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)*: **NCS1923939969**
Contact mailing address: **614 Reilly Ave, Farmington, NM 87401**	

Location of Release Source

Latitude **36.901968** Longitude **-107.990896** *(NAD 83 in decimal degrees to 5 decimal places)*

Site Name **Brookhaven G#9 Pipeline**	Site Type **Natural Gas Gathering Pipeline**
Date Release Discovered: **6/19/2019**	Serial Number *(if applicable)*: **NA**

Unit Letter	Section	Township	Range	County
A	**16**	**31N**	**11W**	**San Juan**

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

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): **15-20 bbls**	Volume Recovered (bbls): **None**
☒ Natural Gas	Volume Released (Mcf): **43 MCF**	Volume Recovered (Mcf): **None**
☐ Other (describe)	Volume/Weight Released (provide units):	Volume/Weight Recovered (provide units)

Cause of Release: On June 19, 2019, Enterprise discovered a release of natural gas on the Brookhaven G#9 pipeline. Approximately one barrel of liquids was observed on the ground surface. The pipeline was isolated, depressurized, locked out and tagged out. Enterprise began repairs and remediation on August 7, 2019 and Enterprise determined the release was reportable per NMOCD regulation on August 8, 2019 because of the volume impacted subsurface soil. On August 15, 2018, 2019, Enterprise completed the repairs and remediation. The final excavation dimensions measured approximately 80 feet long by 32 feet wide by approximately 8 feet deep. Approximately 780 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: 12/12/19

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

OCD Only

Received by: OCD Date: 12/12/19

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 Date: 2/24/2020

Printed Name: Cory Title: Environmental Specialist

ENSOLUM

CLOSURE REPORT

Property:

Brookhaven Com G#9 Pipeline Release
NE ¼, S16 T31N R11W
San Juan County, New Mexico

October 9, 2019
Ensolum Project No. 05A1226062

Prepared for:

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

Prepared by:

Ranee Deechilly
Environmental Scientist

Chad D'Aponti
Field Environmental Scientist

Kyle Summers, CPG
Sr. Project Manager

Table of Contents

LIST OF APPENDICES

ENSOLUM

CLOSURE REPORT

Brookhaven Com G#9 Pipeline Release
NE ¼, S16 T31N R11W
San Juan County, New Mexico

Ensolum Project No. 05A1226062

1.0 INTRODUCTION

1.1 Site Description & Background

Operator:	Enterprise Field Services, LLC / Enterprise Products Operating LLC (Enterprise)
Site Name:	Brookhaven Com G#9 Pipeline Release (Site)
Location:	36.9018° North, 107.9908° West Northeast (NE) ¼ of Section 16, Township 31 North, Range 11 West San Juan County, New Mexico
Property:	State of New Mexico
Regulatory:	New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD)

On June 19, 2019, a release of natural gas was identified on the Brookhaven Com G#9 pipeline by Enterprise personnel. Enterprise subsequently isolated and locked the pipeline out of service and installed a temporary clamp on the pipeline. On August 7, 2019, Enterprise initiated response activities to facilitate the permanent repair of the pipeline and remediate 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.

- Two (2) cathodic-protection wells were identified near the Site. Data for the cathodic protection well (Brookhaven Com G #9 (Unit H, Sec 16 T31N R11W) located at the Site well pad indicates depth to water at 40 feet bgs and 75 feet bgs. Data for Brookhaven Com B #3A cathodic protection well (Unit O, Sec 16 T31N R11W), located approximately 0.5 miles from the Site and at a lower elevation, indicates water at 150 feet bgs.
- The Site is located within 300 feet of a New Mexico ENMRD OCD-defined continuously flowing watercourse or significant watercourse.
- 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 not 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

During June 2019, Enterprise performed initial response activities by temporarily repairing the pipeline. Remediation activities were postponed, resuming on August 7, 2019. During the remediation and corrective action activities Sunland Construction, Inc. (Sunland), provided heavy equipment and labor support, while Ensolum provided environmental consulting support.

The final excavation measured approximately 80 feet long and 32 feet wide at the maximum extents. The average depth of the excavation measured approximately eight (8) feet bgs.

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

A total of approximately 780 cubic yards (yd^3) of petroleum hydrocarbon affected soils were transported to Industrial Ecosystems, Inc. (IEI) on Crouch Mesa, near Aztec, New Mexico for disposal/remediation. The executed C-138 solid waste acceptance form is provided in **Appendix B**. The excavation was backfilled with imported fill and then contoured to 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 photoionization detector (PID) fitted with a 10.6 eV lamp and a calibrated Dexsil PetroFLAG® hydrocarbon analyzer system to guide excavation extents.

Ensolum's soil sampling program included the collection of 13 composite soil samples (S-1 through S-13), comprised of five (5) aliquots each, from the remediation area for laboratory analysis. A clean hand shovel was utilized to obtain fresh aliquots from each area of the excavation.

First Sampling Event
Composite soil sample S-1 (0'-8') was collected from the north sidewall of the excavation, in anticipation that the excavation might be extended in that direction to accommodate the replacement of additional pipe.

Second Sampling Event
Composite soil sample S-2 (0'-8') was collected from the south sidewall of the excavation, in anticipation that the excavation might be extended in that direction to accommodate the replacement of additional pipe.

Third Sampling Event
On August 15, 2019, composite soil samples S-3 (0'-8'), S-4 (0'-8'), S-5 (0'-8'), S-6 (0'-8', and included the short wall to the northwest), S-7 (0'-8'), S-8 (0'-8'), and S-9 (0'-8') were collected from the sidewalls of the extended excavation. Composite soil samples S-10 (8'), S-11 (8'), S-12 (8'), and S-13 (8') were collected from the floor of the excavation. A New Mexico EMNRD OCD representative was on-Site during the August 15, 2019 sampling event.

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-13) to the applicable New Mexico EMNRD OCD closure criteria.

- The laboratory analytical results for the composite soil samples collected from soils remaining at the Site indicate benzene is not present in 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 samples S-1 and S-5 indicate total BTEX concentrations of 0.21 mg/kg and 0.13 mg/kg, respectively, which do not exceed the New Mexico EMNRD OCD closure criteria of 50 mg/kg. The laboratory analytical results for the remaining composite soil samples collected from soils remaining at the Site indicate total BTEX is not present in 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 composite soil samples S-1 and S-13 indicate combined TPH GRO/DRO/MRO concentrations of 4.7 mg/kg and 37 mg/kg, respectively, which do not exceed the New Mexico EMNRD OCD closure criteria of 100 mg/kg. The laboratory analytical results for the remaining composite soil samples collected from soils remaining at the Site indicate combined TPH GRO/DRO/MRO is not present in 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 the composite soil samples collected from soils remaining at the Site indicate chloride is not present in 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 RE-VEGETATION

The excavation was backfilled with imported fill and then contoured to the surrounding grade. Enterprise will re-seed the Site with an approved seeding mixture.

8.0 FINDINGS AND RECOMMENDATION

On June 19, 2019, a release of natural gas was identified on the Brookhaven Com G#9 pipeline by Enterprise personnel. Enterprise subsequently isolated and locked the pipeline out of service and installed a temporary clamp on the pipeline. On August 7, 2019, Enterprise initiated response activities to facilitate the permanent repair of the pipeline and remediate 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 13 composite soil samples were collected from the walls and floor of the final excavation for laboratory analyses. Based on soil laboratory analytical results, soils remaining in place do not exhibit COC concentrations above the New Mexico EMNRD OCD closure criteria.

- A total of approximately 780 yd^3 of petroleum hydrocarbon affected soils were transported to IEI on Crouch Mesa near Aztec, New Mexico for disposal/remediation. The excavation was backfilled with imported fill and 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.

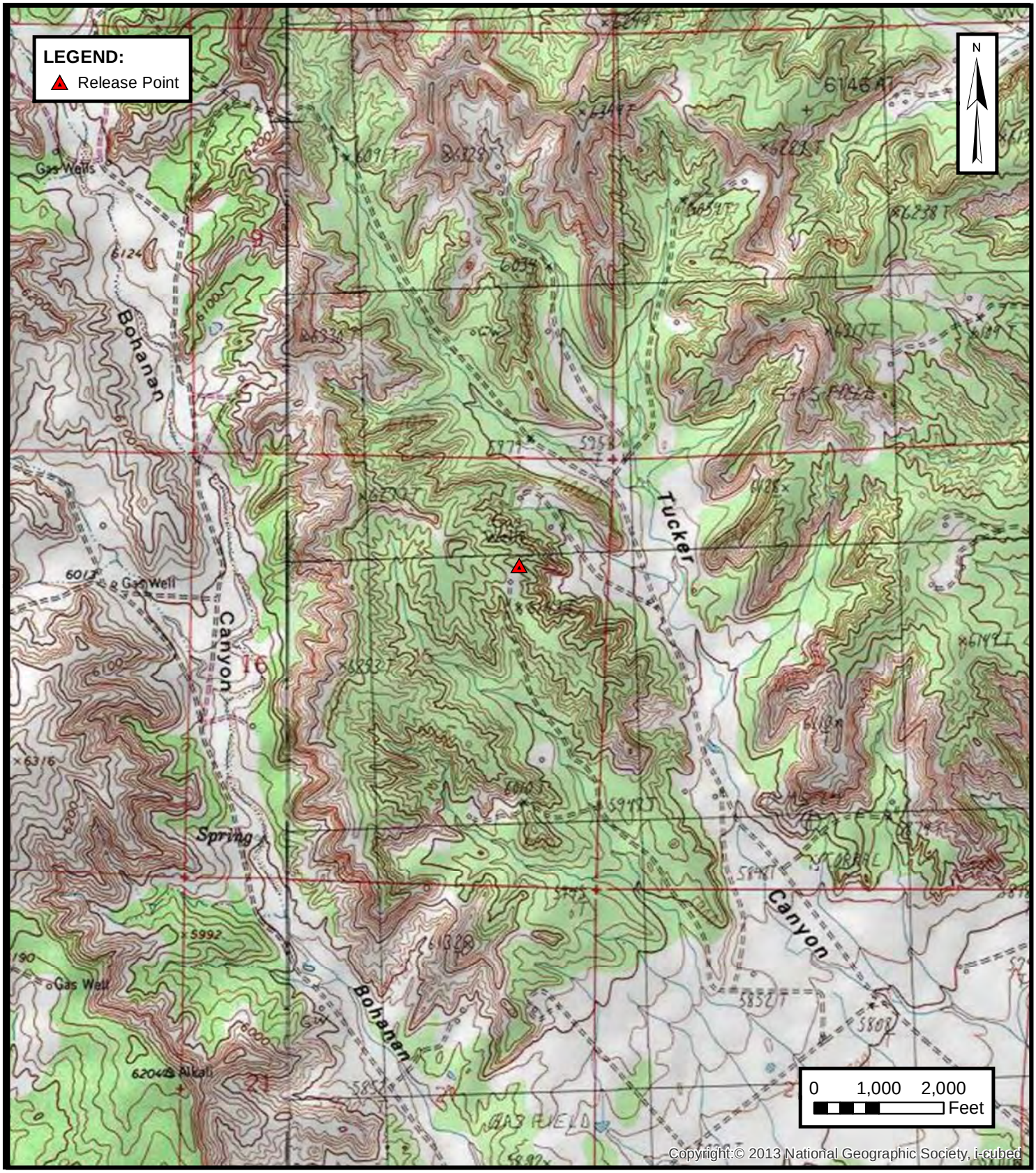
9.3 Reliance

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



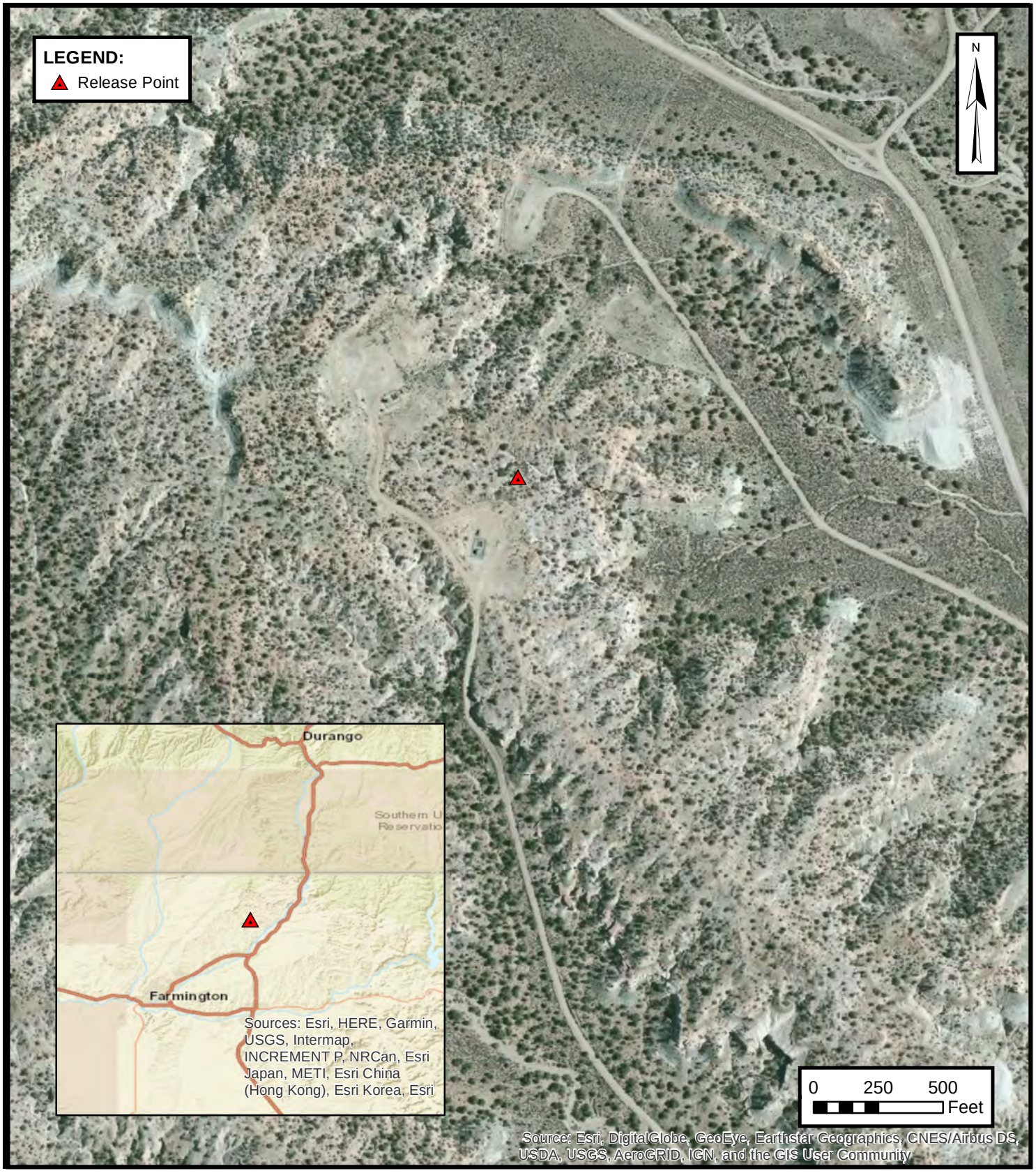
ENSOLUM
Environmental & Hydrogeologic Consultants

TOPOGRAPHIC MAP

ENTERPRISE FIELD SERVICES, LLC
BROOKHAVEN COM G#9 PIPELINE RELEASE
NE ¼ , S16 T31N R11W, San Juan County, New Mexico
36.9018° N, 107.9908° W

PROJECT NUMBER: 05A1226062

FIGURE
1



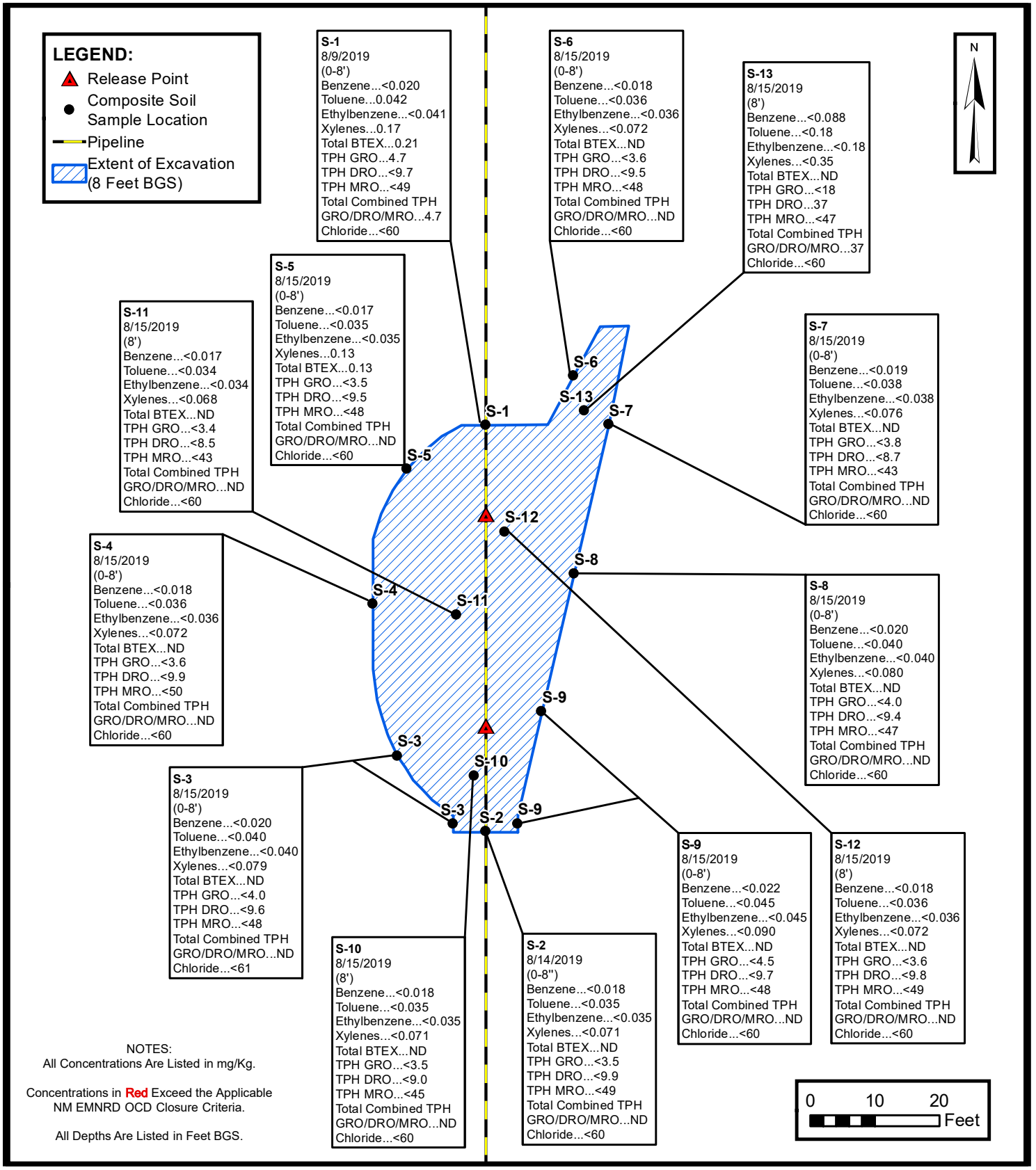
ENSOLUM
Environmental & Hydrogeologic Consultants

SITE VICINITY MAP

ENTERPRISE FIELD SERVICES, LLC
BROOKHAVEN COM G#9 PIPELINE RELEASE
NE ¼ , S16 T31N R11W, San Juan County, New Mexico
36.9018° N, 107.9908° W

PROJECT NUMBER: 05A1226062

FIGURE
2



ENSOLUM
Environmental & Hydrogeologic Consultants

SITE MAP

ENTERPRISE FIELD SERVICES, LLC
BROOKHAVEN COM G#9 PIPELINE RELEASE
NE ¼ , S16 T31N R11W, San Juan County, New Mexico
36.9018° N, 107.9908° W

PROJECT NUMBER: 05A1226062

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
220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-138

and Generator shall maintain 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:
Brookhaven G#9 Pipeline

3. Location of Material (Street Address, City, State or ULSTR):
UL A Section 16 T31N R11W; 36.901968, -107.990896

20 yds - 8/19/19
160 yds - 8/15/19
180 yds - 8/14/19
192 yds - 8/13/19

4. Source and Description of Waste:
Source: Hydro excavation Spoils/soil from a Leak from a Natural Gas Gathering Line
Description: Soil impacted with Natural Gas Liquids (Condensate and Water)
Estimated Volume 50 (yd³) / bbls Known Volume (to be entered by the operator at the end of the haul) 228 (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) 8-7-19, representative for Enterprise Products Operating authorizes IEI, Inc. to complete
Generator Signature
the required testing/sign the Generator Waste Testing Certification.

I, Roger Tingley, representative for IEI, 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 Mesa

OCD Permitted Surface Waste Management Facility
Name and Facility Permit #: JFJ Landfarm/Industrial Ecosystems, Inc. * **Permit #: NM 01-0010B**
Address of Facility: **#49 CR 2150 Aztec, New Mexico**

Method of Treatment and/or Disposal:
☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

CL=99
PH=7

☒ **APPROVED** ☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME: Roger Tingley TITLE: Transportation Coord DATE: 8/7/19

SIGNATURE: _____ TELEPHONE NO.: 505-632-1782
Surface Waste Management Facility Authorized Agent

8/7/19

ENSOLUM

APPENDIX C

Photographic Documentation

SITE PHOTOGRAPHS

Enterprise Field Services, LLC
Closure Report
Brookhaven Com G#9 Pipeline Release
Ensolum Project No. 05A1226062

ENSOLUM

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

SITE PHOTOGRAPHS

Enterprise Field Services, LLC
Closure Report
Brookhaven Com G#9 Pipeline Release
Ensolum Project No. 05A1226062

ENSOLUM

Photograph 4 Photograph Description: View of in-process excavation activities.	
Photograph 5 Photograph Description: View of the final excavation.	
Photograph 6 Photograph Description: View of the final excavation.	

SITE PHOTOGRAPHS

Enterprise Field Services, LLC
Closure Report
Brookhaven Com G#9 Pipeline Release
Ensolum Project No. 05A1226062

ENSOLUM

Photograph 7 Photograph Description: View of the final excavation after initial restoration.	

ENSOLUM

APPENDIX D

Table 1 – Soil Analytical Summary

ENSOLUM

TABLE 1
Brookhaven Com G#9 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**
Final Comfirmation Composite Soil Samples													
S-1	8.09.19	C	0 to 8	<0.020	0.042	<0.041	0.17	0.21	4.7	<9.7	<49	4.7	<60
S-2	8.14.19	C	0 to 8	<0.018	<0.035	<0.035	<0.071	ND	<3.5	<9.9	<49	ND	<60
S-3	8.15.19	C	0 to 8	<0.020	<0.040	<0.040	<0.079	ND	<4.0	<9.6	<48	ND	<61
S-4	8.15.19	C	0 to 8	<0.018	<0.036	<0.036	<0.072	ND	<3.6	<9.9	<50	ND	<60
S-5	8.15.19	C	0 to 8	<0.017	<0.035	<0.035	0.13	0.13	<3.5	<9.5	<48	ND	<60
S-6	8.15.19	C	0 to 8	<0.018	<0.036	<0.036	<0.072	ND	<3.6	<9.5	<48	ND	<60
S-7	8.15.19	C	0 to 8	<0.019	<0.038	<0.038	<0.076	ND	<3.8	<8.7	<43	ND	<60
S-8	8.15.19	C	0 to 8	<0.020	<0.040	<0.040	<0.080	ND	<4.0	<9.4	<47	ND	<60
S-9	8.15.19	C	0 to 8	<0.022	<0.045	<0.045	<0.090	ND	<4.5	<9.7	<48	ND	<60
S-10	8.15.19	C	8	<0.018	<0.035	<0.035	<0.071	ND	<3.5	<9.0	<45	ND	<60
S-11	8.15.19	C	8	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<8.5	<43	ND	<60
S-12	8.15.19	C	8	<0.018	<0.036	<0.036	<0.072	ND	<3.6	<9.8	<49	ND	<60
S-13	8.15.19	C	8	<0.088	<0.18	<0.18	<0.35	ND	<18	37	<47	37	<60

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

ND = Not Detected above the Practical Quantitation Limits

NA = Not Analyzed

NE = Not established

mg/kg = milligram per kilogram

BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes

GRO = Gasoline Range Organics

DRO = Diesel Range Organics

MRO = Motor Oil/Lube Oil Range Organics

TPH = Total Petroleum Hydrocarbon

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

August 14, 2019

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

RE: Brookhave Com G 9 OrderNo.: 1908534

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/10/2019 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 **1908534**
Date Reported: **8/14/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-1
Project: Brookhave Com G 9
Collection Date: 8/9/2019 2:05:00 PM
Lab ID: 1908534-001 **Matrix:** SOIL **Received Date:** 8/10/2019 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	8/12/2019 11:42:33 AM	46719
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/12/2019 9:52:08 AM	46715
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2019 9:52:08 AM	46715
Surr: DNOP	122	70-130		%Rec	1	8/12/2019 9:52:08 AM	46715
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	4.7	4.1		mg/Kg	1	8/10/2019 5:41:04 PM	G62044
Surr: BFB	141	77.4-118	S	%Rec	1	8/10/2019 5:41:04 PM	G62044
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.020		mg/Kg	1	8/10/2019 5:41:04 PM	B62044
Toluene	0.042	0.041		mg/Kg	1	8/10/2019 5:41:04 PM	B62044
Ethylbenzene	ND	0.041		mg/Kg	1	8/10/2019 5:41:04 PM	B62044
Xylenes, Total	0.17	0.081		mg/Kg	1	8/10/2019 5:41:04 PM	B62044
Surr: 4-Bromofluorobenzene	97.8	80-120		%Rec	1	8/10/2019 5:41:04 PM	B62044

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1908534**

14-Aug-19

Client: ENSOLUM

Project: Brookhave Com G 9

Sample ID: **MB-46719** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **46719** RunNo: **62068**

Prep Date: **8/12/2019** Analysis Date: **8/12/2019** SeqNo: **2106697** Units: **mg/Kg**

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

Sample ID: **LCS-46719** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **46719** RunNo: **62068**

Prep Date: **8/12/2019** Analysis Date: **8/12/2019** SeqNo: **2106698** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.5	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#: **1908534**

14-Aug-19

Client: ENSOLUM

Project: Brookhave Com G 9

Sample ID: **MB-46715**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **46715**	RunNo: **62048**
Prep Date: **8/11/2019**	Analysis Date: **8/12/2019**	SeqNo: **2105898** 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	15		10.00		146	70	130			S

Sample ID: **LCS-46715**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **46715**	RunNo: **62060**
Prep Date: **8/11/2019**	Analysis Date: **8/12/2019**	SeqNo: **2105924** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	10	50.00	0	118	63.9	124			
Surr: DNOP	6.1		5.000		121	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#: **1908534**

14-Aug-19

Client: ENSOLUM

Project: Brookhave Com G 9

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G62044**	RunNo: **62044**
Prep Date:	Analysis Date: **8/10/2019**	SeqNo: **2105119** 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		94.5	77.4	118			

Sample ID: **2.5UG GRO LCSB**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G62044**	RunNo: **62044**
Prep Date:	Analysis Date: **8/10/2019**	SeqNo: **2105120** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.2	80	120			
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#: **1908534**

14-Aug-19

Client: ENSOLUM

Project: Brookhave Com G 9

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **B62044**	RunNo: **62044**							
Prep Date:	Analysis Date: **8/10/2019**	SeqNo: **2105148**	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	0.96		1.000		95.8	80	120			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **LCSS**	Batch ID: **B62044**	RunNo: **62044**							
Prep Date:	Analysis Date: **8/10/2019**	SeqNo: **2105149**	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	103	80	120			
Toluene	1.1	0.050	1.000	0	107	80	120			
Ethylbenzene	1.1	0.050	1.000	0	108	80	120			
Xylenes, Total	3.2	0.10	3.000	0	108	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	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: **1908534** RcptNo: **1**

Received By: **Leah Baca** **8/10/2019 8:10:00 AM** Leah Baca

Completed By: **Leah Baca** **8/10/2019 8:50:27 AM** Leah Baca

Reviewed By: LB 8/10/19

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: DAD 8/10/19

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	5.4	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: Brookhaven Com G#9

Project #: see notes

Project Manager: Ksummers

Sampler: RDeechilly
On Ice: ☒ Yes ☐ No
# of Coolers: (1)
Cooler Temp (including CF): 5.4 + 0.0 = 5.4°C

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1908534	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
8/9/19	1405	S	S-1	1x 4oz Jar	cool	-001	X	X									X

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8/9/19	1534				8/9/19	1534
8/9/19	1800			Courier	8/10/19	0810

Remarks:
SAME DAY

PM - Tom Long (EPROD)
Pay Key - RB21200
Non ARE - N43078

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

August 16, 2019

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

RE: Brook Haven Com G 9 OrderNo.: 1908838

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/15/2019 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 **1908838**
Date Reported: **8/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-2
Project: Brook Haven Com G 9 **Collection Date:** 8/14/2019 11:30:00 AM
Lab ID: 1908838-001 **Matrix:** MEOH (SOIL) **Received Date:** 8/15/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	8/15/2019 11:16:59 AM	46814
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/15/2019 10:19:24 AM	46805
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/15/2019 10:19:24 AM	46805
Surr: DNOP	88.1	70-130		%Rec	1	8/15/2019 10:19:24 AM	46805
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	8/15/2019 9:24:25 AM	G62165
Surr: BFB	101	77.4-118		%Rec	1	8/15/2019 9:24:25 AM	G62165
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	8/15/2019 9:24:25 AM	B62165
Toluene	ND	0.035		mg/Kg	1	8/15/2019 9:24:25 AM	B62165
Ethylbenzene	ND	0.035		mg/Kg	1	8/15/2019 9:24:25 AM	B62165
Xylenes, Total	ND	0.071		mg/Kg	1	8/15/2019 9:24:25 AM	B62165
Surr: 4-Bromofluorobenzene	92.2	80-120		%Rec	1	8/15/2019 9:24:25 AM	B62165

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1908838**

16-Aug-19

Client: ENSOLUM

Project: Brook Haven Com G 9

Sample ID: **MB-46814**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **46814**	RunNo: **62163**							
Prep Date: **8/15/2019**	Analysis Date: **8/15/2019**	SeqNo: **2111358**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-46814**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **46814**	RunNo: **62163**							
Prep Date: **8/15/2019**	Analysis Date: **8/15/2019**	SeqNo: **2111359**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.2	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#: **1908838**

16-Aug-19

Client: ENSOLUM

Project: Brook Haven Com G 9

Sample ID: **MB-46805** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **46805** RunNo: **62154**
Prep Date: **8/15/2019** Analysis Date: **8/15/2019** SeqNo: **2109604** 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	9.5		10.00		94.6	70	130			

Sample ID: **LCS-46805** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **46805** RunNo: **62154**
Prep Date: **8/15/2019** Analysis Date: **8/15/2019** SeqNo: **2109605** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.9	63.9	124			
Surr: DNOP	4.7		5.000		93.3	70	130			

Sample ID: **LCS-46806** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **46806** RunNo: **62155**
Prep Date: **8/15/2019** Analysis Date: **8/15/2019** SeqNo: **2109675** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.8		5.000		76.3	70	130			

Sample ID: **MB-46806** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **46806** RunNo: **62155**
Prep Date: **8/15/2019** Analysis Date: **8/15/2019** SeqNo: **2109676** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.1		10.00		81.0	70	130			

Sample ID: **LCS-46758** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **46758** RunNo: **62154**
Prep Date: **8/13/2019** Analysis Date: **8/15/2019** SeqNo: **2110663** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.7		5.000		94.9	70	130			

Sample ID: **1908838-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-2** Batch ID: **46805** RunNo: **62154**
Prep Date: **8/15/2019** Analysis Date: **8/15/2019** SeqNo: **2110674** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.7	48.59	9.264	72.6	57	142			
Surr: DNOP	4.6		4.859		94.2	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#: **1908838**

16-Aug-19

Client: ENSOLUM

Project: Brook Haven Com G 9

Sample ID: **1908838-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **S-2** Batch ID: **46805** RunNo: **62154**

Prep Date: **8/15/2019** Analysis Date: **8/15/2019** SeqNo: **2110676** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.2	46.08	9.264	76.6	57	142	0.0611	20	
Surr: DNOP	4.5		4.608		98.3	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#: **1908838**

16-Aug-19

Client: ENSOLUM

Project: Brook Haven Com G 9

Sample ID: **RB** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **G62165** RunNo: **62165**

Prep Date: Analysis Date: **8/15/2019** SeqNo: **2110831** 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	1000		1000		103	77.4	118			

Sample ID: **2.5UG GRO LCS** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **G62165** RunNo: **62165**

Prep Date: Analysis Date: **8/15/2019** SeqNo: **2110832** 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	99.8	80	120			
Surr: BFB	1200		1000		122	77.4	118			S

Sample ID: **1908838-001AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **S-2** Batch ID: **G62165** RunNo: **62165**

Prep Date: Analysis Date: **8/15/2019** SeqNo: **2110833** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.9	24.27	0	100	69.1	142			
Surr: BFB	1200		970.9		124	77.4	118			S

Sample ID: **1908838-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **S-2** Batch ID: **G62165** RunNo: **62165**

Prep Date: Analysis Date: **8/15/2019** SeqNo: **2110834** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.27	0	93.6	69.1	142	6.69	20	
Surr: BFB	1200		970.9		120	77.4	118	0	0	S

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#: **1908838**

16-Aug-19

Client: ENSOLUM

Project: Brook Haven Com G 9

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **B62165**	RunNo: **62165**							
Prep Date:	Analysis Date: **8/15/2019**	SeqNo: **2110859**	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		97.0	80	120			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **LCSS**	Batch ID: **B62165**	RunNo: **62165**							
Prep Date:	Analysis Date: **8/15/2019**	SeqNo: **2110862**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.7	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		105	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: **1908838** RcptNo: **1**

Received By: **Erin Melendrez** **8/15/2019 8:00:00 AM**

Completed By: **Erin Melendrez** **8/15/2019 8:14:47 AM**

Reviewed By: 8/15/19 JO 8/15/19

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: _____

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	1.7	Good	Yes			
2	4.3	Good	Yes			
3	3.8	Good	Yes			

Chain-of-Custody Record

Client: Ensolum

Mailing Address: 606 S Rio Grande Suite A 87410

Phone #:

email or Fax#:

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

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

Turn-Around Time: 100%20
☐ Standard ☑ Rush 8-15-19

Project Name: Brookhaven Com G #9

Project #:

Project Manager: K. Summers

Sampler: C Dixon

On Ice: ☐ Yes ☐ No

# of Coolers: 3

Cooler Temp(including CF): 1.5+0.2(CF)=1.7°C 4.1+0.2(CF)=4.3°C 3.6+0.2(CF)=3.8°C

HEAL No. 1908838

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		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, NO3, NO2, PO4, SO4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
8/14/19	1130	S	S-2	1 4oz Jar	Cool	-001	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8/14/19	1224		Chantel Walt		8/14/19	1224
8/14/19	2040	Christian Waters		Courier	8/15/19	0800

Remarks: pm Tom Long
Pay Key RB21200
AFE N43078

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

August 19, 2019

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

RE: Brookhaven Com G 9 OrderNo.: 1908910

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 11 sample(s) on 8/16/2019 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 **1908910**
Date Reported: **8/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-3
Project: Brookhaven Com G 9
Collection Date: 8/15/2019 7:00:00 AM
Lab ID: 1908910-001 **Matrix:** SOIL **Received Date:** 8/16/2019 7:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	61		mg/Kg	20	8/16/2019 10:23:06 AM	46848
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/16/2019 10:36:28 AM	46844
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/16/2019 10:36:28 AM	46844
Surr: DNOP	97.9	70-130		%Rec	1	8/16/2019 10:36:28 AM	46844
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	8/16/2019 10:14:27 AM	G62171
Surr: BFB	102	77.4-118		%Rec	1	8/16/2019 10:14:27 AM	G62171
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.020		mg/Kg	1	8/16/2019 10:14:27 AM	B62171
Toluene	ND	0.040		mg/Kg	1	8/16/2019 10:14:27 AM	B62171
Ethylbenzene	ND	0.040		mg/Kg	1	8/16/2019 10:14:27 AM	B62171
Xylenes, Total	ND	0.079		mg/Kg	1	8/16/2019 10:14:27 AM	B62171
Surr: 4-Bromofluorobenzene	92.8	80-120		%Rec	1	8/16/2019 10:14:27 AM	B62171

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 **1908910**
Date Reported: **8/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-4
Project: Brookhaven Com G 9
Collection Date: 8/15/2019 9:05:00 AM
Lab ID: 1908910-002 **Matrix:** SOIL **Received Date:** 8/16/2019 7:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	8/16/2019 10:35:31 AM	46848
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/16/2019 10:31:18 AM	46844
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/16/2019 10:31:18 AM	46844
Surr: DNOP	81.3	70-130		%Rec	1	8/16/2019 10:31:18 AM	46844
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	8/16/2019 10:37:20 AM	G62171
Surr: BFB	108	77.4-118		%Rec	1	8/16/2019 10:37:20 AM	G62171
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	8/16/2019 10:37:20 AM	B62171
Toluene	ND	0.036		mg/Kg	1	8/16/2019 10:37:20 AM	B62171
Ethylbenzene	ND	0.036		mg/Kg	1	8/16/2019 10:37:20 AM	B62171
Xylenes, Total	ND	0.072		mg/Kg	1	8/16/2019 10:37:20 AM	B62171
Surr: 4-Bromofluorobenzene	94.0	80-120		%Rec	1	8/16/2019 10:37:20 AM	B62171

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 **1908910**
Date Reported: **8/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-5
Project: Brookhaven Com G 9
Collection Date: 8/15/2019 9:10:00 AM
Lab ID: 1908910-003 **Matrix:** SOIL **Received Date:** 8/16/2019 7:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	8/16/2019 10:47:56 AM	46848
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/16/2019 10:53:25 AM	46844
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/16/2019 10:53:25 AM	46844
Surr: DNOP	86.0	70-130		%Rec	1	8/16/2019 10:53:25 AM	46844
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	8/16/2019 11:00:10 AM	G62171
Surr: BFB	104	77.4-118		%Rec	1	8/16/2019 11:00:10 AM	G62171
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	8/16/2019 11:00:10 AM	B62171
Toluene	ND	0.035		mg/Kg	1	8/16/2019 11:00:10 AM	B62171
Ethylbenzene	ND	0.035		mg/Kg	1	8/16/2019 11:00:10 AM	B62171
Xylenes, Total	0.13	0.069		mg/Kg	1	8/16/2019 11:00:10 AM	B62171
Surr: 4-Bromofluorobenzene	94.2	80-120		%Rec	1	8/16/2019 11:00:10 AM	B62171

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 **1908910**
Date Reported: **8/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-6
Project: Brookhaven Com G 9
Collection Date: 8/15/2019 9:15:00 AM
Lab ID: 1908910-004 **Matrix:** SOIL **Received Date:** 8/16/2019 7:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	8/16/2019 11:00:20 AM	46848
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/16/2019 11:15:28 AM	46844
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/16/2019 11:15:28 AM	46844
Surr: DNOP	83.7	70-130		%Rec	1	8/16/2019 11:15:28 AM	46844
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	8/16/2019 11:23:02 AM	G62171
Surr: BFB	101	77.4-118		%Rec	1	8/16/2019 11:23:02 AM	G62171
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	8/16/2019 11:23:02 AM	B62171
Toluene	ND	0.036		mg/Kg	1	8/16/2019 11:23:02 AM	B62171
Ethylbenzene	ND	0.036		mg/Kg	1	8/16/2019 11:23:02 AM	B62171
Xylenes, Total	ND	0.072		mg/Kg	1	8/16/2019 11:23:02 AM	B62171
Surr: 4-Bromofluorobenzene	92.8	80-120		%Rec	1	8/16/2019 11:23:02 AM	B62171

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 **1908910**
Date Reported: **8/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-7
Project: Brookhaven Com G 9
Collection Date: 8/15/2019 9:20:00 AM
Lab ID: 1908910-005 **Matrix:** SOIL **Received Date:** 8/16/2019 7:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	8/16/2019 11:12:45 AM	46848
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	8/16/2019 11:37:40 AM	46844
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/16/2019 11:37:40 AM	46844
Surr: DNOP	83.9	70-130		%Rec	1	8/16/2019 11:37:40 AM	46844
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	8/16/2019 11:45:51 AM	G62171
Surr: BFB	108	77.4-118		%Rec	1	8/16/2019 11:45:51 AM	G62171
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	8/16/2019 11:45:51 AM	B62171
Toluene	ND	0.038		mg/Kg	1	8/16/2019 11:45:51 AM	B62171
Ethylbenzene	ND	0.038		mg/Kg	1	8/16/2019 11:45:51 AM	B62171
Xylenes, Total	ND	0.076		mg/Kg	1	8/16/2019 11:45:51 AM	B62171
Surr: 4-Bromofluorobenzene	96.6	80-120		%Rec	1	8/16/2019 11:45:51 AM	B62171

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 **1908910**
Date Reported: **8/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-8
Project: Brookhaven Com G 9
Collection Date: 8/15/2019 9:25:00 AM
Lab ID: 1908910-006 **Matrix:** SOIL **Received Date:** 8/16/2019 7:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	8/16/2019 11:25:10 AM	46848
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/16/2019 11:37:10 AM	46844
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/16/2019 11:37:10 AM	46844
Surr: DNOP	90.9	70-130		%Rec	1	8/16/2019 11:37:10 AM	46844
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	8/16/2019 12:08:39 PM	G62171
Surr: BFB	106	77.4-118		%Rec	1	8/16/2019 12:08:39 PM	G62171
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.020		mg/Kg	1	8/16/2019 12:08:39 PM	B62171
Toluene	ND	0.040		mg/Kg	1	8/16/2019 12:08:39 PM	B62171
Ethylbenzene	ND	0.040		mg/Kg	1	8/16/2019 12:08:39 PM	B62171
Xylenes, Total	ND	0.080		mg/Kg	1	8/16/2019 12:08:39 PM	B62171
Surr: 4-Bromofluorobenzene	95.8	80-120		%Rec	1	8/16/2019 12:08:39 PM	B62171

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 **1908910**
Date Reported: **8/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-9
Project: Brookhaven Com G 9
Collection Date: 8/15/2019 9:30:00 AM
Lab ID: 1908910-007 **Matrix:** SOIL **Received Date:** 8/16/2019 7:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	8/16/2019 11:37:34 AM	46848
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/16/2019 11:12:48 AM	46844
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/16/2019 11:12:48 AM	46844
Surr: DNOP	92.5	70-130		%Rec	1	8/16/2019 11:12:48 AM	46844
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	8/16/2019 12:31:29 PM	G62171
Surr: BFB	104	77.4-118		%Rec	1	8/16/2019 12:31:29 PM	G62171
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.022		mg/Kg	1	8/16/2019 12:31:29 PM	B62171
Toluene	ND	0.045		mg/Kg	1	8/16/2019 12:31:29 PM	B62171
Ethylbenzene	ND	0.045		mg/Kg	1	8/16/2019 12:31:29 PM	B62171
Xylenes, Total	ND	0.090		mg/Kg	1	8/16/2019 12:31:29 PM	B62171
Surr: 4-Bromofluorobenzene	93.7	80-120		%Rec	1	8/16/2019 12:31:29 PM	B62171

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 **1908910**
Date Reported: **8/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-10
Project: Brookhaven Com G 9 **Collection Date:** 8/15/2019 9:35:00 AM
Lab ID: 1908910-008 **Matrix:** SOIL **Received Date:** 8/16/2019 7:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	8/16/2019 12:14:47 PM	46848
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/16/2019 10:48:30 AM	46844
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/16/2019 10:48:30 AM	46844
Surr: DNOP	90.1	70-130		%Rec	1	8/16/2019 10:48:30 AM	46844
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	8/16/2019 12:54:24 PM	G62171
Surr: BFB	100	77.4-118		%Rec	1	8/16/2019 12:54:24 PM	G62171
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	8/16/2019 12:54:24 PM	B62171
Toluene	ND	0.035		mg/Kg	1	8/16/2019 12:54:24 PM	B62171
Ethylbenzene	ND	0.035		mg/Kg	1	8/16/2019 12:54:24 PM	B62171
Xylenes, Total	ND	0.071		mg/Kg	1	8/16/2019 12:54:24 PM	B62171
Surr: 4-Bromofluorobenzene	91.6	80-120		%Rec	1	8/16/2019 12:54:24 PM	B62171

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 **1908910**
Date Reported: **8/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-11
Project: Brookhaven Com G 9
Collection Date: 8/15/2019 9:40:00 AM
Lab ID: 1908910-009 **Matrix:** SOIL **Received Date:** 8/16/2019 7:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	8/16/2019 12:27:11 PM	46848
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	8/16/2019 10:24:06 AM	46844
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/16/2019 10:24:06 AM	46844
Surr: DNOP	80.8	70-130		%Rec	1	8/16/2019 10:24:06 AM	46844
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	8/16/2019 1:17:12 PM	G62171
Surr: BFB	95.9	77.4-118		%Rec	1	8/16/2019 1:17:12 PM	G62171
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	8/16/2019 1:17:12 PM	B62171
Toluene	ND	0.034		mg/Kg	1	8/16/2019 1:17:12 PM	B62171
Ethylbenzene	ND	0.034		mg/Kg	1	8/16/2019 1:17:12 PM	B62171
Xylenes, Total	ND	0.068		mg/Kg	1	8/16/2019 1:17:12 PM	B62171
Surr: 4-Bromofluorobenzene	87.5	80-120		%Rec	1	8/16/2019 1:17:12 PM	B62171

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 **1908910**
Date Reported: **8/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-12
Project: Brookhaven Com G 9
Collection Date: 8/15/2019 9:45:00 AM
Lab ID: 1908910-010 **Matrix:** SOIL **Received Date:** 8/16/2019 7:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	8/16/2019 12:39:36 PM	46848
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/16/2019 9:59:34 AM	46844
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/16/2019 9:59:34 AM	46844
Surr: DNOP	84.1	70-130		%Rec	1	8/16/2019 9:59:34 AM	46844
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	8/16/2019 2:25:49 PM	G62171
Surr: BFB	99.6	77.4-118		%Rec	1	8/16/2019 2:25:49 PM	G62171
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	8/16/2019 2:25:49 PM	B62171
Toluene	ND	0.036		mg/Kg	1	8/16/2019 2:25:49 PM	B62171
Ethylbenzene	ND	0.036		mg/Kg	1	8/16/2019 2:25:49 PM	B62171
Xylenes, Total	ND	0.072		mg/Kg	1	8/16/2019 2:25:49 PM	B62171
Surr: 4-Bromofluorobenzene	90.9	80-120		%Rec	1	8/16/2019 2:25:49 PM	B62171

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 **1908910**
Date Reported: **8/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-13
Project: Brookhaven Com G 9
Collection Date: 8/15/2019 9:50:00 AM
Lab ID: 1908910-011 **Matrix:** SOIL **Received Date:** 8/16/2019 7:57:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	8/16/2019 12:52:01 PM	46848
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	37	9.3		mg/Kg	1	8/16/2019 9:35:17 AM	46844
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/16/2019 9:35:17 AM	46844
Surr: DNOP	83.0	70-130		%Rec	1	8/16/2019 9:35:17 AM	46844
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	18		mg/Kg	5	8/16/2019 2:48:46 PM	G62171
Surr: BFB	111	77.4-118		%Rec	5	8/16/2019 2:48:46 PM	G62171
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.088		mg/Kg	5	8/16/2019 2:48:46 PM	B62171
Toluene	ND	0.18		mg/Kg	5	8/16/2019 2:48:46 PM	B62171
Ethylbenzene	ND	0.18		mg/Kg	5	8/16/2019 2:48:46 PM	B62171
Xylenes, Total	ND	0.35		mg/Kg	5	8/16/2019 2:48:46 PM	B62171
Surr: 4-Bromofluorobenzene	98.1	80-120		%Rec	5	8/16/2019 2:48:46 PM	B62171

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1908910**

19-Aug-19

Client: ENSOLUM

Project: Brookhaven Com G 9

Sample ID: **MB-46848** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **46848** RunNo: **62203**

Prep Date: **8/16/2019** Analysis Date: **8/16/2019** SeqNo: **2113198** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	4.5								

Sample ID: **LCS-46848** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **46848** RunNo: **62203**

Prep Date: **8/16/2019** Analysis Date: **8/16/2019** SeqNo: **2113199** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.0	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#: **1908910**

19-Aug-19

Client: ENSOLUM

Project: Brookhaven Com G 9

Sample ID: **LCS-46810** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **46810** RunNo: **62181**
Prep Date: **8/15/2019** Analysis Date: **8/16/2019** SeqNo: **2111029** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.7		5.000		73.8	70	130			

Sample ID: **MB-46810** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **46810** RunNo: **62181**
Prep Date: **8/15/2019** Analysis Date: **8/16/2019** SeqNo: **2111030** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.2		10.00		82.3	70	130			

Sample ID: **MB-46844** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **46844** RunNo: **62182**
Prep Date: **8/16/2019** Analysis Date: **8/16/2019** SeqNo: **2111354** 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	9.5		10.00		95.1	70	130			

Sample ID: **LCS-46844** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **46844** RunNo: **62182**
Prep Date: **8/16/2019** Analysis Date: **8/16/2019** SeqNo: **2111920** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.8	63.9	124			
Surr: DNOP	4.5		5.000		90.3	70	130			

Sample ID: **1908910-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-3** Batch ID: **46844** RunNo: **62181**
Prep Date: **8/16/2019** Analysis Date: **8/17/2019** SeqNo: **2112746** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.1	45.62	0	98.4	57	142			
Surr: DNOP	3.8		4.562		84.0	70	130			

Sample ID: **1908910-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-3** Batch ID: **46844** RunNo: **62181**
Prep Date: **8/16/2019** Analysis Date: **8/17/2019** SeqNo: **2112747** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	9.7	48.26	0	80.9	57	142	13.9	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#: **1908910**

19-Aug-19

Client: ENSOLUM

Project: Brookhaven Com G 9

Sample ID: **1908910-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **S-3** Batch ID: **46844** RunNo: **62181**

Prep Date: **8/16/2019** Analysis Date: **8/17/2019** SeqNo: **2112747** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.2		4.826		66.4	70	130	0	0	S

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#: **1908910**

19-Aug-19

Client: ENSOLUM

Project: Brookhaven Com G 9

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G62171**	RunNo: **62171**
Prep Date:	Analysis Date: **8/16/2019**	SeqNo: **2112318** 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	1000		1000		103	77.4	118			

Sample ID: **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G62171**	RunNo: **62171**
Prep Date:	Analysis Date: **8/16/2019**	SeqNo: **2112319** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	102	80	120			
Surr: BFB	1300		1000		133	77.4	118			S

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#: **1908910**

19-Aug-19

Client: ENSOLUM

Project: Brookhaven Com G 9

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B62171**	RunNo: **62171**
Prep Date:	Analysis Date: **8/16/2019**	SeqNo: **2112353** 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		97.0	80	120			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B62171**	RunNo: **62171**
Prep Date:	Analysis Date: **8/16/2019**	SeqNo: **2112354** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	97.2	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID: **1908910-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-3**	Batch ID: **B62171**	RunNo: **62171**
Prep Date:	Analysis Date: **8/16/2019**	SeqNo: **2112355** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.020	0.7949	0.003307	101	63.9	127			
Toluene	0.84	0.040	0.7949	0	105	69.9	131			
Ethylbenzene	0.84	0.040	0.7949	0	105	71	132			
Xylenes, Total	2.5	0.079	2.385	0	105	71.8	131			
Surr: 4-Bromofluorobenzene	0.80		0.7949		100	80	120			

Sample ID: **1908910-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-3**	Batch ID: **B62171**	RunNo: **62171**
Prep Date:	Analysis Date: **8/16/2019**	SeqNo: **2112356** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.63	0.020	0.7949	0.003307	78.8	63.9	127	24.2	20	R
Toluene	0.65	0.040	0.7949	0	81.3	69.9	131	25.8	20	R
Ethylbenzene	0.65	0.040	0.7949	0	81.4	71	132	25.8	20	R
Xylenes, Total	1.9	0.079	2.385	0	80.8	71.8	131	26.1	20	R
Surr: 4-Bromofluorobenzene	0.81		0.7949		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: 1908910 RcptNo: 1

Received By: Anne Thorne 8/16/2019 7:57:00 AM Anne Thorne

Completed By: Anne Thorne 8/16/2019 8:03:59 AM Anne Thorne

Reviewed By: IO 8/16/19

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: AT 08/16/19

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:

CUSTODY SEALS INTACT ON SOIL JARS/8/16/19

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: Ensolum

Mailing Address: 606 S Rio Grande Suit A 87410

Phone #:

email or Fax#:

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

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

Turn-Around Time: 100%
☐ Standard ☑ Rush 8-16-19

Project Name: Brookhaven Com Gt 9

Project #: 05A1226062

Project Manager: K. Summers

Sampler: C DAponti

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF): 1.4-0.4(F)=1.0 °C

All other Methods

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1808910	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, NO3, NO2, PO4, SO4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
8/15/19	900	S	S-3	1 4oz Jar	Cool	001	X	X					X			
	905	S	S-4			002	X	X					X			
	910	S	S-5			003	X	X					X			
	915	S	S-6			004	X	X					X			
	920	S	S-7			005	X	X					X			
	925	S	S-8			006	X	X					X			
	930	S	S-9			007	X	X					X			
	935	S	S-10			008	X	X					X			
	940	S	S-11			009	X	X					X			
	945	S	S-12			010	X	X					X			
	950	S	S-13			011	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
8/15/19	1352				8/15/19	1332
8/15/19	1804				08/16/19	0807

Remarks: PM Tom Long
Pay Key RB 21200
AFE N 43078

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

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request