Site: Touch of Grey State COM 1

Laboratory Job ID: 890-2408-1
SDG: 09C2041002

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2408-1
Project/Site: Touch of Grey State COM 1 SDG: 09C2041002

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, 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
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: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

Job ID: 890-2408-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2408-1

Receipt
The samples were received on 6/13/2022 9:28 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 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 laboratory control sample (LCS) associated with preparation batch 880-27449 and analytical batch 880-27351 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.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-27449/2-A), (LCSD 880-27449/3-A) and (890-2404-A-57-A). Evidence of matrix interferences is not obvious.

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

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: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

Client Sample ID: SS01

Lab Sample ID: 890-2408-1
Matrix: Solid
Date Collected: 06/10/22 17:30
Date Received: 06/13/22 09:28
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/13/22 13:48	06/13/22 18:33	1
Toluene	**0.00423**	**F1**	0.00201		mg/Kg		06/13/22 13:48	06/13/22 18:33	1
Ethylbenzene	**0.00571**	**F1**	0.00201		mg/Kg		06/13/22 13:48	06/13/22 18:33	1
m-Xylene & p-Xylene	**0.0540**	**F1**	0.00402		mg/Kg		06/13/22 13:48	06/13/22 18:33	1
o-Xylene	**0.0123**		0.00201		mg/Kg		06/13/22 13:48	06/13/22 18:33	1
Xylenes, Total	**0.0663**	**F1**	0.00402		mg/Kg		06/13/22 13:48	06/13/22 18:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*05 - 175*	*53/17/66 1724:*	*53/17/66 1: 277*	*1*
194-8 ,fluorobenzene (Surr)	*Di*		*05 - 175*	*53/17/66 1724:*	*53/17/66 1: 277*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0762**		0.00402		mg/Kg			06/14/22 09:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**254**		49.9		mg/Kg			06/14/22 09:33	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		06/13/22 16:14	06/14/22 00:51	1
Diesel Range Organics (Over C10-C28)	**194**	***+**	49.9		mg/Kg		06/13/22 16:14	06/14/22 00:51	1
Oil Range Organics (Over C28-C36)	**60.1**		49.9		mg/Kg		06/13/22 16:14	06/14/22 00:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*D:*		*05 - 175*	*53/17/66 1321 4*	*53/14/66 552 1*	*1*
o-Terphenyl	*11i*		*05 - 175*	*53/17/66 1321 4*	*53/14/66 552 1*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11800**		99.6		mg/Kg			06/14/22 12:57	20

Client Sample ID: SS02

Lab Sample ID: 890-2408-2
Matrix: Solid
Date Collected: 06/10/22 17:35
Date Received: 06/13/22 09:28
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		06/13/22 13:48	06/13/22 18:54	1
Toluene	**0.00223**		0.00202		mg/Kg		06/13/22 13:48	06/13/22 18:54	1
Ethylbenzene	**0.00483**		0.00202		mg/Kg		06/13/22 13:48	06/13/22 18:54	1
m-Xylene & p-Xylene	**0.0466**		0.00404		mg/Kg		06/13/22 13:48	06/13/22 18:54	1
o-Xylene	**0.0125**		0.00202		mg/Kg		06/13/22 13:48	06/13/22 18:54	1
Xylenes, Total	**0.0591**		0.00404		mg/Kg		06/13/22 13:48	06/13/22 18:54	1

Client Sample Results

Client: Ensolum
Project/Site: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

Client Sample ID: SS02

Date Collected: 06/10/22 17:35
Date Received: 06/13/22 09:28
Sample Depth: 0.5

Lab Sample ID: 890-2408-2

Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	161		05 - 175	53/17/66 1724:	53/17/66 1: 2 4	1
194-8 ,fluorobenzene (Surr)	D6		05 - 175	53/17/66 1724:	53/17/66 1: 2 4	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0662**		0.00404		mg/Kg			06/14/22 09:13	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			06/14/22 09:33	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		06/13/22 16:14	06/14/22 01:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U *+	50.0		mg/Kg		06/13/22 16:14	06/14/22 01:11	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/13/22 16:14	06/14/22 01:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	D0		05 - 175	53/17/66 13214	53/14/66 51211	1
o-Terphenyl	114		05 - 175	53/17/66 13214	53/14/66 51211	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5620**		50.3		mg/Kg			06/14/22 13:05	10

Client Sample ID: SS03

Date Collected: 06/10/22 17:40
Date Received: 06/13/22 09:28
Sample Depth: 0.5

Lab Sample ID: 890-2408-3

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		06/13/22 13:48	06/13/22 19:14	1
Toluene	**0.0236**		0.00202		mg/Kg		06/13/22 13:48	06/13/22 19:14	1
Ethylbenzene	**0.0131**		0.00202		mg/Kg		06/13/22 13:48	06/13/22 19:14	1
m-Xylene & p-Xylene	**0.151**		0.00403		mg/Kg		06/13/22 13:48	06/13/22 19:14	1
o-Xylene	**0.0316**		0.00202		mg/Kg		06/13/22 13:48	06/13/22 19:14	1
Xylenes, Total	**0.183**		0.00403		mg/Kg		06/13/22 13:48	06/13/22 19:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	15:		05 - 175	53/17/66 1724:	53/17/66 1D214	1
194-8 ,fluorobenzene (Surr)	: :		05 - 175	53/17/66 1724:	53/17/66 1D214	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.219**		0.00403		mg/Kg			06/14/22 09:13	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			06/14/22 09:33	1

Client Sample Results

Client: Ensolum
Project/Site: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

Client Sample ID: SS03

Date Collected: 06/10/22 17:40
Date Received: 06/13/22 09:28
Sample Depth: 0.5

Lab Sample ID: 890-2408-3

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	<49.9	U	49.9		mg/Kg		06/13/22 16:14	06/14/22 01:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U *+	49.9		mg/Kg		06/13/22 16:14	06/14/22 01:32	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/13/22 16:14	06/14/22 01:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*DD*		*05 - 175*	*53/17/66 13214*	*53/14/66 51276*	*1*
o-Terphenyl	*116*		*05 - 175*	*53/17/66 13214*	*53/14/66 51276*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**34.3**		5.00		mg/Kg			06/14/22 06:02	1

Surrogate Summary

Client: Ensolum
Project/Site: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-2408-1	SS01	111	95										
890-2408-1 MS	SS01	115	99										
890-2408-1 MSD	SS01	113	95										
890-2408-2	SS02	121	92										
890-2408-3	SS03	108	88										
LCS 880-27445/1-A	Lab Control Sample	104	99										
LCSD 880-27445/2-A	Lab Control Sample Dup	103	100										
MB 880-27445/5-A	Method Blank	101	90										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-2404-A-57-B MS	Matrix Spike	108	113										
890-2404-A-57-C MSD	Matrix Spike Duplicate	97	105										
890-2408-1	SS01	98	115										
890-2408-2	SS02	97	114										
890-2408-3	SS03	99	112										
LCS 880-27449/2-A	Lab Control Sample	125	137 S1+										
LCSD 880-27449/3-A	Lab Control Sample Dup	123	132 S1+										
MB 880-27449/1-A	Method Blank	104	125										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-27445/5-A
Matrix: Solid
Analysis Batch: 27442

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27445

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/13/22 13:48	06/13/22 18:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/13/22 13:48	06/13/22 18:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/13/22 13:48	06/13/22 18:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/13/22 13:48	06/13/22 18:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/13/22 13:48	06/13/22 18:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/13/22 13:48	06/13/22 18:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*06/13/22 13:48*	*06/13/22 18:12*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*06/13/22 13:48*	*06/13/22 18:12*	*1*

Lab Sample ID: LCS 880-27445/1-A
Matrix: Solid
Analysis Batch: 27442

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27445

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09888		mg/Kg		99	70 - 130		
Toluene			0.100	0.09736		mg/Kg		97	70 - 130		
Ethylbenzene			0.100	0.1022		mg/Kg		102	70 - 130		
m-Xylene & p-Xylene			0.200	0.2087		mg/Kg		104	70 - 130		
o-Xylene			0.100	0.1050		mg/Kg		105	70 - 130		

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

Lab Sample ID: LCSD 880-27445/2-A
Matrix: Solid
Analysis Batch: 27442

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 27445

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08909		mg/Kg		89	70 - 130	10	35
Toluene			0.100	0.08588		mg/Kg		86	70 - 130	13	35
Ethylbenzene			0.100	0.09250		mg/Kg		93	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.1885		mg/Kg		94	70 - 130	10	35
o-Xylene			0.100	0.09464		mg/Kg		95	70 - 130	10	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-2408-1 MS
Matrix: Solid
Analysis Batch: 27442

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 27445

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.100	0.09215		mg/Kg		92	70 - 130		
Toluene	0.00423	F1	0.100	0.09015		mg/Kg		86	70 - 130		

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

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

Lab Sample ID: 890-2408-1 MS
Matrix: Solid
Analysis Batch: 27442

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 27445

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.00571	F1	0.100	0.09119		mg/Kg		85	70 - 130
m-Xylene & p-Xylene	0.0540	F1	0.200	0.2202		mg/Kg		83	70 - 130
o-Xylene	0.0123		0.100	0.1007		mg/Kg		88	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-2408-1 MSD
Matrix: Solid
Analysis Batch: 27442

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 27445

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0996	0.07166		mg/Kg		72	70 - 130	25	35
Toluene	0.00423	F1	0.0996	0.07254	F1	mg/Kg		69	70 - 130	22	35
Ethylbenzene	0.00571	F1	0.0996	0.07476	F1	mg/Kg		69	70 - 130	20	35
m-Xylene & p-Xylene	0.0540	F1	0.199	0.1825	F1	mg/Kg		64	70 - 130	19	35
o-Xylene	0.0123		0.0996	0.08388		mg/Kg		72	70 - 130	18	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

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

Lab Sample ID: MB 880-27449/1-A
Matrix: Solid
Analysis Batch: 27351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27449

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/13/22 16:14	06/13/22 22:06	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/13/22 16:14	06/13/22 22:06	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/13/22 16:14	06/13/22 22:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*06/13/22 16:14*	*06/13/22 22:06*	*1*
o-Terphenyl	*125*		*70 - 130*	*06/13/22 16:14*	*06/13/22 22:06*	*1*

Lab Sample ID: LCS 880-27449/2-A
Matrix: Solid
Analysis Batch: 27351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27449

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1174		mg/Kg		117	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1455	*+	mg/Kg		145	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

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

Lab Sample ID: LCS 880-27449/2-A
Matrix: Solid
Analysis Batch: 27351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27449

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	125		70 - 130
o-Terphenyl	137	S1+	70 - 130

Lab Sample ID: LCSD 880-27449/3-A
Matrix: Solid
Analysis Batch: 27351

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 27449

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1160		mg/Kg		116	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	1434	*+	mg/Kg		143	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	123		70 - 130
o-Terphenyl	132	S1+	70 - 130

Lab Sample ID: 890-2404-A-57-B MS
Matrix: Solid
Analysis Batch: 27351

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 27449

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1066		mg/Kg		107	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U *+	998	1010		mg/Kg		101	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	113		70 - 130

Lab Sample ID: 890-2404-A-57-C MSD
Matrix: Solid
Analysis Batch: 27351

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 27449

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	<49.9	U	999	905.7		mg/Kg		91	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	<49.9	U *+	999	941.1		mg/Kg		94	70 - 130	7	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	105		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-27302/1-A
Matrix: Solid
Analysis Batch: 27457

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			06/14/22 01:35	1

Lab Sample ID: LCS 880-27302/2-A
Matrix: Solid
Analysis Batch: 27457

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	252.9		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-27302/3-A
Matrix: Solid
Analysis Batch: 27457

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	260.6		mg/Kg		104	90 - 110	3	20

Lab Sample ID: 880-15727-A-11-B MS
Matrix: Solid
Analysis Batch: 27457

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	2330	F1	1240	3749	F1	mg/Kg		114	90 - 110		

Lab Sample ID: 880-15727-A-11-C MSD
Matrix: Solid
Analysis Batch: 27457

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	2330	F1	1240	3661		mg/Kg		107	90 - 110	2	20

Lab Sample ID: MB 880-27446/1-A
Matrix: Solid
Analysis Batch: 27482

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			06/14/22 08:38	1

Lab Sample ID: LCS 880-27446/2-A
Matrix: Solid
Analysis Batch: 27482

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	233.7		mg/Kg		93	90 - 110		

Lab Sample ID: LCSD 880-27446/3-A
Matrix: Solid
Analysis Batch: 27482

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	236.6		mg/Kg		95	90 - 110	1	20

QC Sample Results

Client: Ensolum
Project/Site: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-2407-A-11-C MS
Matrix: Solid
Analysis Batch: 27482

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	208		249	448.4		mg/Kg		96	90 - 110

Lab Sample ID: 890-2407-A-11-D MSD
Matrix: Solid
Analysis Batch: 27482

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	208		249	447.1		mg/Kg		96	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

GC VOA

Analysis Batch: 27442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2408-1	SS01	Total/NA	Solid	8021B	27445
890-2408-2	SS02	Total/NA	Solid	8021B	27445
890-2408-3	SS03	Total/NA	Solid	8021B	27445
MB 880-27445/5-A	Method Blank	Total/NA	Solid	8021B	27445
LCS 880-27445/1-A	Lab Control Sample	Total/NA	Solid	8021B	27445
LCSD 880-27445/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	27445
890-2408-1 MS	SS01	Total/NA	Solid	8021B	27445
890-2408-1 MSD	SS01	Total/NA	Solid	8021B	27445

Prep Batch: 27445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2408-1	SS01	Total/NA	Solid	5035	
890-2408-2	SS02	Total/NA	Solid	5035	
890-2408-3	SS03	Total/NA	Solid	5035	
MB 880-27445/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-27445/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-27445/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2408-1 MS	SS01	Total/NA	Solid	5035	
890-2408-1 MSD	SS01	Total/NA	Solid	5035	

Analysis Batch: 27472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2408-1	SS01	Total/NA	Solid	Total BTEX	
890-2408-2	SS02	Total/NA	Solid	Total BTEX	
890-2408-3	SS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 27351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2408-1	SS01	Total/NA	Solid	8015B NM	27449
890-2408-2	SS02	Total/NA	Solid	8015B NM	27449
890-2408-3	SS03	Total/NA	Solid	8015B NM	27449
MB 880-27449/1-A	Method Blank	Total/NA	Solid	8015B NM	27449
LCS 880-27449/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	27449
LCSD 880-27449/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	27449
890-2404-A-57-B MS	Matrix Spike	Total/NA	Solid	8015B NM	27449
890-2404-A-57-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	27449

Prep Batch: 27449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2408-1	SS01	Total/NA	Solid	8015NM Prep	
890-2408-2	SS02	Total/NA	Solid	8015NM Prep	
890-2408-3	SS03	Total/NA	Solid	8015NM Prep	
MB 880-27449/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-27449/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-27449/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2404-A-57-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2404-A-57-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

GC Semi VOA

Analysis Batch: 27480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2408-1	SS01	Total/NA	Solid	8015 NM	
890-2408-2	SS02	Total/NA	Solid	8015 NM	
890-2408-3	SS03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 27302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2408-3	SS03	Soluble	Solid	DI Leach	
MB 880-27302/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-27302/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-27302/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-15727-A-11-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-15727-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 27446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2408-1	SS01	Soluble	Solid	DI Leach	
890-2408-2	SS02	Soluble	Solid	DI Leach	
MB 880-27446/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-27446/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-27446/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2407-A-11-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2407-A-11-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 27457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2408-3	SS03	Soluble	Solid	300.0	27302
MB 880-27302/1-A	Method Blank	Soluble	Solid	300.0	27302
LCS 880-27302/2-A	Lab Control Sample	Soluble	Solid	300.0	27302
LCSD 880-27302/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	27302
880-15727-A-11-B MS	Matrix Spike	Soluble	Solid	300.0	27302
880-15727-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	27302

Analysis Batch: 27482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2408-1	SS01	Soluble	Solid	300.0	27446
890-2408-2	SS02	Soluble	Solid	300.0	27446
MB 880-27446/1-A	Method Blank	Soluble	Solid	300.0	27446
LCS 880-27446/2-A	Lab Control Sample	Soluble	Solid	300.0	27446
LCSD 880-27446/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	27446
890-2407-A-11-C MS	Matrix Spike	Soluble	Solid	300.0	27446
890-2407-A-11-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	27446

Lab Chronicle

Client: Ensolum
Project/Site: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

Client Sample ID: SS01
Date Collected: 06/10/22 17:30
Date Received: 06/13/22 09:28

Lab Sample ID: 890-2408-1
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			4.98 g	5 mL	27445	06/13/22 13:48	MR	XEN MID
Total/NA	Analysis	8021B		1	5 g	5 mL	27442	06/13/22 18:33	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			27472	06/14/22 09:13	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27480	06/14/22 09:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	27449	06/13/22 16:14	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27351	06/14/22 00:51	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	27446	06/13/22 14:08	CH	XEN MID
Soluble	Analysis	300.0		20			27482	06/14/22 12:57	CH	XEN MID

Client Sample ID: SS02
Date Collected: 06/10/22 17:35
Date Received: 06/13/22 09:28

Lab Sample ID: 890-2408-2
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			4.95 g	5 mL	27445	06/13/22 13:48	MR	XEN MID
Total/NA	Analysis	8021B		1	5 g	5 mL	27442	06/13/22 18:54	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			27472	06/14/22 09:13	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27480	06/14/22 09:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	27449	06/13/22 16:14	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27351	06/14/22 01:11	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	27446	06/13/22 14:08	CH	XEN MID
Soluble	Analysis	300.0		10			27482	06/14/22 13:05	CH	XEN MID

Client Sample ID: SS03
Date Collected: 06/10/22 17:40
Date Received: 06/13/22 09:28

Lab Sample ID: 890-2408-3
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			4.96 g	5 mL	27445	06/13/22 13:48	MR	XEN MID
Total/NA	Analysis	8021B		1	5 g	5 mL	27442	06/13/22 19:14	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			27472	06/14/22 09:13	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27480	06/14/22 09:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	27449	06/13/22 16:14	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27351	06/14/22 01:32	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	27302	06/13/22 10:31	SC	XEN MID
Soluble	Analysis	300.0		1			27457	06/14/22 06:02	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: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

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: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

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: Touch of Grey State COM 1

Job ID: 890-2408-1
SDG: 09C2041002

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2408-1	SS01	Solid	06/10/22 17:30	06/13/22 09:28	0.5
890-2408-2	SS02	Solid	06/10/22 17:35	06/13/22 09:28	0.5
890-2408-3	SS03	Solid	06/10/22 17:40	06/13/22 09:28	0.5

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	
Company Name:	Ensolum	Company Name:	
Address:	3122 Nat'l. Parks Hwy.	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	3038872946	Email:	dmoir@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:	Touch of Grey State Com	Turn Around	☐ Routine ☒ Rush
Project Number:	09C2041002	Due Date:	6/14/22
Project Location:	Roosevelt County, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Liz Chell		
PO #:	MA		

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IR#7
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	6.0
Total Containers:		Corrected Temperature:	5.8

ANALYSIS REQUEST

Parameters: TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300)

890-2408 Chain of Custody

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Sample Comments
SS01	S	6/10/22	1730	0.5'	G	1		
SS02	↓	↓	1735	↓	↓	↓		
SS03	↓	↓	1740	↓	↓	↓		

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		6.13.22 0925			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2408-1
SDG Number: 09C2041002

Login Number: 2408
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: 890-2408-1
SDG Number: 09C2041002

Login Number: 2408
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Midland
List Creation: 06/14/22 09:07 AM

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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 131895

CONDITIONS

Operator: ARMSTRONG ENERGY CORP P.O. Box 1973 Roswell, NM 88202	OGRID: 1092
	Action Number: 131895
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Deferral Approved.	8/11/2022