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	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: **Enterprise Field Services, LLC**	OGRID: **151618**
Contact Name: **Thomas Long**	Contact Telephone: **505-599-2286**
Contact email:**tjlong@eprod.com**	Incident # *(assigned by OCD)*: **NCS1935034632**
Contact mailing address: **614 Reilly Ave, Farmington, NM 87401**	

Location of Release Source

Latitude **36.681654** Longitude **-108.103253** *(NAD 83 in decimal degrees to 5 decimal places)*

Site Name **Trunk 3A**	Site Type **Natural Gas Gathering Pipeline**
Date Release Discovered: **10/16/2019**	Serial Number *(if applicable)*: **NM 0 011010**

Unit Letter	Section	Township	Range	County
J	**33**	**29N**	**12W**	**San Juan**

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name*: BLM)

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls): **10-15 bbls**	Volume Recovered (bbls): **None**
☒ Natural Gas	Volume Released (Mcf): **251.0 MCF**	Volume Recovered (Mcf): **None**
☐ Other (describe)	Volume/Weight Released (provide units):	Volume/Weight Recovered (provide units)

Cause of Release: On October 16, 2019, Enterprise discovered a release of natural gas from the Trunk 3A pipeline. An area of approximately 30 feet long by one foot wide was affected by the released fluids. No washes were affected. The pipeline was isolated, depressurized, locked and tagged out. Enterprise began repairs on October 21, 2019 and determined the release reportable per NMOCD regulation the same day, due to the volume of impacted subsurface soil. On October 23, 2018, 2019, Enterprise completed the repairs and remediation. The final excavation dimensions measured approximately 85 feet long by 19 feet wide by approximately 13 feet deep. Approximately 434 cubic yards of hydrocarbon impacted soil were excavated and transported to a New Mexico Oil Conservation Division approved land farm facility. A third party closure report is included with this "Final." C-141.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Jon E. Fields Title: Director, Environmental

Signature: Jon E. Fields Date: 3/5/2020

email: jefields@eprod.com Telephone: (713) 381-6684

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Cory Smith Date: 6/15/2020

Printed Name: Cory Smith Title: Environmental Specialist

ENSOLUM

CLOSURE REPORT

Property:

Trunk 3A Pipeline Release (Oct 2019)
SE ¼, S33 T29N R12W
San Juan County, New Mexico

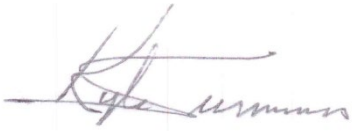
December 9, 2019
Ensolum Project No. 05A1226077

Prepared for:

Enterprise Field Services, LLC
614 Reilly Avenue
Farmington, NM 87401
Attn: Mr. Thomas Long

Prepared by:

Ranee Deechilly
Environmental Scientist



Kyle Summers, CPG
Sr. Project Manager

Table of Contents

LIST OF APPENDICES

ENSOLUM

CLOSURE REPORT

Trunk 3A Pipeline Release (Oct 2019)
SE ¼, S33 T29N R12W
San Juan County, New Mexico

Ensolum Project No. 05A1226077

1.0 INTRODUCTION

1.1 Site Description & Background

Operator:	Enterprise Field Services, LLC / Enterprise Products Operating LLC (Enterprise)
Site Name:	Trunk 3A Pipeline Release (Oct 2019) (Site)
Location:	36.679341° North, 108.101911° West Southeast (SE) ¼ of Section 33, Township 29 North, Range 12 West San Juan County, New Mexico
Property:	United States Bureau of Land Management (BLM)
Regulatory:	New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD)

On October 16, 2019, a release of natural gas occurred from the Trunk 3A pipeline. The release was characterized by discoloration on the ground surface and a flow path that traveled southeast from the point of release, along the pipeline right-of-way (ROW). On October 21, 2019, Enterprise initiated activities to facilitate the repair of the pipeline and remediate potential petroleum hydrocarbon impact resulting from the release.

A **Topographic Map** depicting the location of the Site is included as **Figure 1**, and a **Site Vicinity Map** is included as **Figure 2** in **Appendix A**.

1.2 Project Objective

The primary objective of the closure activities was to reduce constituent of concern (COC) concentrations in the on-Site soils to below the applicable New Mexico EMNRD OCD closure criteria.

2.0 CLOSURE CRITERIA

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. In order to address activities related to exempt oil and gas releases, the New Mexico EMNRD OCD references New Mexico Administrative Code (NMAC) 19.15.29 *Releases,* which establishes investigation and abatement action requirements for oil and gas release sites subject to reporting and/or corrective action. Ensolum, LLC (Ensolum) utilized information provided by Enterprise, the general site characteristics, and information available from the New Mexico Office of the State Engineer (OSE) and the New Mexico EMNRD OCD imaging database to determine the appropriate closure criteria for the Site.

- No water wells were identified within a one-half mile radius of the Site on the OSE Water Rights Reporting System (WRRS) database.

- One (1) cathodic-protection well was identified within one-half mile of the Site. Records for the Gallegos CU #206 (Unit N, Sec 10 T28N R12W) cathodic protection well, located approximately 80 feet higher in elevation, indicate a depth to water of 170 feet below grade surface (bgs).
- The Site is located within 300 feet of a New Mexico ENMRD OCD-defined continuously flowing watercourse or significant watercourse. An ephemeral wash is located less than five (5) feet from the terminus of the excavation.
- The Site is not located within 200 feet of a lakebed, sinkhole or playa lake.
- The Site is not located within 300 feet of a permanent residence, school, hospital, institution or church.
- No springs, or private domestic fresh water wells used by less than five (5) households for domestic or stock watering purposes were identified within 500 feet of the Site.
- No fresh water wells or springs were identified within 1,000 feet of the Site.
- The Site is not located within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3.
- The Site is not located within 300 feet of a wetland.
- Based on information identified on the New Mexico Mining and Minerals Division's GIS, Maps and Mine Data database, the Site is not located within an area overlying a subsurface mine.
- The Site is not located within an unstable area.
- The Site is located within a 100-year floodplain.

Based on the identified siting criteria, cleanup goals for soils remaining in place at the Site include:

Closure Criteria for Soils Impacted by a Release		
Constituent	Method	Limit
Chloride	EPA 300.0 or SM4500 Cl B	600 mg/kg
TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015	100 mg/kg
BTEX	EPA SW-846 Method 8021 or 8260	50 mg/kg
Benzene	EPA SW-846 Method 8021 or 8260	10 mg/kg

3.0 SOIL REMEDIATION ACTIVITIES

On October 21, 2019, Enterprise initiated activities to facilitate the repair of the pipeline and remediate petroleum hydrocarbon impact resulting from the release. During the remediation and corrective action activities West States Energy Contractors, Inc. provided heavy equipment and labor support, while Ensolum provided environmental consulting support.

The final excavation measured approximately 85 feet long and 19 feet wide at the maximum extents. The maximum depth of the excavation measured approximately 13 feet bgs.

The lithology encountered during the completion of remediation activities consisted primarily of unconsolidated silty sand and weathered sandstone.

A total of approximately 434 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech, Inc. (Envirotech) landfarm near Hilltop, New Mexico for disposal/remediation. The executed C-138 solid waste acceptance form is provided in **Appendix B**. The excavation was backfilled with a combination of imported fill and segregated, laboratory-confirmed, unaffected stockpiled soils, and was then contoured to match the surrounding grade.

Figure 3 is a map that identifies approximate soil sample locations and depicts the approximate dimensions of the excavation with respect to the pipeline (**Appendix A**). Photographic documentation of the field activities is included in **Appendix C**.

4.0 SOIL SAMPLING PROGRAM

Ensolum field screened soil samples from the excavation utilizing a calibrated Dexsil PetroFLAG® hydrocarbon analyzer system and a photoionization detector (PID) fitted with a 10.6 eV lamp to guide excavation extents.

Ensolum's soil sampling program included the collection of 24 composite soil samples (S-1 through S-24) comprised of five (5) aliquots each, from the excavation for laboratory analysis. In addition, one (1) stockpiled soil sample (SP-1), consisting of five (5) aliquots, was collected from the soils that were segregated for potential reuse, to confirm the material was suitable to remain on-Site. A clean shovel was utilized to obtain fresh aliquots from each accessible area of the excavation. An excavator was utilized to obtain fresh aliquots from areas of the excavation that exceeded depths greater than six (6) feet bgs. The New Mexico EMNRD OCD provided verbal approval to proceed with the sampling events, although a New Mexico EMNRD OCD representative was not on Site.

First Sampling Event
Composite soil sample S-1 (8') was collected from the floor of the northwestern portion of the remediation excavation. Composite soil samples S-5 (11.5'), and S-6 (11.5') were collected from the floor of the remediation excavation, near the point of release. Composite soil samples S-2 (0'-8'), S-3 (0'-8'), S-4 (0'-8'), S-7 (8'-11.5'), S-8 (0'-11.5), S-9 (0'-11.5'), and S-10 (0'-12') were collected from the sidewalls of the north western portion of the remediation excavation.

Second Sampling Event
Composite soil samples S-11 (13'), S-12 (13'), S-13 (7'), and S-14 (10') were collected from the floor of the central and southeast portion of the remediation excavation. Composite soil samples S-15 (0'-10'), S-16 (0'-7), S-17 (0'-13'), S-18 (0'-12.5'), S-19 (0'-13'), S-20 (0'-10'), S-21 (0'-10'), S-22 (4'-11.5'), S-23 (0'-4), and S-24 (7'-13') were collected from the sidewalls of the central and southeast portion of the remediation excavation.

Soil samples were collected and placed in laboratory prepared glassware, labeled/sealed using the laboratory supplied labels and custody seals, and stored on ice in a cooler. The samples were relinquished to the courier for Hall Environmental Analysis Laboratory of Albuquerque, New Mexico, under proper chain-of-custody procedures.

5.0 SOIL LABORATORY ANALYTICAL METHODS

The composite soil samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) using Environmental Protection Agency (EPA) SW-846 Method #8021, total petroleum hydrocarbon (TPH) gasoline range organics (GRO), diesel range organics (DRO), and motor oil/lube oil range organics (MRO) using EPA SW-846 Method #8015, and chlorides using EPA Method #300.0.

Laboratory analytical results are summarized in **Table 1** in **Appendix D**. The executed chain-of-custody forms and laboratory data sheets are provided in **Appendix E**.

6.0 DATA EVALUATION

Ensolum compared the BTEX, TPH, and chloride laboratory analytical results or laboratory practical quantitation limits (PQLs) / reporting limits (RLs) associated with the composite soil samples (S-1 through S-24 and SP-1) to the applicable New Mexico EMNRD OCD closure criteria.

- The laboratory analytical results for the composite soil samples indicate benzene is not present at concentrations greater than the laboratory PQLs/RLs, which are less than the New Mexico EMNRD OCD closure criteria of 10 milligrams per kilogram (mg/kg).

- The laboratory analytical results for composite soil sample S-14 indicates a total BTEX concentration of 0.067 mg/kg, which does not exceed the New Mexico EMNRD OCD closure criteria of 50 mg/kg. The laboratory analytical results for the remaining composite soil samples indicate total BTEX is not present at concentrations greater than the laboratory PQLs/RLs, which are less than the New Mexico EMNRD OCD closure criteria of 50 mg/kg.

- The laboratory analytical results for the composite soil samples indicate combined TPH GRO/DRO/MRO is not present at concentrations greater than the laboratory PQLs/RLs, which are less than the New Mexico EMNRD OCD closure criteria of 100 mg/kg.

- The laboratory analytical results for composite soil samples S-5, S-6, S-11, S-12, and S-17 indicate chloride concentrations ranging from 85 mg/kg (S-17) to 210 mg/kg (S-11), which do not exceed the New Mexico EMNRD OCD closure criteria of 600 mg/kg. The laboratory analytical results for the remaining composite soil samples indicate chloride is not present at concentrations greater than laboratory PQLs/RLs, which are less than the New Mexico EMNRD OCD closure criteria of 600 mg/kg for chlorides.

Laboratory analytical results are summarized in **Table 1** (**Appendix D**).

7.0 RECLAMATION AND REVEGETATION

The excavation was backfilled with a combination of imported fill and segregated, laboratory-confirmed unaffected stockpiled soils, and was then contoured to match the surrounding grade. Enterprise will re-seed the Site with a BLM Farmington Field Office approved seeding mixture.

8.0 FINDINGS AND RECOMMENDATION

On October 16, 2019, a release of natural gas occurred from the Trunk 3A pipeline. The release was characterized by discoloration on the ground surface and a flow path that traveled southeast from the point of release, along the pipeline ROW. On October 21, 2019, Enterprise initiated activities to facilitate the repair of the pipeline and remediate potential petroleum hydrocarbon impact resulting from the release.

- The primary objective of the closure activities was to reduce COC concentrations in the on-Site soils to below the applicable New Mexico EMNRD OCD closure criteria using the New Mexico EMNRD OCD's NMAC 19.15.29 *Releases* as guidance.

- A total of 25 composite soil samples were collected from the walls and floor of the final excavation and segregated stockpiled soils for laboratory analyses. Based on laboratory analytical results, soils remaining in place do not exhibit COC concentrations above the New Mexico EMNRD OCD closure criteria.

- A total of approximately 434 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with a combination of imported fill and segregated, laboratory-confirmed unaffected stockpiled soils, and was then contoured to surrounding grade.

Based on field observations and laboratory analytical results, no additional investigation or corrective action appears warranted at this time.

9.0 STANDARDS OF CARE, LIMITATIONS, AND RELIANCE

9.1 Standard of Care

Ensolum's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Ensolum makes no warranties, express or implied, as to the services performed hereunder. Additionally, Ensolum does not warrant the work of third parties supplying information used in the report (e.g. laboratories, regulatory agencies, or other third parties).

9.2 Additional Limitations

Findings, conclusions, and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, or not present during these services, and Ensolum cannot represent that the Site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during the investigation. Environmental conditions at other areas or portions of the Site may vary from those encountered at actual sample locations. Ensolum's findings, and recommendations are based solely upon data available to Ensolum at the time of these services.

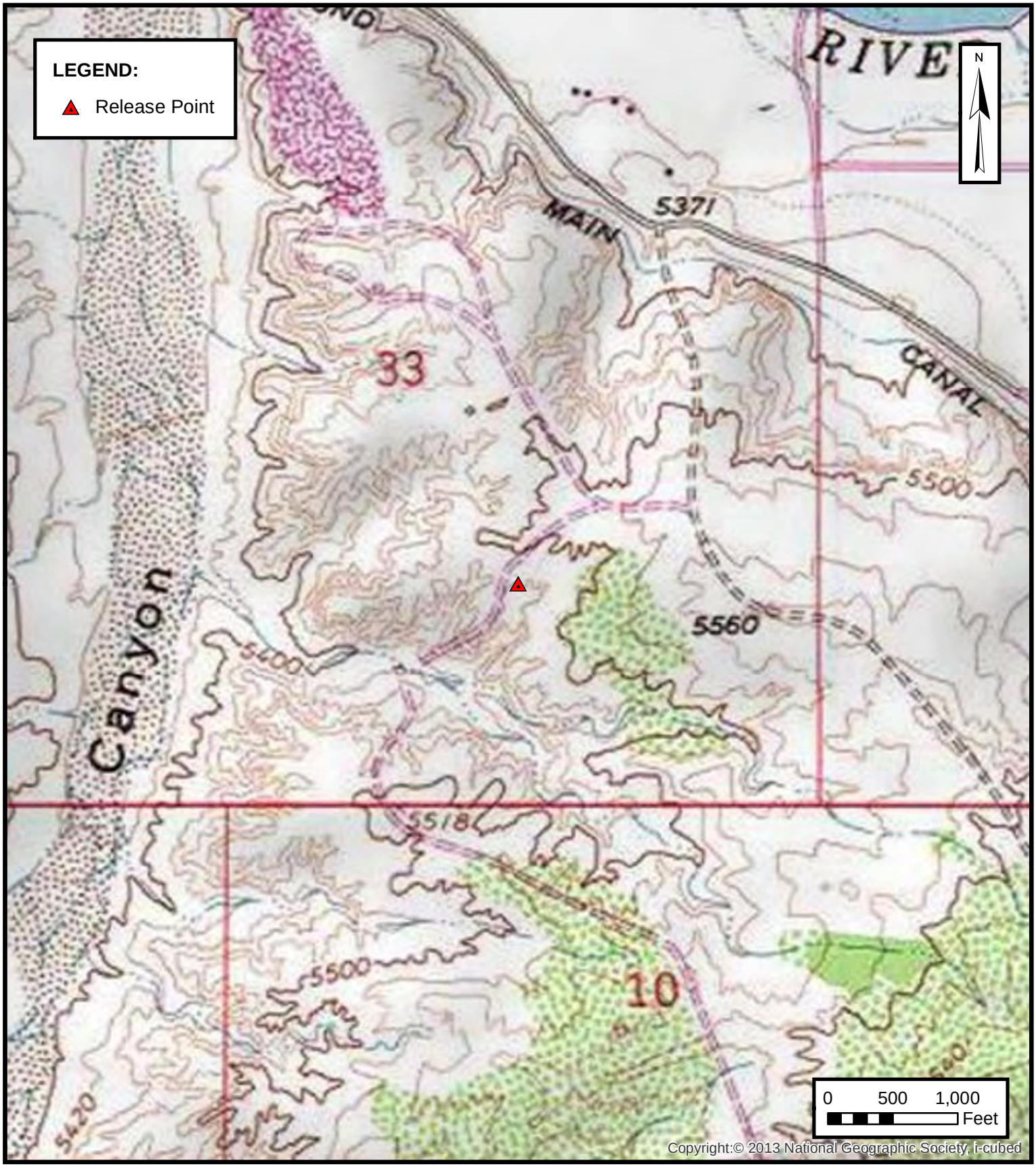
9.3 Reliance

This report has been prepared for the exclusive use of Enterprise Products Operating LLC, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the express written authorization Enterprise Products Operating LLC and Ensolum. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the Closure Report, and Ensolum's Master Services Agreement. The limitation of liability defined in the agreement is the aggregate limit of Ensolum's liability to the client.

ENSOLUM

APPENDIX A

Figures



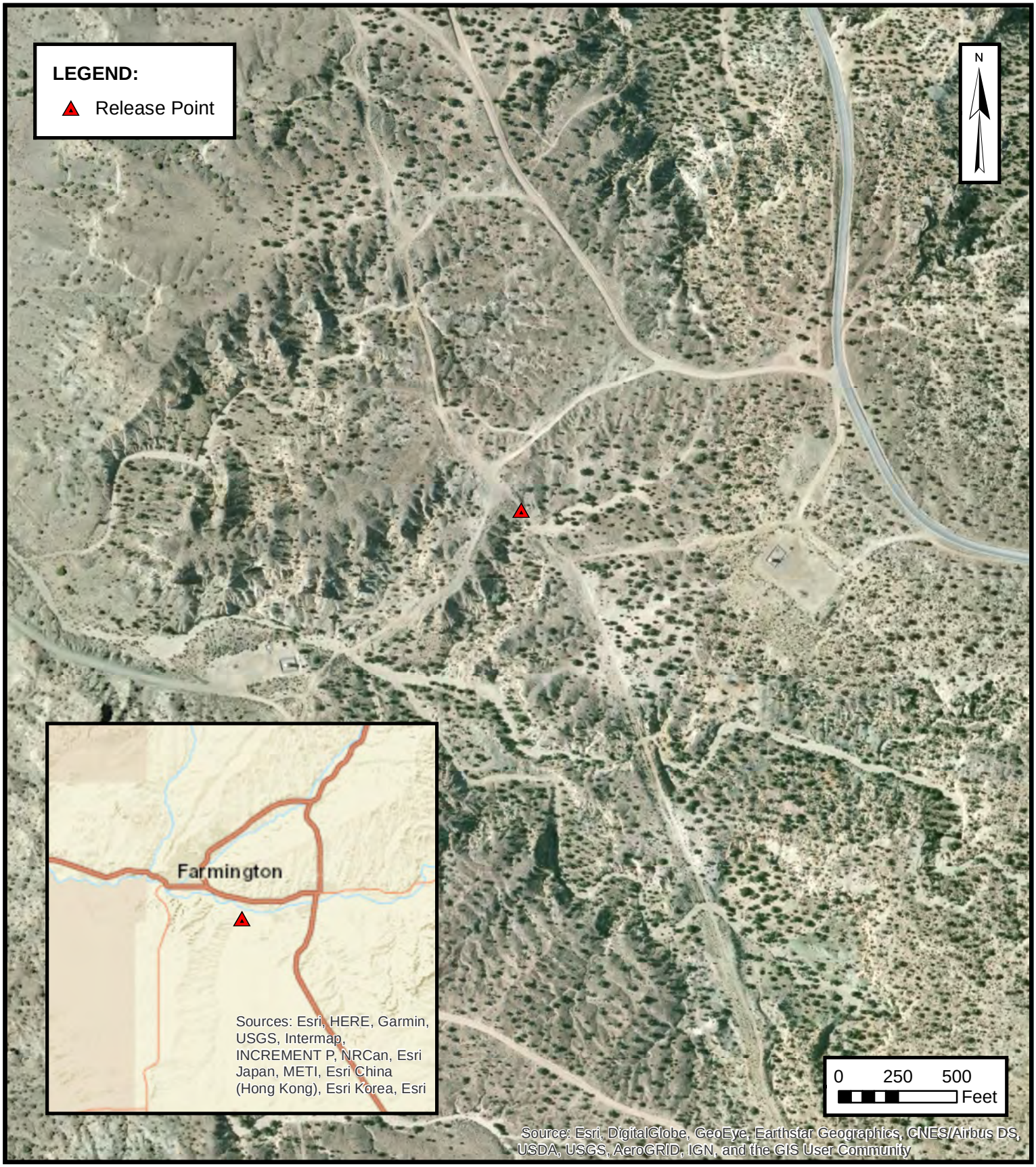
ENSOLUM
Environmental & Hydrogeologic Consultants

TOPOGRAPHIC MAP

ENTERPRISE FIELD SERVICES, LLC
TRUNK 3A PIPELINE RELEASE
SE ¼, S33 T29N R12W, San Juan County, New Mexico
36.679341° N, 108.101911° W

PROJECT NUMBER: 05A1226077

FIGURE
1



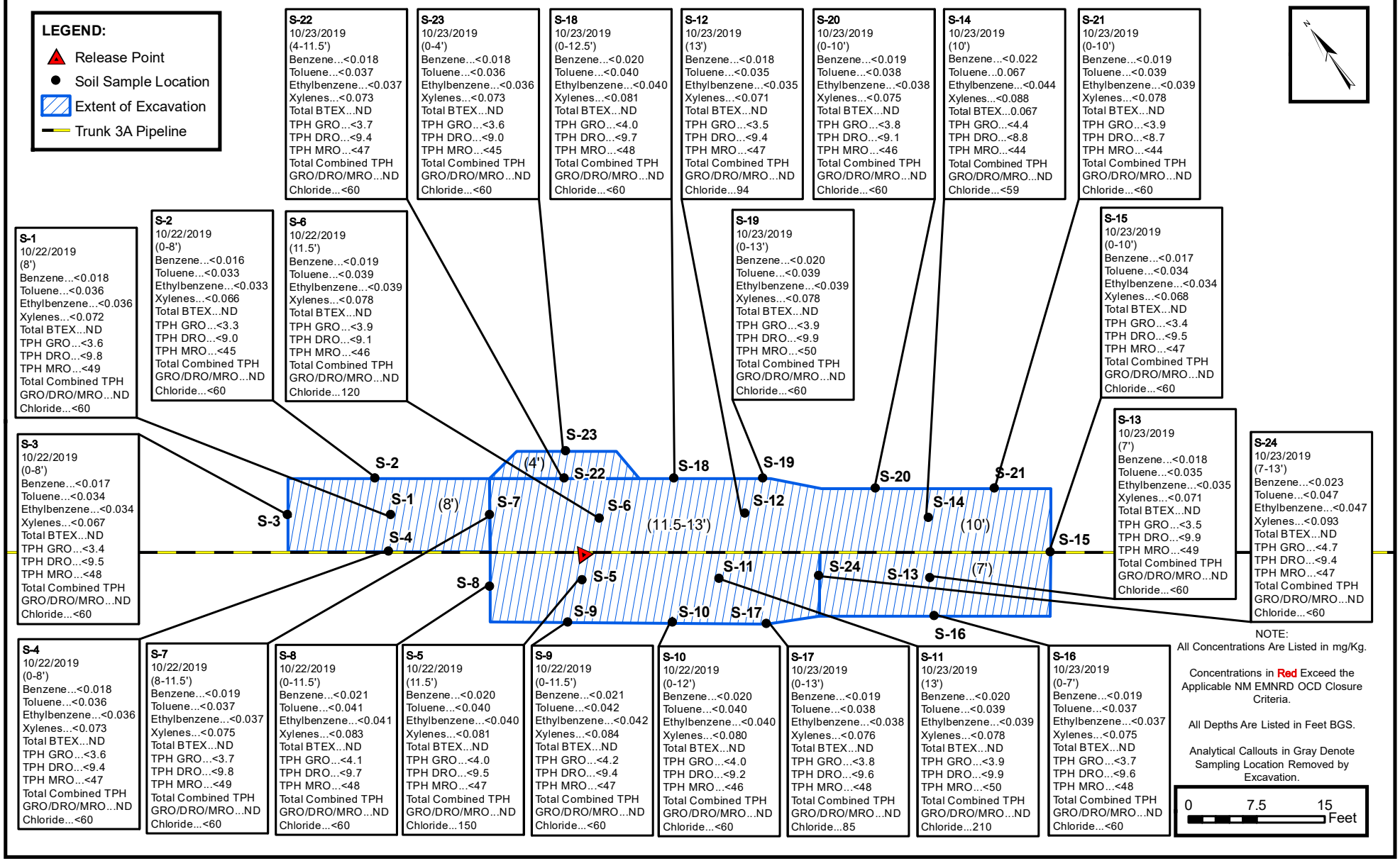
ENSOLUM
Environmental & Hydrogeologic Consultants

SITE VICINITY MAP

ENTERPRISE FIELD SERVICES, LLC
TRUNK 3A PIPELINE RELEASE
SE ¼, S33 T29N R12W, San Juan County, New Mexico
36.679341° N, 108.101911° W

PROJECT NUMBER: 05A1226077

FIGURE
2



ENSOLUM
Environmental & Hydrogeologic Consultants

SITE MAP WITH SOIL ANALYTICAL RESULTS

ENTERPRISE FIELD SERVICES, LLC
TRUNK 3A PIPELINE RELEASE
SE ¼, S33 T29N R12W, San Juan County, New Mexico
36.679341° N, 108.101911° W

PROJECT NUMBER: 05A1226077

FIGURE
3

ENSOLUM

APPENDIX B

Executed C-138 Solid Waste Acceptance Form

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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 97057-1044
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:
Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:
Trunk 3A Piepline

AFE: Pending
PM: ME Eddleman
Pay Key: RB21200

2. Location of Material (Street Address, City, State or ULSTR):
UL J Section 33 T29N R12W; 36.681654, -108.103253

Oct. 2019

4. Source and Description of Waste:
Source: Hydrocarbon contaminated soil associated with remediation activities from a natural gas pipeline release.
Description: Hydrocarbon contaminated soil associated with remediation activities from a natural gas pipeline release.
Estimated Volume 50 (yd³) / bbls Known Volume (to be entered by the operator at the end of the haul) 434 (yd³) / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long (Thomas Long) , representative or authorized agent for Enterprise Products Operating do hereby
Generator Signature
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. *Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load*

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long (Thomas Long) 10-18-19, representative for Enterprise Products Operating authorize to complete
Generator Signature
the required testing/sign the Generator Waste Testing Certification.

I, Greg Crabtree representative for Envirotech, Inc. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: TBD West Stafas, HBL, Prado Farms

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: **Envirotech, Inc. Soil Remediation Facility * Permit #: NM01-0011**
Address of Facility: **Hill Top, NM**
Method of Treatment and/or Disposal:
☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:
☒ **APPROVED** ☐ **DENIED (Must Be Maintained As Permanent Record)**

PRINT NAME: Greg Crabtree TITLE: Enviro Manager DATE: 10/21/19

SIGNATURE: _____ TELEPHONE NO.: 505-632-0615
Surface Waste Management Facility Authorized Agent

ENSOLUM

APPENDIX C

Photographic Documentation

SITE PHOTOGRAPHS

Enterprise Field Services, LLC
Closure Report
Trunk 3A Pipeline Release (Oct 2019)
Ensolum Project No. 05A1226077

ENSOLUM

Photograph 1 Photograph Description: View of in-process excavation activities.	
Photograph 2 Photograph Description: View of in-process excavation at the release area.	
Photograph 3 Photograph Description: View of in-process excavation activities.	

SITE PHOTOGRAPHS

Enterprise Field Services, LLC
Closure Report
Trunk 3A Pipeline Release (Oct 2019)
Ensolum Project No. 05A1226077

ENSOLUM

Photograph 4 Photograph Description: View of the final excavation.	
Photograph 5 Photograph Description: View of the final excavation.	
Photograph 6 Photograph Description: View of the final excavation after initial restoration.	

ENSOLUM

APPENDIX D

Table 1 – Soil Analytical Summary

ENSOLUM

TABLE 1
Trunk 3A Pipeline Release
SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Type C- Composite G - Grab	Sample Depth (Feet)	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 Combined TPH (mg/kg)	Chloride (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department Oil Conservation Division Closure Criteria				10	NE	NE	NE	50				100	600
Stockpile Soil Sample													
SP-1	10.22.19	C	Stockpile	<0.015	<0.031	<0.031	<0.061	ND	<3.1	<8.6	<43	ND	<60
Excavation Composite Soil Samples													
S-1	10.22.19	C	8	<0.018	<0.036	<0.036	<0.072	ND	<3.6	<9.8	<49	ND	<60
S-2	10.22.19	C	0 to 8	<0.016	<0.033	<0.033	<0.066	ND	<3.3	<9.0	<45	ND	<60
S-3	10.22.19	C	0 to 8	<0.017	<0.034	<0.034	<0.067	ND	<3.4	<9.5	<48	ND	<60
S-4	10.22.19	C	0 to 8	<0.018	<0.036	<0.036	<0.073	ND	<3.6	<9.4	<47	ND	<60
S-5	10.22.19	C	11.5	<0.020	<0.040	<0.040	<0.081	ND	<4.0	<9.5	<47	ND	150
S-6	10.22.19	C	11.5	<0.019	<0.039	<0.039	<0.078	ND	<3.9	<9.1	<46	ND	120
S-7	10.22.19	C	8 to 11.5	<0.019	<0.037	<0.037	<0.075	ND	<3.7	<9.8	<49	ND	<60
S-8	10.22.19	C	0 to 11.5	<0.021	<0.041	<0.041	<0.083	ND	<4.1	<9.7	<48	ND	<60
S-9	10.22.19	C	0 to 11.5	<0.021	<0.042	<0.042	<0.084	ND	<4.2	<9.4	<47	ND	<60
S-10	10.22.19	C	0 to 12	<0.020	<0.040	<0.040	<0.080	ND	<4.0	<9.2	<46	ND	<60
S-11	10.23.19	C	13	<0.020	<0.039	<0.039	<0.078	ND	<3.9	<9.9	<50	ND	210
S-12	10.23.19	C	13	<0.018	<0.035	<0.035	<0.071	ND	<3.5	<9.4	<47	ND	94
S-13	10.23.19	C	7	<0.018	<0.035	<0.035	<0.071	ND	<3.5	<9.9	<49	ND	<60
S-14	10.23.19	C	10	<0.022	0.067	<0.044	<0.088	0.067	<4.4	<8.8	<44	ND	<59
S-15	10.23.19	C	0 to 10	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<9.5	<47	ND	<60
S-16	10.23.19	C	0 to 7	<0.019	<0.037	<0.037	<0.075	ND	<3.7	<9.6	<48	ND	<60
S-17	10.23.19	C	0 to 13	<0.019	<0.038	<0.038	<0.076	ND	<3.8	<9.6	<48	ND	85
S-18	10.23.19	C	0 to 12.5	<0.020	<0.040	<0.040	<0.081	ND	<4.0	<9.7	<48	ND	<60
S-19	10.23.19	C	0 to 13	<0.020	<0.039	<0.039	<0.078	ND	<3.9	<9.9	<50	ND	<60
S-20	10.23.19	C	0 to 10	<0.019	<0.038	<0.038	<0.075	ND	<3.8	<9.1	<46	ND	<60
S-21	10.23.19	C	0 to 10	<0.019	<0.039	<0.039	<0.078	ND	<3.9	<8.7	<44	ND	<60
S-22	10.23.19	C	4 to 11.5	<0.018	<0.037	<0.037	<0.073	ND	<3.7	<9.4	<47	ND	<60
S-23	10.23.19	C	0 to 4	<0.018	<0.036	<0.036	<0.073	ND	<3.6	<9.0	<45	ND	<60
S-24	10.23.19	C	7 to 13	<0.023	<0.047	<0.047	<0.093	ND	<4.7	<9.4	<47	ND	<60

Note: Concentrations in **bold** and yellow exceed the applicable NM EMNRD Closure Criteria

ND = Not Detected above the Practical Quantitation Limits or Reporting Limits

NA = Not Analyzed

NE = Not established

mg/kg = milligram per kilogram

BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes

TPH = Total Petroleum Hydrocarbon

GRO = Gasoline Range Organics

DRO = Diesel Range Organics

MRO = Motor Oil/Lube Oil Range Organics

ENSOLUM

APPENDIX E

Laboratory Data Sheets & Chain of Custody Documentation

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 24, 2019

Kyle Summers

ENSOLUM
606 S Rio Grande Ste A
Aztec, NM 87410
TEL:
FAX

RE: Trunk 3A OrderNo.: 1910C20

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 10 sample(s) on 10/23/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1910C20**
Date Reported: **10/24/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-1
Project: Trunk 3A **Collection Date:** 10/22/2019 1:00:00 PM
Lab ID: 1910C20-001 **Matrix:** MEOH (SOIL) **Received Date:** 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/23/2019 11:27:53 AM	48333
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/23/2019 10:55:41 AM	48332
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/23/2019 10:55:41 AM	48332
Surr: DNOP	78.2	70-130		%Rec	1	10/23/2019 10:55:41 AM	48332
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	10/23/2019 10:42:52 AM	G63899
Surr: BFB	88.7	77.4-118		%Rec	1	10/23/2019 10:42:52 AM	G63899
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	10/23/2019 10:42:52 AM	B63899
Toluene	ND	0.036		mg/Kg	1	10/23/2019 10:42:52 AM	B63899
Ethylbenzene	ND	0.036		mg/Kg	1	10/23/2019 10:42:52 AM	B63899
Xylenes, Total	ND	0.072		mg/Kg	1	10/23/2019 10:42:52 AM	B63899
Surr: 4-Bromofluorobenzene	88.4	80-120		%Rec	1	10/23/2019 10:42:52 AM	B63899

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910C20**
Date Reported: **10/24/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-2
Project: Trunk 3A **Collection Date:** 10/22/2019 1:05:00 PM
Lab ID: 1910C20-002 **Matrix:** MEOH (SOIL) **Received Date:** 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/23/2019 11:40:18 AM	48333
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	10/23/2019 11:17:35 AM	48332
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	10/23/2019 11:17:35 AM	48332
Surr: DNOP	78.3	70-130		%Rec	1	10/23/2019 11:17:35 AM	48332
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	10/23/2019 11:05:49 AM	G63899
Surr: BFB	89.5	77.4-118		%Rec	1	10/23/2019 11:05:49 AM	G63899
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.016		mg/Kg	1	10/23/2019 11:05:49 AM	B63899
Toluene	ND	0.033		mg/Kg	1	10/23/2019 11:05:49 AM	B63899
Ethylbenzene	ND	0.033		mg/Kg	1	10/23/2019 11:05:49 AM	B63899
Xylenes, Total	ND	0.066		mg/Kg	1	10/23/2019 11:05:49 AM	B63899
Surr: 4-Bromofluorobenzene	89.5	80-120		%Rec	1	10/23/2019 11:05:49 AM	B63899

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910C20**
Date Reported: **10/24/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-3
Project: Trunk 3A **Collection Date:** 10/22/2019 1:10:00 PM
Lab ID: 1910C20-003 **Matrix:** MEOH (SOIL) **Received Date:** 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/23/2019 11:52:42 AM	48333
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/23/2019 11:39:41 AM	48332
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/23/2019 11:39:41 AM	48332
Surr: DNOP	78.4	70-130		%Rec	1	10/23/2019 11:39:41 AM	48332
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	10/23/2019 11:28:48 AM	G63899
Surr: BFB	88.7	77.4-118		%Rec	1	10/23/2019 11:28:48 AM	G63899
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	10/23/2019 11:28:48 AM	B63899
Toluene	ND	0.034		mg/Kg	1	10/23/2019 11:28:48 AM	B63899
Ethylbenzene	ND	0.034		mg/Kg	1	10/23/2019 11:28:48 AM	B63899
Xylenes, Total	ND	0.067		mg/Kg	1	10/23/2019 11:28:48 AM	B63899
Surr: 4-Bromofluorobenzene	87.9	80-120		%Rec	1	10/23/2019 11:28:48 AM	B63899

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910C20**
Date Reported: **10/24/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-4
Project: Trunk 3A **Collection Date:** 10/22/2019 1:15:00 PM
Lab ID: 1910C20-004 **Matrix:** MEOH (SOIL) **Received Date:** 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/23/2019 12:05:07 PM	48333
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/23/2019 12:01:36 PM	48332
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/23/2019 12:01:36 PM	48332
Surr: DNOP	82.7	70-130		%Rec	1	10/23/2019 12:01:36 PM	48332
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	10/23/2019 11:51:50 AM	G63899
Surr: BFB	90.3	77.4-118		%Rec	1	10/23/2019 11:51:50 AM	G63899
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	10/23/2019 11:51:50 AM	B63899
Toluene	ND	0.036		mg/Kg	1	10/23/2019 11:51:50 AM	B63899
Ethylbenzene	ND	0.036		mg/Kg	1	10/23/2019 11:51:50 AM	B63899
Xylenes, Total	ND	0.073		mg/Kg	1	10/23/2019 11:51:50 AM	B63899
Surr: 4-Bromofluorobenzene	88.8	80-120		%Rec	1	10/23/2019 11:51:50 AM	B63899

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910C20**
Date Reported: **10/24/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-5
Project: Trunk 3A **Collection Date:** 10/22/2019 2:00:00 PM
Lab ID: 1910C20-005 **Matrix:** MEOH (SOIL) **Received Date:** 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	150	59		mg/Kg	20	10/23/2019 12:17:31 PM	48333
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/23/2019 12:23:46 PM	48332
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/23/2019 12:23:46 PM	48332
Surr: DNOP	83.3	70-130		%Rec	1	10/23/2019 12:23:46 PM	48332
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	10/23/2019 12:14:39 PM	G63899
Surr: BFB	92.0	77.4-118		%Rec	1	10/23/2019 12:14:39 PM	G63899
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.020		mg/Kg	1	10/23/2019 12:14:39 PM	B63899
Toluene	ND	0.040		mg/Kg	1	10/23/2019 12:14:39 PM	B63899
Ethylbenzene	ND	0.040		mg/Kg	1	10/23/2019 12:14:39 PM	B63899
Xylenes, Total	ND	0.081		mg/Kg	1	10/23/2019 12:14:39 PM	B63899
Surr: 4-Bromofluorobenzene	90.1	80-120		%Rec	1	10/23/2019 12:14:39 PM	B63899

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910C20**
Date Reported: **10/24/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-6
Project: Trunk 3A **Collection Date:** 10/22/2019 2:05:00 PM
Lab ID: 1910C20-006 **Matrix:** MEOH (SOIL) **Received Date:** 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	120	60		mg/Kg	20	10/23/2019 12:29:56 PM	48333
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	10/23/2019 12:45:39 PM	48332
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/23/2019 12:45:39 PM	48332
Surr: DNOP	87.1	70-130		%Rec	1	10/23/2019 12:45:39 PM	48332
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	10/23/2019 12:37:26 PM	G63899
Surr: BFB	92.8	77.4-118		%Rec	1	10/23/2019 12:37:26 PM	G63899
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	10/23/2019 12:37:26 PM	B63899
Toluene	ND	0.039		mg/Kg	1	10/23/2019 12:37:26 PM	B63899
Ethylbenzene	ND	0.039		mg/Kg	1	10/23/2019 12:37:26 PM	B63899
Xylenes, Total	ND	0.078		mg/Kg	1	10/23/2019 12:37:26 PM	B63899
Surr: 4-Bromofluorobenzene	90.8	80-120		%Rec	1	10/23/2019 12:37:26 PM	B63899

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910C20**
Date Reported: **10/24/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-7
Project: Trunk 3A **Collection Date:** 10/22/2019 2:10:00 PM
Lab ID: 1910C20-007 **Matrix:** MEOH (SOIL) **Received Date:** 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/23/2019 12:42:20 PM	48333
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/23/2019 1:07:44 PM	48332
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/23/2019 1:07:44 PM	48332
Surr: DNOP	84.5	70-130		%Rec	1	10/23/2019 1:07:44 PM	48332
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	10/23/2019 1:00:12 PM	G63899
Surr: BFB	91.6	77.4-118		%Rec	1	10/23/2019 1:00:12 PM	G63899
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	10/23/2019 1:00:12 PM	B63899
Toluene	ND	0.037		mg/Kg	1	10/23/2019 1:00:12 PM	B63899
Ethylbenzene	ND	0.037		mg/Kg	1	10/23/2019 1:00:12 PM	B63899
Xylenes, Total	ND	0.075		mg/Kg	1	10/23/2019 1:00:12 PM	B63899
Surr: 4-Bromofluorobenzene	90.2	80-120		%Rec	1	10/23/2019 1:00:12 PM	B63899

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910C20**
Date Reported: **10/24/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-8
Project: Trunk 3A **Collection Date:** 10/22/2019 2:15:00 PM
Lab ID: 1910C20-008 **Matrix:** MEOH (SOIL) **Received Date:** 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/23/2019 1:19:34 PM	48333
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/23/2019 1:29:44 PM	48332
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/23/2019 1:29:44 PM	48332
Surr: DNOP	78.5	70-130		%Rec	1	10/23/2019 1:29:44 PM	48332
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	10/23/2019 4:48:39 PM	G63899
Surr: BFB	89.9	77.4-118		%Rec	1	10/23/2019 4:48:39 PM	G63899
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.021		mg/Kg	1	10/23/2019 4:48:39 PM	B63899
Toluene	ND	0.041		mg/Kg	1	10/23/2019 4:48:39 PM	B63899
Ethylbenzene	ND	0.041		mg/Kg	1	10/23/2019 4:48:39 PM	B63899
Xylenes, Total	ND	0.083		mg/Kg	1	10/23/2019 4:48:39 PM	B63899
Surr: 4-Bromofluorobenzene	91.0	80-120		%Rec	1	10/23/2019 4:48:39 PM	B63899

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910C20**
Date Reported: **10/24/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-9
Project: Trunk 3A **Collection Date:** 10/22/2019 4:00:00 PM
Lab ID: 1910C20-009 **Matrix:** MEOH (SOIL) **Received Date:** 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/23/2019 1:31:59 PM	48333
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/23/2019 12:55:11 PM	48332
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/23/2019 12:55:11 PM	48332
Surr: DNOP	88.4	70-130		%Rec	1	10/23/2019 12:55:11 PM	48332
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	10/23/2019 5:11:23 PM	G63899
Surr: BFB	92.0	77.4-118		%Rec	1	10/23/2019 5:11:23 PM	G63899
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.021		mg/Kg	1	10/23/2019 5:11:23 PM	B63899
Toluene	ND	0.042		mg/Kg	1	10/23/2019 5:11:23 PM	B63899
Ethylbenzene	ND	0.042		mg/Kg	1	10/23/2019 5:11:23 PM	B63899
Xylenes, Total	ND	0.084		mg/Kg	1	10/23/2019 5:11:23 PM	B63899
Surr: 4-Bromofluorobenzene	92.6	80-120		%Rec	1	10/23/2019 5:11:23 PM	B63899

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910C20**
Date Reported: **10/24/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-10
Project: Trunk 3A **Collection Date:** 10/22/2019 4:10:00 PM
Lab ID: 1910C20-010 **Matrix:** MEOH (SOIL) **Received Date:** 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	10/23/2019 1:44:24 PM	48333
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	10/23/2019 1:19:39 PM	48332
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/23/2019 1:19:39 PM	48332
Surr: DNOP	80.4	70-130		%Rec	1	10/23/2019 1:19:39 PM	48332
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	10/23/2019 5:34:10 PM	G63899
Surr: BFB	93.1	77.4-118		%Rec	1	10/23/2019 5:34:10 PM	G63899
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.020		mg/Kg	1	10/23/2019 5:34:10 PM	B63899
Toluene	ND	0.040		mg/Kg	1	10/23/2019 5:34:10 PM	B63899
Ethylbenzene	ND	0.040		mg/Kg	1	10/23/2019 5:34:10 PM	B63899
Xylenes, Total	ND	0.080		mg/Kg	1	10/23/2019 5:34:10 PM	B63899
Surr: 4-Bromofluorobenzene	93.5	80-120		%Rec	1	10/23/2019 5:34:10 PM	B63899

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910C20**
24-Oct-19

Client: ENSOLUM
Project: Trunk 3A

Sample ID: **MB-48333**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **48333**	RunNo: **63893**
Prep Date: **10/23/2019**	Analysis Date: **10/23/2019**	SeqNo: **2185835** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-48333**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **48333**	RunNo: **63893**
Prep Date: **10/23/2019**	Analysis Date: **10/23/2019**	SeqNo: **2185836** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	16	1.5	15.00	0	104	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1910C20**

24-Oct-19

Client: ENSOLUM

Project: Trunk 3A

Sample ID: **MB-48332**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **48332**	RunNo: **63890**
Prep Date: **10/23/2019**	Analysis Date: **10/23/2019**	SeqNo: **2184756** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.3		10.00		93.4	70	130			

Sample ID: **LCS-48332**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **48332**	RunNo: **63890**
Prep Date: **10/23/2019**	Analysis Date: **10/23/2019**	SeqNo: **2184768** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.3	63.9	124			
Surr: DNOP	3.9		5.000		77.3	70	130			

Sample ID: **1910C20-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-1**	Batch ID: **48332**	RunNo: **63888**
Prep Date: **10/23/2019**	Analysis Date: **10/23/2019**	SeqNo: **2185430** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.3	46.69	4.756	81.8	57	142			
Surr: DNOP	4.3		4.669		93.0	70	130			

Sample ID: **1910C20-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-1**	Batch ID: **48332**	RunNo: **63888**
Prep Date: **10/23/2019**	Analysis Date: **10/24/2019**	SeqNo: **2185431** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.1	45.41	4.756	87.3	57	142	3.29	20	
Surr: DNOP	4.0		4.541		88.5	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910C20**
24-Oct-19

Client: ENSOLUM
Project: Trunk 3A

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G63899**	RunNo: **63899**
Prep Date:	Analysis Date: **10/23/2019**	SeqNo: **2185270** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		97.0	77.4	118			

Sample ID: **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G63899**	RunNo: **63899**
Prep Date:	Analysis Date: **10/23/2019**	SeqNo: **2185278** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.7	80	120			
Surr: BFB	1100		1000		109	77.4	118			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910C20**
24-Oct-19

Client: ENSOLUM
Project: Trunk 3A

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B63899**	RunNo: **63899**
Prep Date:	Analysis Date: **10/23/2019**	SeqNo: **2185313** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		98.7	80	120			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B63899**	RunNo: **63899**
Prep Date:	Analysis Date: **10/23/2019**	SeqNo: **2185314** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	90.6	80	120			
Toluene	0.93	0.050	1.000	0	92.9	80	120			
Ethylbenzene	0.92	0.050	1.000	0	92.4	80	120			
Xylenes, Total	2.7	0.10	3.000	0	90.7	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **ENSOLUM AZTEC** Work Order Number: **1910C20** RcptNo: 1

Received By: Juan Rojas **10/23/2019 8:20:00 AM**

Completed By: **Erin Melendrez** **10/23/2019 8:33:00 AM**

Reviewed By: ENM 10/23/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: DM 10/23/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes			

Chain-of-Custody Record

Client: Ensolum, LLC

Mailing Address: 6065 S. Rio Grande Suite A
Aztec, NM 87410

Phone #:

email or Fax#: ksummers@ensolum.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: Same Day
☐ Standard ☒ Rush 100% Day

Project Name: Trunk 3A

Project #: See notes

Project Manager: KSummers

Sampler: RDeechilly

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF): 1.6 + 0.2 = 1.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1910C20	BTEX / ~~MTBE~~ / ~~TMB's~~ (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Chloride
10/22/19	1300	S	S-1	1x4oz Jar	cool	-001	X	X									X
10/22/19	1305	S	S-2	1x4oz Jar	cool	-002	X	X									X
10/22/19	1310	S	S-3	1x4oz Jar	cool	-003	X	X									X
10/22/19	1315	S	S-4	1x4oz Jar	cool	-004	X	X									X
10/22/19	1400	S	S-5	1x4oz Jar	cool	-005	X	X									X
10/22/19	1405	S	S-6	1x4oz Jar	cool	-006	X	X									X
10/22/19	1410	S	S-7	1x4oz Jar	cool	-007	X	X									X
10/22/19	1415	S	S-8	1x4oz Jar	cool	-008	X	X									X
10/22/19	1600	S	S-9	1x4oz Jar	cool	-009	X	X									X
10/22/19	1610	S	S-10	1x4oz Jar	cool	-010	X	X									X

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
10/22/19	1817				10/22/19	1817
10/22/19	2014			carrier	10/23/19	8:20

Remarks:
SAMEDAY
PM - Tom Long
Pay Key: RB21200
Num AFE: N44182

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 24, 2019

Kyle Summers
ENSOLUM
606 S. Rio Grande Suite A
Aztec, NM 87410
TEL: (903) 821-5603
FAX

RE: Trunk 3A OrderNo.: 1910C22

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/23/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1910C22**
Date Reported: **10/24/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** SP-1
Project: Trunk 3A **Collection Date:** 10/22/2019 4:30:00 PM
Lab ID: 1910C22-001 **Matrix:** MEOH (SOIL) **Received Date:** 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/23/2019 1:56:48 PM	48333
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	10/23/2019 11:41:47 AM	48332
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	10/23/2019 11:41:47 AM	48332
Surr: DNOP	85.3	70-130		%Rec	1	10/23/2019 11:41:47 AM	48332
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	10/23/2019 9:33:48 AM	G63899
Surr: BFB	88.3	77.4-118		%Rec	1	10/23/2019 9:33:48 AM	G63899
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.015		mg/Kg	1	10/23/2019 9:33:48 AM	B63899
Toluene	ND	0.031		mg/Kg	1	10/23/2019 9:33:48 AM	B63899
Ethylbenzene	ND	0.031		mg/Kg	1	10/23/2019 9:33:48 AM	B63899
Xylenes, Total	ND	0.061		mg/Kg	1	10/23/2019 9:33:48 AM	B63899
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	10/23/2019 9:33:48 AM	B63899

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1910C22**

24-Oct-19

Client: ENSOLUM

Project: Trunk 3A

Sample ID: **MB-48333** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **48333** RunNo: **63893**

Prep Date: **10/23/2019** Analysis Date: **10/23/2019** SeqNo: **2185835** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-48333** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **48333** RunNo: **63893**

Prep Date: **10/23/2019** Analysis Date: **10/23/2019** SeqNo: **2185836** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	16	1.5	15.00	0	104	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910C22**
24-Oct-19

Client: ENSOLUM
Project: Trunk 3A

Sample ID: **MB-48332**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **48332**	RunNo: **63890**
Prep Date: **10/23/2019**	Analysis Date: **10/23/2019**	SeqNo: **2184756** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.3		10.00		93.4	70	130			

Sample ID: **LCS-48332**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **48332**	RunNo: **63890**
Prep Date: **10/23/2019**	Analysis Date: **10/23/2019**	SeqNo: **2184768** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.3	63.9	124			
Surr: DNOP	3.9		5.000		77.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1910C22**

24-Oct-19

Client: ENSOLUM

Project: Trunk 3A

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G63899**	RunNo: **63899**
Prep Date:	Analysis Date: **10/23/2019**	SeqNo: **2185270** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		97.0	77.4	118			

Sample ID: **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G63899**	RunNo: **63899**
Prep Date:	Analysis Date: **10/23/2019**	SeqNo: **2185278** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.7	80	120			
Surr: BFB	1100		1000		109	77.4	118			

Sample ID: **1910C22-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP-1**	Batch ID: **G63899**	RunNo: **63899**
Prep Date:	Analysis Date: **10/23/2019**	SeqNo: **2185279** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	16	3.1	15.29	0	107	69.1	142			
Surr: BFB	680		611.6		111	77.4	118			

Sample ID: **1910C22-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP-1**	Batch ID: **G63899**	RunNo: **63899**
Prep Date:	Analysis Date: **10/23/2019**	SeqNo: **2185280** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	3.1	15.29	0	130	69.1	142	19.0	20	
Surr: BFB	690		611.6		113	77.4	118	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1910C22**

24-Oct-19

Client: ENSOLUM

Project: Trunk 3A

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B63899**	RunNo: **63899**
Prep Date:	Analysis Date: **10/23/2019**	SeqNo: **2185313** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		98.7	80	120			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B63899**	RunNo: **63899**
Prep Date:	Analysis Date: **10/23/2019**	SeqNo: **2185314** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	90.6	80	120			
Toluene	0.93	0.050	1.000	0	92.9	80	120			
Ethylbenzene	0.92	0.050	1.000	0	92.4	80	120			
Xylenes, Total	2.7	0.10	3.000	0	90.7	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **ENSOLUM AZTEC** Work Order Number: **1910C22** RcptNo: **1**

Received By: Juan Rojas **10/23/2019 8:20:00 AM**

Completed By: **Erin Melendrez** **10/23/2019 8:39:59 AM**

Reviewed By: ENM 10/23/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: DM 10/23/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes			

Chain-of-Custody Record

Client: Ensolum, LLC

Mailing Address: 606 S. Rio Grande Suite A
Aztec, NM 87410

Phone #:

email or Fax#: ksummers@ensolum.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 100% SAME DAY

Project Name: Trunk 3A

Project #: See notes

Project Manager: ksummers

Sampler: RDeechilly
On Ice: ☑ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 1.6 + 0.2 = 1.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1910C22	BTEX / ~~MTBE~~ / ~~TMB's~~ (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Chlorides
10/22/19	1630	S	SP-1	1x4oz Jar	cool	-001	X	X									X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/22/19	1817				10/22/19	1817
10/22/19	2014			carrier	10/23/19	8:20

Remarks:
SAME DAY
PM - Tom Long
Pay Key - RB21200
Non AFE: N 44152

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 25, 2019

Kyle Summers
ENSOLUM
606 S. Rio Grande Suite A
Aztec, NM 87410
TEL: (903) 821-5603
FAX

RE: Trunk 3A OrderNo.: 1910D01

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 14 sample(s) on 10/24/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1910D01**
Date Reported: **10/25/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-11
Project: Trunk 3A **Collection Date:** 10/23/2019 12:00:00 PM
Lab ID: 1910D01-001 **Matrix:** MEOH (SOIL) **Received Date:** 10/24/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	210	60		mg/Kg	20	10/24/2019 10:54:58 AM	48355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/24/2019 10:14:05 AM	48351
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/24/2019 10:14:05 AM	48351
Surr: DNOP	82.2	70-130		%Rec	1	10/24/2019 10:14:05 AM	48351
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	10/24/2019 9:57:33 AM	G63935
Surr: BFB	92.0	77.4-118		%Rec	1	10/24/2019 9:57:33 AM	G63935
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.020		mg/Kg	1	10/24/2019 9:57:33 AM	B63935
Toluene	ND	0.039		mg/Kg	1	10/24/2019 9:57:33 AM	B63935
Ethylbenzene	ND	0.039		mg/Kg	1	10/24/2019 9:57:33 AM	B63935
Xylenes, Total	ND	0.078		mg/Kg	1	10/24/2019 9:57:33 AM	B63935
Surr: 4-Bromofluorobenzene	91.9	80-120		%Rec	1	10/24/2019 9:57:33 AM	B63935

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **1910D01**
Date Reported: **10/25/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-12
Project: Trunk 3A **Collection Date:** 10/23/2019 12:05:00 PM
Lab ID: 1910D01-002 **Matrix:** MEOH (SOIL) **Received Date:** 10/24/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	94	60		mg/Kg	20	10/24/2019 11:07:22 AM	48355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/24/2019 10:38:17 AM	48351
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/24/2019 10:38:17 AM	48351
Surr: DNOP	86.8	70-130		%Rec	1	10/24/2019 10:38:17 AM	48351
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	10/24/2019 10:20:28 AM	G63935
Surr: BFB	89.7	77.4-118		%Rec	1	10/24/2019 10:20:28 AM	G63935
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	10/24/2019 10:20:28 AM	B63935
Toluene	ND	0.035		mg/Kg	1	10/24/2019 10:20:28 AM	B63935
Ethylbenzene	ND	0.035		mg/Kg	1	10/24/2019 10:20:28 AM	B63935
Xylenes, Total	ND	0.071		mg/Kg	1	10/24/2019 10:20:28 AM	B63935
Surr: 4-Bromofluorobenzene	88.9	80-120		%Rec	1	10/24/2019 10:20:28 AM	B63935

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910D01**
Date Reported: **10/25/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-13
Project: Trunk 3A **Collection Date:** 10/23/2019 2:10:00 PM
Lab ID: 1910D01-003 **Matrix:** MEOH (SOIL) **Received Date:** 10/24/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/24/2019 11:19:47 AM	48355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/24/2019 11:02:23 AM	48351
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/24/2019 11:02:23 AM	48351
Surr: DNOP	91.8	70-130		%Rec	1	10/24/2019 11:02:23 AM	48351
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	10/24/2019 10:43:19 AM	G63935
Surr: BFB	93.7	77.4-118		%Rec	1	10/24/2019 10:43:19 AM	G63935
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	10/24/2019 10:43:19 AM	B63935
Toluene	ND	0.035		mg/Kg	1	10/24/2019 10:43:19 AM	B63935
Ethylbenzene	ND	0.035		mg/Kg	1	10/24/2019 10:43:19 AM	B63935
Xylenes, Total	ND	0.071		mg/Kg	1	10/24/2019 10:43:19 AM	B63935
Surr: 4-Bromofluorobenzene	90.5	80-120		%Rec	1	10/24/2019 10:43:19 AM	B63935

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910D01**
Date Reported: **10/25/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-14
Project: Trunk 3A **Collection Date:** 10/23/2019 2:15:00 PM
Lab ID: 1910D01-004 **Matrix:** MEOH (SOIL) **Received Date:** 10/24/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	59		mg/Kg	20	10/24/2019 11:32:11 AM	48355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	10/24/2019 11:26:43 AM	48351
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	10/24/2019 11:26:43 AM	48351
Surr: DNOP	83.2	70-130		%Rec	1	10/24/2019 11:26:43 AM	48351
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	10/24/2019 11:06:01 AM	G63935
Surr: BFB	99.2	77.4-118		%Rec	1	10/24/2019 11:06:01 AM	G63935
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.022		mg/Kg	1	10/24/2019 11:06:01 AM	B63935
Toluene	0.067	0.044		mg/Kg	1	10/24/2019 11:06:01 AM	B63935
Ethylbenzene	ND	0.044		mg/Kg	1	10/24/2019 11:06:01 AM	B63935
Xylenes, Total	ND	0.088		mg/Kg	1	10/24/2019 11:06:01 AM	B63935
Surr: 4-Bromofluorobenzene	95.0	80-120		%Rec	1	10/24/2019 11:06:01 AM	B63935

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910D01**
Date Reported: **10/25/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-15
Project: Trunk 3A **Collection Date:** 10/23/2019 2:20:00 PM
Lab ID: 1910D01-005 **Matrix:** MEOH (SOIL) **Received Date:** 10/24/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/24/2019 11:44:35 AM	48355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/24/2019 11:50:54 AM	48351
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/24/2019 11:50:54 AM	48351
Surr: DNOP	79.0	70-130		%Rec	1	10/24/2019 11:50:54 AM	48351
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	10/24/2019 11:28:45 AM	G63935
Surr: BFB	96.8	77.4-118		%Rec	1	10/24/2019 11:28:45 AM	G63935
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	10/24/2019 11:28:45 AM	B63935
Toluene	ND	0.034		mg/Kg	1	10/24/2019 11:28:45 AM	B63935
Ethylbenzene	ND	0.034		mg/Kg	1	10/24/2019 11:28:45 AM	B63935
Xylenes, Total	ND	0.068		mg/Kg	1	10/24/2019 11:28:45 AM	B63935
Surr: 4-Bromofluorobenzene	93.2	80-120		%Rec	1	10/24/2019 11:28:45 AM	B63935

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910D01**
Date Reported: **10/25/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-16
Project: Trunk 3A **Collection Date:** 10/23/2019 2:25:00 PM
Lab ID: 1910D01-006 **Matrix:** MEOH (SOIL) **Received Date:** 10/24/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/24/2019 11:56:59 AM	48355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/24/2019 12:15:11 PM	48351
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/24/2019 12:15:11 PM	48351
Surr: DNOP	79.0	70-130		%Rec	1	10/24/2019 12:15:11 PM	48351
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	10/24/2019 11:51:24 AM	G63935
Surr: BFB	97.5	77.4-118		%Rec	1	10/24/2019 11:51:24 AM	G63935
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	10/24/2019 11:51:24 AM	B63935
Toluene	ND	0.037		mg/Kg	1	10/24/2019 11:51:24 AM	B63935
Ethylbenzene	ND	0.037		mg/Kg	1	10/24/2019 11:51:24 AM	B63935
Xylenes, Total	ND	0.075		mg/Kg	1	10/24/2019 11:51:24 AM	B63935
Surr: 4-Bromofluorobenzene	95.6	80-120		%Rec	1	10/24/2019 11:51:24 AM	B63935

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910D01**
Date Reported: **10/25/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-17
Project: Trunk 3A **Collection Date:** 10/23/2019 2:30:00 PM
Lab ID: 1910D01-007 **Matrix:** MEOH (SOIL) **Received Date:** 10/24/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	85	60		mg/Kg	20	10/24/2019 12:09:24 PM	48355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/24/2019 10:28:27 AM	48351
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/24/2019 10:28:27 AM	48351
Surr: DNOP	75.9	70-130		%Rec	1	10/24/2019 10:28:27 AM	48351
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	10/24/2019 12:14:05 PM	G63935
Surr: BFB	96.9	77.4-118		%Rec	1	10/24/2019 12:14:05 PM	G63935
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	10/24/2019 12:14:05 PM	B63935
Toluene	ND	0.038		mg/Kg	1	10/24/2019 12:14:05 PM	B63935
Ethylbenzene	ND	0.038		mg/Kg	1	10/24/2019 12:14:05 PM	B63935
Xylenes, Total	ND	0.076		mg/Kg	1	10/24/2019 12:14:05 PM	B63935
Surr: 4-Bromofluorobenzene	94.3	80-120		%Rec	1	10/24/2019 12:14:05 PM	B63935

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910D01**
Date Reported: **10/25/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-18
Project: Trunk 3A **Collection Date:** 10/23/2019 2:35:00 PM
Lab ID: 1910D01-008 **Matrix:** MEOH (SOIL) **Received Date:** 10/24/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/24/2019 12:21:49 PM	48355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/24/2019 10:50:23 AM	48351
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/24/2019 10:50:23 AM	48351
Surr: DNOP	73.0	70-130		%Rec	1	10/24/2019 10:50:23 AM	48351
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	10/24/2019 12:36:52 PM	G63935
Surr: BFB	96.1	77.4-118		%Rec	1	10/24/2019 12:36:52 PM	G63935
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.020		mg/Kg	1	10/24/2019 12:36:52 PM	B63935
Toluene	ND	0.040		mg/Kg	1	10/24/2019 12:36:52 PM	B63935
Ethylbenzene	ND	0.040		mg/Kg	1	10/24/2019 12:36:52 PM	B63935
Xylenes, Total	ND	0.081		mg/Kg	1	10/24/2019 12:36:52 PM	B63935
Surr: 4-Bromofluorobenzene	93.7	80-120		%Rec	1	10/24/2019 12:36:52 PM	B63935

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910D01**
Date Reported: **10/25/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-19
Project: Trunk 3A **Collection Date:** 10/23/2019 2:40:00 PM
Lab ID: 1910D01-009 **Matrix:** MEOH (SOIL) **Received Date:** 10/24/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/24/2019 12:59:03 PM	48355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/24/2019 11:12:28 AM	48351
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/24/2019 11:12:28 AM	48351
Surr: DNOP	72.8	70-130		%Rec	1	10/24/2019 11:12:28 AM	48351
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	10/24/2019 11:35:33 AM	G63934
Surr: BFB	95.7	77.4-118		%Rec	1	10/24/2019 11:35:33 AM	G63934
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.020		mg/Kg	1	10/24/2019 11:35:33 AM	B63934
Toluene	ND	0.039		mg/Kg	1	10/24/2019 11:35:33 AM	B63934
Ethylbenzene	ND	0.039		mg/Kg	1	10/24/2019 11:35:33 AM	B63934
Xylenes, Total	ND	0.078		mg/Kg	1	10/24/2019 11:35:33 AM	B63934
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	10/24/2019 11:35:33 AM	B63934

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910D01**
Date Reported: **10/25/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-20
Project: Trunk 3A **Collection Date:** 10/23/2019 2:45:00 PM
Lab ID: 1910D01-010 **Matrix:** MEOH (SOIL) **Received Date:** 10/24/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/24/2019 1:11:28 PM	48355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	10/24/2019 11:34:28 AM	48351
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/24/2019 11:34:28 AM	48351
Surr: DNOP	76.5	70-130		%Rec	1	10/24/2019 11:34:28 AM	48351
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	10/24/2019 9:37:48 AM	G63934
Surr: BFB	97.2	77.4-118		%Rec	1	10/24/2019 9:37:48 AM	G63934
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	10/24/2019 9:37:48 AM	B63934
Toluene	ND	0.038		mg/Kg	1	10/24/2019 9:37:48 AM	B63934
Ethylbenzene	ND	0.038		mg/Kg	1	10/24/2019 9:37:48 AM	B63934
Xylenes, Total	ND	0.075		mg/Kg	1	10/24/2019 9:37:48 AM	B63934
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	10/24/2019 9:37:48 AM	B63934

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910D01**
Date Reported: **10/25/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-21
Project: Trunk 3A **Collection Date:** 10/23/2019 3:05:00 PM
Lab ID: 1910D01-011 **Matrix:** MEOH (SOIL) **Received Date:** 10/24/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/24/2019 1:23:52 PM	48355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	10/24/2019 11:56:35 AM	48351
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	10/24/2019 11:56:35 AM	48351
Surr: DNOP	77.3	70-130		%Rec	1	10/24/2019 11:56:35 AM	48351
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	10/24/2019 10:01:23 AM	G63934
Surr: BFB	89.8	77.4-118		%Rec	1	10/24/2019 10:01:23 AM	G63934
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	10/24/2019 10:01:23 AM	B63934
Toluene	ND	0.039		mg/Kg	1	10/24/2019 10:01:23 AM	B63934
Ethylbenzene	ND	0.039		mg/Kg	1	10/24/2019 10:01:23 AM	B63934
Xylenes, Total	ND	0.078		mg/Kg	1	10/24/2019 10:01:23 AM	B63934
Surr: 4-Bromofluorobenzene	94.0	80-120		%Rec	1	10/24/2019 10:01:23 AM	B63934

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910D01**
Date Reported: **10/25/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-22
Project: Trunk 3A **Collection Date:** 10/23/2019 3:10:00 PM
Lab ID: 1910D01-012 **Matrix:** MEOH (SOIL) **Received Date:** 10/24/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/24/2019 1:36:17 PM	48355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/24/2019 12:18:34 PM	48351
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/24/2019 12:18:34 PM	48351
Surr: DNOP	75.5	70-130		%Rec	1	10/24/2019 12:18:34 PM	48351
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	10/24/2019 10:24:56 AM	G63934
Surr: BFB	86.5	77.4-118		%Rec	1	10/24/2019 10:24:56 AM	G63934
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	10/24/2019 10:24:56 AM	B63934
Toluene	ND	0.037		mg/Kg	1	10/24/2019 10:24:56 AM	B63934
Ethylbenzene	ND	0.037		mg/Kg	1	10/24/2019 10:24:56 AM	B63934
Xylenes, Total	ND	0.073		mg/Kg	1	10/24/2019 10:24:56 AM	B63934
Surr: 4-Bromofluorobenzene	90.9	80-120		%Rec	1	10/24/2019 10:24:56 AM	B63934

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910D01**
Date Reported: **10/25/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-23
Project: Trunk 3A **Collection Date:** 10/23/2019 3:15:00 PM
Lab ID: 1910D01-013 **Matrix:** MEOH (SOIL) **Received Date:** 10/24/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/24/2019 1:48:42 PM	48355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	10/24/2019 12:40:38 PM	48351
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	10/24/2019 12:40:38 PM	48351
Surr: DNOP	77.3	70-130		%Rec	1	10/24/2019 12:40:38 PM	48351
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	10/24/2019 10:48:29 AM	G63934
Surr: BFB	95.0	77.4-118		%Rec	1	10/24/2019 10:48:29 AM	G63934
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	10/24/2019 10:48:29 AM	B63934
Toluene	ND	0.036		mg/Kg	1	10/24/2019 10:48:29 AM	B63934
Ethylbenzene	ND	0.036		mg/Kg	1	10/24/2019 10:48:29 AM	B63934
Xylenes, Total	ND	0.073		mg/Kg	1	10/24/2019 10:48:29 AM	B63934
Surr: 4-Bromofluorobenzene	98.5	80-120		%Rec	1	10/24/2019 10:48:29 AM	B63934

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910D01**
Date Reported: **10/25/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-24
Project: Trunk 3A **Collection Date:** 10/23/2019 3:20:00 PM
Lab ID: 1910D01-014 **Matrix:** MEOH (SOIL) **Received Date:** 10/24/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	10/24/2019 2:01:07 PM	48355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/24/2019 12:43:24 PM	48351
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/24/2019 12:43:24 PM	48351
Surr: DNOP	74.6	70-130		%Rec	1	10/24/2019 12:43:24 PM	48351
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/24/2019 11:11:59 AM	G63934
Surr: BFB	97.2	77.4-118		%Rec	1	10/24/2019 11:11:59 AM	G63934
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	10/24/2019 11:11:59 AM	B63934
Toluene	ND	0.047		mg/Kg	1	10/24/2019 11:11:59 AM	B63934
Ethylbenzene	ND	0.047		mg/Kg	1	10/24/2019 11:11:59 AM	B63934
Xylenes, Total	ND	0.093		mg/Kg	1	10/24/2019 11:11:59 AM	B63934
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	10/24/2019 11:11:59 AM	B63934

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910D01**
25-Oct-19

Client: ENSOLUM
Project: Trunk 3A

Sample ID: **MB-48355**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **48355**	RunNo: **63938**							
Prep Date: **10/24/2019**	Analysis Date: **10/24/2019**	SeqNo: **2187674**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-48355**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **48355**	RunNo: **63938**							
Prep Date: **10/24/2019**	Analysis Date: **10/24/2019**	SeqNo: **2187675**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	16	1.5	15.00	0	109	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1910D01**

25-Oct-19

Client: ENSOLUM

Project: Trunk 3A

Sample ID: **LCS-48342**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **48342**	RunNo: **63924**
Prep Date: **10/23/2019**	Analysis Date: **10/24/2019**	SeqNo: **2186013** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.7		5.000		74.5	70	130			

Sample ID: **LCS-48351**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **48351**	RunNo: **63924**
Prep Date: **10/24/2019**	Analysis Date: **10/24/2019**	SeqNo: **2186014** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.2	63.9	124			
Surr: DNOP	3.8		5.000		76.0	70	130			

Sample ID: **MB-48342**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **48342**	RunNo: **63924**
Prep Date: **10/23/2019**	Analysis Date: **10/24/2019**	SeqNo: **2186015** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.1		10.00		91.5	70	130			

Sample ID: **MB-48351**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **48351**	RunNo: **63924**
Prep Date: **10/24/2019**	Analysis Date: **10/24/2019**	SeqNo: **2186016** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.3		10.00		83.1	70	130			

Sample ID: **1910D01-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-11**	Batch ID: **48351**	RunNo: **63924**
Prep Date: **10/24/2019**	Analysis Date: **10/24/2019**	SeqNo: **2187661** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.5	47.35	0	101	57	142			
Surr: DNOP	4.5		4.735		94.5	70	130			

Sample ID: **1910D01-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-11**	Batch ID: **48351**	RunNo: **63924**
Prep Date: **10/24/2019**	Analysis Date: **10/25/2019**	SeqNo: **2187662** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.7	48.73	0	98.2	57	142	0.194	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910D01**
25-Oct-19

Client: ENSOLUM
Project: Trunk 3A

Sample ID: **1910D01-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-11** Batch ID: **48351** RunNo: **63924**
Prep Date: **10/24/2019** Analysis Date: **10/25/2019** SeqNo: **2187662** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		4.873		94.1	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1910D01**

25-Oct-19

Client: ENSOLUM

Project: Trunk 3A

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G63935**	RunNo: **63935**
Prep Date:	Analysis Date: **10/24/2019**	SeqNo: **2186991** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		93.7	77.4	118			

Sample ID: **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G63935**	RunNo: **63935**
Prep Date:	Analysis Date: **10/24/2019**	SeqNo: **2186992** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.5	80	120			
Surr: BFB	1100		1000		110	77.4	118			

Sample ID: **1910D01-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S-11**	Batch ID: **G63935**	RunNo: **63935**
Prep Date:	Analysis Date: **10/24/2019**	SeqNo: **2186993** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	3.9	19.56	0	109	69.1	142			
Surr: BFB	880		782.5		113	77.4	118			

Sample ID: **1910D01-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S-11**	Batch ID: **G63935**	RunNo: **63935**
Prep Date:	Analysis Date: **10/24/2019**	SeqNo: **2186994** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	3.9	19.56	0	149	69.1	142	31.1	20	RS
Surr: BFB	910		782.5		116	77.4	118	0	0	

Sample ID: **MB-48339**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **48339**	RunNo: **63935**
Prep Date: **10/23/2019**	Analysis Date: **10/24/2019**	SeqNo: **2186999** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	910		1000		91.5	77.4	118			

Sample ID: **LCS-48339**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **48339**	RunNo: **63935**
Prep Date: **10/23/2019**	Analysis Date: **10/24/2019**	SeqNo: **2187000** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		110	77.4	118			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910D01**
25-Oct-19

Client: ENSOLUM
Project: Trunk 3A

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G63934**	RunNo: **63934**
Prep Date:	Analysis Date: **10/24/2019**	SeqNo: **2187063** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.3	77.4	118			

Sample ID: **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G63934**	RunNo: **63934**
Prep Date:	Analysis Date: **10/24/2019**	SeqNo: **2187064** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.0	80	120			
Surr: BFB	1100		1000		105	77.4	118			

Sample ID: **1910D01-010AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S-20**	Batch ID: **G63934**	RunNo: **63934**
Prep Date:	Analysis Date: **10/25/2019**	SeqNo: **2187065** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	17	3.8	18.85	0	92.5	69.1	142			
Surr: BFB	760		754.2		101	77.4	118			

Sample ID: **1910D01-010AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **S-20**	Batch ID: **G63934**	RunNo: **63934**
Prep Date:	Analysis Date: **10/25/2019**	SeqNo: **2187066** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	17	3.8	18.85	0	90.0	69.1	142	2.67	20	
Surr: BFB	770		754.2		102	77.4	118	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1910D01**

25-Oct-19

Client: ENSOLUM

Project: Trunk 3A

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B63935**	RunNo: **63935**
Prep Date:	Analysis Date: **10/24/2019**	SeqNo: **2187029** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		95.0	80	120			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B63935**	RunNo: **63935**
Prep Date:	Analysis Date: **10/24/2019**	SeqNo: **2187030** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	92.8	80	120			
Toluene	0.96	0.050	1.000	0	95.7	80	120			
Ethylbenzene	0.95	0.050	1.000	0	94.8	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.0	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID: **1910D01-002AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-12**	Batch ID: **B63935**	RunNo: **63935**
Prep Date:	Analysis Date: **10/24/2019**	SeqNo: **2187031** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.63	0.018	0.7052	0.007377	87.7	76	123			
Toluene	0.65	0.035	0.7052	0.005614	90.9	80.3	127			
Ethylbenzene	0.65	0.035	0.7052	0.007666	90.5	80.2	131			
Xylenes, Total	1.9	0.071	2.116	0.01977	89.4	78	133			
Surr: 4-Bromofluorobenzene	0.69		0.7052		98.2	80	120			

Sample ID: **1910D01-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-12**	Batch ID: **B63935**	RunNo: **63935**
Prep Date:	Analysis Date: **10/24/2019**	SeqNo: **2187032** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.59	0.018	0.7052	0.007377	82.9	76	123	5.52	20	
Toluene	0.62	0.035	0.7052	0.005614	87.4	80.3	127	3.92	20	
Ethylbenzene	0.62	0.035	0.7052	0.007666	87.3	80.2	131	3.63	20	
Xylenes, Total	1.8	0.071	2.116	0.01977	85.5	78	133	4.42	20	
Surr: 4-Bromofluorobenzene	0.67		0.7052		94.7	80	120	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1910D01**

25-Oct-19

Client: ENSOLUM

Project: Trunk 3A

Sample ID: **MB-48339**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **48339**	RunNo: **63935**
Prep Date: **10/23/2019**	Analysis Date: **10/24/2019**	SeqNo: **2187037** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.92		1.000		91.8	80	120			

Sample ID: **LCS-48339**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **48339**	RunNo: **63935**
Prep Date: **10/23/2019**	Analysis Date: **10/24/2019**	SeqNo: **2187038** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.98		1.000		98.5	80	120			

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B63934**	RunNo: **63934**
Prep Date:	Analysis Date: **10/24/2019**	SeqNo: **2187084** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.97		1.000		97.3	80	120			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B63934**	RunNo: **63934**
Prep Date:	Analysis Date: **10/24/2019**	SeqNo: **2187085** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	102	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID: **1910D01-011AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-21**	Batch ID: **B63934**	RunNo: **63934**
Prep Date:	Analysis Date: **10/25/2019**	SeqNo: **2187086** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.77	0.019	0.7758	0	99.3	76	123			
Toluene	0.78	0.039	0.7758	0.007292	100	80.3	127			
Ethylbenzene	0.78	0.039	0.7758	0	101	80.2	131			
Xylenes, Total	2.3	0.078	2.327	0.01156	100	78	133			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1910D01**

25-Oct-19

Client: ENSOLUM

Project: Trunk 3A

Sample ID: **1910D01-011AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **S-21** Batch ID: **B63934** RunNo: **63934**

Prep Date: Analysis Date: **10/25/2019** SeqNo: **2187086** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.75		0.7758		96.9	80	120			

Sample ID: **1910D01-011AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **S-21** Batch ID: **B63934** RunNo: **63934**

Prep Date: Analysis Date: **10/25/2019** SeqNo: **2187087** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.79	0.019	0.7758	0	101	76	123	2.08	20	
Toluene	0.80	0.039	0.7758	0.007292	102	80.3	127	1.89	20	
Ethylbenzene	0.80	0.039	0.7758	0	103	80.2	131	1.91	20	
Xylenes, Total	2.4	0.078	2.327	0.01156	103	78	133	2.43	20	
Surr: 4-Bromofluorobenzene	0.79		0.7758		102	80	120	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ENSOLUM AZTEC Work Order Number: 1910D01 RcptNo: 1

Received By: Juan Rojas 10/24/2019 8:05:00 AM

Completed By: Erin Melendrez 10/24/2019 8:11:47 AM

Reviewed By: DAD 10/24/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: (<2 or >12 unless noted)

Adjusted?

Checked by: ENM 10/23/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.6	Good	Yes			
2	0.1	Good	Yes			

Chain-of-Custody Record

Client: Ensolum, LLC

Mailing Address: 606 S. Rio Grande Suite A
Aztec, NM 87410

Phone #:

email or Fax#: ksummers@ensolum.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 100%

Project Name: Trunk 3A

Project #: See notes

Project Manager: Ksummers

Sampler: RDeechilly
On Ice: ☑ Yes ☐ No
# of Coolers: 2
Cooler Temp (including CF): 0.5-0.2=0.6 0.3-0.2=0.1

HEAL No. 1910001

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / ~~MTBE / TMB's~~ (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Chloride
10/23/19	1200	S	S-11	1x4oz Jar	cool	-001	X	X									X
10/23/19	1205	S	S-12	1x4oz Jar	cool	-002	X	X									X
10/23/19	1410	S	S-13	1x4oz Jar	cool	-003	X	X									X
10/23/19	1415	S	S-14	1x4oz Jar	cool	-004	X	X									X
10/23/19	1420	S	S-15	1x4oz Jar	cool	-005	X	X									X
10/23/19	1425	S	S-16	1x4oz Jar	cool	-006	X	X									X
10/23/19	1430	S	S-17	1x4oz Jar	cool	-007	X	X									X
10/23/19	1435	S	S-18	1x4oz Jar	cool	-008	X	X									X
10/23/19	1440	S	S-19	1x4oz Jar	cool	-009	X	X									X
10/23/19	1445	S	S-20	1x4oz Jar	cool	-010	X	X									X
10/23/19	1505	S	S-21	1x4oz Jar	cool	-011	X	X									X
10/23/19	1510	S	S-22	1x4oz Jar	cool	-012	X	X									X

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
10/23/19	1708	RDeechilly		Walk	10/23/19	1708
10/23/19	1821			carrier	10/24/19	8:05

Remarks: SAMEDAY
PM-Tom Long (EPROD)
Pay Key - RB21200
Nm AFE - N44182

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Ensolum, LLC

Mailing Address: 6026 S. Rio Grande Suite A
Aztec, NM 87410

Phone #:

email or Fax#: KSummers@ensolum.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 100%

Project Name: Trunk 3A

Project #: See notes

Project Manager: KSummers

Sampler: RDeachilly

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 0.8-0.2=0.6

0.3-0.2=0.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1910D01	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Chloride
10/23/19	1515	S	S-23	1x4oz Jar	cool	-013	X	X									X
10/23/19	1520	S	S-24	1x4oz Jar	cool	-014	X	X									X
~~10/23/19~~																	

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/23/19	1708				10/23/19	1708
10/23/19	1821			carrier	10/24/19	8:05

Remarks: SAME DAY
PM - Tom Long (EPROD)
Pay Key - RB21200
Non AFE - N44182

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.