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)*: **FJK1424831933**
Contact mailing address: **614 Reilly Ave, Farmington, NM 87401**	

Location of Release Source

GPS Coordinate Correction:

Latitude **36.729371** Longitude **-107.956689** *(NAD 83 in decimal degrees to 5 decimal places)*

Site Name **Val Verde Plant**	Site Type **Natural Gas Processing Plant**
Date Release Discovered: **10/9/2019**	Serial Number *(if applicable)*: **N/A**

Unit Letter	Section	Township	Range	County
A	**14**	**29N**	**11W**	**San Juan**

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name*: Enterprise Field Services, LLC)

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls):	Volume Recovered (bbls):
☐ Natural Gas	Volume Released (Mcf):	Volume Recovered (Mcf):
☒ Other (describe)	Volume/Weight Released (provide units): **Estimated 5-10 Barrels of Amine/Water Mix**	Volume/Weight Recovered (provide units)

Cause of Release On October 9, 2019, an operator observed an amine (50% Water/50% Amine) leak on the Amine Ariel Cooler on E7304 on Train 7. The fluids were released in the unlined secondary containment below the cooling fan. Some of the fluids were released outside of the containment. An area approximately 30 feet long by 10 feet wide was impacted by the amine/water mix. All release fluids remained on the plant property. An estimated 5-10 barrels was released. From October 2019 through June 2020, Entperise remediated and delineated the release as much as practicable. Approximately 416 cubic yards of hydrocarbon/amine impacted soil was excavated and transported to a New Mexico Oil Conservation Division approved land farm facility. Residual impacted soils remain in place around and beneath operating equipment. Enterprise requests a deferment of additional remediation activities until facility decommissioning. A third party closure/remediation plan report is included with this "Final C-141."

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☒ Yes ☐ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

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

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

Signature: Jon E. Fields Date: 11/05/2020

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

OCD Only

Received by: Date:

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

- ☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☒ Extents of contamination must be fully delineated.
- ☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

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

Signature: Jon E. Fields Date: 11/05/2020

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

OCD Only

Received by: Date:

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

Signature: Nelson Velez Date: 05/16/2022

ENSOLUM

SITE CHARACTERIZATION REPORT AND REMEDIATION PLAN

Property:

Val Verde Plant Train 7 Amine Release (October 2019)
NE ¼, S14 T29N R11W
San Juan County, New Mexico

September 14, 2020 (Updated November 5, 2020)
Ensolum Project No. 05A1226081

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

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ENSOLUM

SITE CHARACTERIZATION REPORT AND REMEDIATION PLAN

Val Verde Plant Train 7 Amine Release (October 2019)
NE ¼, S14 T29N R11W
San Juan County, New Mexico

Ensolum Project No. 05A1226081

1.0 INTRODUCTION

1.1 Site Description & Background

Operator:	Enterprise Field Services, LLC / Enterprise Products Operating LLC (Enterprise)
Site Name:	Val Verde Plant Train 7 Amine Release (October 2019) (Site)
Incident ID	NCS1934534730
Location:	36.729371° North, 107.956689° West Northeast (NE) ¼ of Section 14, Township 29 North, Range 11 West San Juan County, New Mexico
Property:	Private (Enterprise)
Regulatory:	New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD)

On October 9, 2019, Enterprise personnel identified a release of amine/water from a faulty valve on a Val Verde Plant Train 7 amine aerial cooler. Liquid from the valve flowed into the unlined secondary containment below the cooling fans as well as outside of the containment. Enterprise removed the standing liquids from the containment and subsequently initiated activities to remediate petroleum hydrocarbon impact.

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

1.2 Project Objective

The primary objective of the initial remediation activities was to reduce constituent of concern (COC) concentrations in the on-site soils to below the applicable New Mexico EMNRD OCD closure criteria. After determining that further excavation would risk the integrity of the structural foundations, the remediation activities were halted. The primary objective of the delineation activities was to assess and characterize the release.

2.0 CLOSURE CRITERIA

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address the 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 that are 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.

- The OSE tracks the usage and assignment of water rights and water well installations and records this information in the Water Rights Reporting System (WRRS) database. Water wells and other points of diversion (PODs) are each assigned POD numbers in the database (which is searchable and includes an interactive map). Numerous PODs were identified within two (2) miles of the Site in the OSE WRRS database. The average depth to water is approximately 27 feet below grade surface (bgs). A nearby monitoring well network (SJ 04127) located in the Blanco Plant South Flare Pit and D Plant Area includes 11 permitted groundwater monitoring wells and several unpermitted monitoring wells. The records for the 11 permitted groundwater monitoring wells do not indicate water depth, however, the nearest monitoring well (unpermitted) is located approximately 570 feet southwest of the Site and based on data from previous monitoring events the depth to water is approximately 31 feet bgs (*2013 Annual Groundwater Monitoring Report Blanco Plant South Flare Pit and D Plant Area Bloomfield, New Mexico*, CH2M Hill, April, 2014). The records are not clear, but there appears to be an out-of-service industrial water well located at the facility (SJ 00007 - approximately 450 feet northeast of the release area according to the original permit submittal). No depth to water is listed for SJ 0007, but the total depth of the well is indicated to be 752 feet bgs. Supporting documentation and a figure (**Figure A**) is provided in **Appendix B**.

- No cathodic protection wells were identified within a one mile search radius of the Site (**Figure B** of **Appendix B**).

- The Site is not located within 300 feet of a New Mexico EMNRD OCD-defined continuously flowing watercourse or significant watercourse. An irrigation canal is located approximately 1,056 feet southwest of the Site (**Figure C** of **Appendix B**).

- The Site is not located within 200 feet of a lakebed, sinkhole, or playa lake (**Figure C** of **Appendix B**).

- The Site is not located within 300 feet from a permanent residence, school, hospital, institution, or church (**Figure D** of **Appendix B**).

- Based on information identified in the OSE WRRS database, there are 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 (**Figure E** of **Appendix B**).

- Based on information identified in the OSE WRRS database, there are no fresh water wells or springs within 1,000 feet of the Site (**Figure E** of **Appendix B**).

- The Site is located within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to New Mexico Statutes Annotated (NMSA) 1978, Section 3-27-3. The Site is located within the City of Bloomfield.

- Based on information identified in the U.S. Fish & Wildlife Service National Wetlands Inventory Wetlands Mapper, the Site is not located within 300 feet of a wetland (**Figure F** of **Appendix B**).

- Based on information identified in the New Mexico Mining and Minerals Division's Geographic Information System (GIS), Maps and Mine Data database, the Site is not located within an area overlying a subsurface mine (**Figure G** of **Appendix B**).

- The Site is not located within an unstable area.

- Based on information identified in the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) geospatial database, the Site is not located within a 100-year floodplain (**Figure H** of **Appendix B**).

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 October 2019, Enterprise initiated activities to remediate impacted soils at the Site. 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 underneath each amine cooler measured approximately 44 feet long and 31 feet wide at the maximum extents. The maximum depth of the excavation underneath each amine cooler measured approximately six (6) feet bgs. The excavation west of the two (2) amine coolers measured approximately 20 feet long and 16.5 feet wide at the maximum extents and approximately two (2) feet bgs.

The lithology encountered during the completion of remediation activities consisted primarily of semi-consolidated silty sand and gravel underlain by unconsolidated silty sand.

A total of approximately 416 cubic yards (yd^3) 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 forms are provided in **Appendix C**. The excavation was ultimately backfilled with imported fill and then contoured to surrounding grade.

Figure 3 (Appendix A) is a map that identifies approximate soil sample locations and depicts the approximate dimensions of the excavations. Photographic documentation of the field activities is included in **Appendix D**.

4.0 SOIL SAMPLING PROGRAM

Ensolum field screened the soil samples from the excavation utilizing a calibrated photoionization detector (PID) fitted with a 10.6 eV lamp to evaluate volatile organic compound (VOC) concentrations.

Ensolum's soil sampling program included the collection of 32 composite soil samples (S-1 through S-32) from the excavations. The composite samples were of five (5) aliquots each and represent an estimated 200 square foot sample area per guidelines outlined in 19.15.29.12 Section D NMAC. The New Mexico EMNRD OCD provided verbal approval to increase the sampling interval from 200 to 400 square feet on January 8, 2020. A clean shovel was utilized to obtain fresh aliquots from each area of the excavations. In addition, nine (9) grab soil samples were collected from four (4) soil borings locations (HA-1 through HA-4 and HA-6) utilizing a hand auger. Regulatory correspondence is provided in **Appendix G**.

First Sampling Event
On December 4, 2019 composite soil samples S-1 through S-14 and S-16 (all at depths of 1'' bgs) were collected from the initial scraped area and S-15 (1" to 3.5') was collected from the floor and sidewalls of the deeper portion of the initial excavation. A New Mexico EMNRD OCD representative was not present during the initial sampling event. The composite soil samples collected during this event were representative of 200 square feet, each. Analytical results from composite soil samples S-4 through S-16 indicated New Mexico EMNRD OCD total petroleum hydrocarbon (TPH) closure criteria exceedances. In response to the data exceedances, the areas were further scraped/excavated to remove impacted soils. Soils associated with composite soil samples S-4 through S-14 and S-16 were removed by scraping/excavation. The fate of soils associated with composite soil sample S-15 is presented in the third sampling event discussion below.

Second Sampling Event
On January 8, 2020, after the areas had been further scraped/excavated, a second sampling event was performed. A New Mexico EMNRD OCD representative was present during this sampling event and approved Enterprises' request to increase the composite sampling interval to 400 square feet. Composite soil samples S-17 (3'), S-18 (3'), S-19 (3'), S-20 (3'), S-21 (2'), and S-22 (2') were collected from the scraped/excavated areas to replace composite soil samples S-4 through S-14 and S-16, which had exhibited closure criteria exceedances and were removed by scraping/excavation and ultimately transported to the landfarm for disposal/remediation. The areas of the release that were heavily impacted (areas adjacent to the structural foundations) were not sampled at this time pending additional excavation.

Third Sampling Event
On January 16, 2020, composite soil samples S-23 (2 to 2.5'), S-24 (3'), S-25 (3'), S-26 (1'' to 0.5'), and S-27 (1'' to 0.5') were collected from the floor and sidewalls of the further excavated areas adjacent to the structural foundations. A New Mexico EMNRD OCD representative was present during this sampling event. Subsequent analytical results for these composite soil samples still indicated New Mexico EMNRD OCD closure criteria exceedances for TPH. While deepening the excavation adjacent to the area where composite soil sample S-15 was previously collected, part of the prior excavation was inadvertently backfilled with slough from the scraping activities. As a result, composite soil sample S-24 was ultimately collected from a shallower depth than the original S-15 sample. In response to the data exceedances, additional excavation was performed to remove impacted soils. Soils associated with composite soil samples S-23 through S-27 were removed by excavation and transported to the landfarm for disposal/remediation. This excavation event also removed soils associated with composite soil sample S-15.

Fourth Sampling Event
On February 13, 2020 composite soil samples S-28 (2.5' to 5'), S-29 (3'-6'), S-30 (3'-5'), S-31 (0.5' to 2'), and S-32 (0.5' to 2') were collected from the floor and sidewalls of the deepened excavation to replace previous composite soil samples S-23 through S-27. A New Mexico EMNRD OCD representative was not present during this sampling event. Subsequent analytical results for composite soil samples S-28, S-29, and S-31 indicated New Mexico EMNRD OCD closure criteria exceedances. Due to safety concerns regarding the depth of the excavation adjacent to the structural foundations, further excavation was suspended. Soils associated with composite soil samples S-28, S-29, and S-31 remain in place.

Fifth Sampling Event
On March 10, 2020, four (4) soil borings (HA-1 through HA-4) were advanced adjacent to the amine concrete containment (underneath the amine coolers) to vertically delineate soil impact near the structural foundations. The soil borings were advanced up to 17.5 feet bgs utilizing a hand auger. Soil boring samples HA-1 (10'), HA-1 (17.5'), HA-2 (9'), HA-2 (17'), HA-3 (10'), HA-3 (17.5'), HA-4 (10.5'), and HA-4 (17.5') were collected from the soil borings for laboratory analysis. A New Mexico EMNRD OCD representative was not present during this sampling event.

Sixth Sampling Event
On June 22, 2020, two (2) soil borings (HA-5 and HA-6) were advanced adjacent to the amine concrete containment (west of the amine coolers) to vertically delineate soil impact west of the structural foundations. Soil boring HA-5 encountered auger refusal at four (4) feet and no sample was collected. Soil boring HA-6 was advanced to 12 feet bgs and sample HA-6 (12') was collected from the termination of the soil boring. A New Mexico EMNRD OCD representative was not present during this sampling event.

The soil samples were collected and placed in laboratory prepared glassware. The containers were labeled and sealed using the laboratory supplied labels and custody seals and were 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 and grab soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) using Environmental Protection Agency (EPA) SW-846 Method #8021; 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.

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

6.0 DATA EVALUATION

Ensolum compared the BTEX, TPH, and chloride laboratory analytical results associated with the composite soil samples (S-1 through S-3, S-17 through S-22, and S-28 through S-32) and grab samples (HA-1 (10'), HA-1 (17.5'), HA-2 (9'), HA-2 (17'), HA-3 (10'), HA-3 (17.5'), HA-4 (10.5'), HA-4 (17.5'), and HA-6 (12')) to the applicable New Mexico EMNRD OCD closure criteria. In the event that the laboratory did not quantify a result for BTEX or chloride, Ensolum compared the laboratory supplied practical quantitation limits (PQLs) / reporting limits (RLs) to the New Mexico EMNRD OCD closure criteria. Due to the high PQLs/RLs associated with the TPH MRO range when using EPA SW-846 Method #8015, Ensolum only compared the quantified results to the New Mexico EMNRD OCD closure criteria. Soils associated with composite soil samples S-4 through S-16, and S-23 through S-27 were transported to Envirotech landfarm for disposal/remediation and are not included in the following discussion.

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

- The laboratory analytical results for the composite/grab soil samples collected from soils remaining at the Site indicate total BTEX is not present at concentrations greater than the laboratory PQLs/RLs, which are less than the applicable New Mexico EMNRD OCD closure criteria of 50 mg/kg.

- The laboratory analytical results for composite soil samples S-28, S-29, and S-31 indicate combined TPH GRO/DRO/MRO concentrations ranging from 1,200 mg/kg (S-28) to 4,300 mg/kg (S-31), which exceed the applicable New Mexico EMNRD OCD closure criteria of 100 mg/kg. The laboratory analytical results for composite/grab soil samples S-1 through S-3, S-17, S-30, and HA-2 (9') indicate combined TPH GRO/DRO/MRO concentrations ranging from 11 mg/kg (HA-2 (9')) to 81 mg/kg (S-1), which do not exceed the applicable New Mexico EMNRD OCD closure criteria

of 100 mg/kg. The laboratory analytical results for the remaining composite/grab soil samples collected from soils remaining at the Site indicate combined TPH GRO/DRO/MRO is not present at concentrations greater than the laboratory PQLs/RLs, with no quantified combined values greater than the New Mexico EMNRD OCD closure criteria of 100 mg/kg.

- The laboratory analytical results for the composite/grab soil samples collected from soils remaining at the Site indicate chloride is not present at concentrations greater than the laboratory PQLs/RLs, which are less than the applicable New Mexico EMNRD OCD closure criteria of 600 mg/kg for chlorides.

The laboratory analytical results are summarized in **Table 1** (**Appendix E**).

7.0 REMEDIATION

The excavation was backfilled with imported fill. Enterprise requests deferment of final remediation and reclamation at the Site until after the facility is decommissioned, to avoid damaging existing structures/appurtenances at the facility. At that time, Enterprise will perform final remediation and reclamation at the Site. The exact subgrade dimensions of the structural foundations were not provided to Ensolum, but based on depth-delineation samples HA-1 (10'), HA-2 (9'), HA-3 (10'), HA-4 (10.5') and HA-6 (12') it appears that less than 200 yd^3 of affected soils remain in place adjacent to the structural foundations.

8.0 FINDINGS

- A total of 32 composite soil samples were collected from the excavation for laboratory analysis. In addition, nine (9) grab soil samples were collected from soil borings advanced near the structural foundations.

- Based on soil laboratory analytical results, no benzene, BTEX, or chloride exceedances were identified in the Site soils. Combined TPH concentrations that exceed the New Mexico EMNRD OCD closure criteria are present in the immediate vicinity of the central concrete containment/structural foundations (from 2.5 feet bgs to approximately 10 feet bgs). Results from the delineation activities indicate that soils below 10 feet bgs do not exhibit COC concentrations above the applicable New Mexico EMNRD OCD closure criteria. Ensolum estimates that less than 200 yd^3 of affected soils remain in place at the release location.

- A total of approximately 416 yd^3 of petroleum hydrocarbon affected soils were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with imported fill and was then contoured to surrounding grade.

9.0 RECOMMENDATION

Enterprise requests the deferment of final reclamation, including remediation of the upper four (4) feet of soil to comply with the requirements of NMAC 19.15.29.13(D)(1), until after the facility is decommissioned, to avoid damaging existing structures/appurtenances at the facility.

10.0 STANDARDS OF CARE, LIMITATIONS, AND RELIANCE

10.1 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).

10.2 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 recommendation are based solely upon data available to Ensolum at the time of these services.

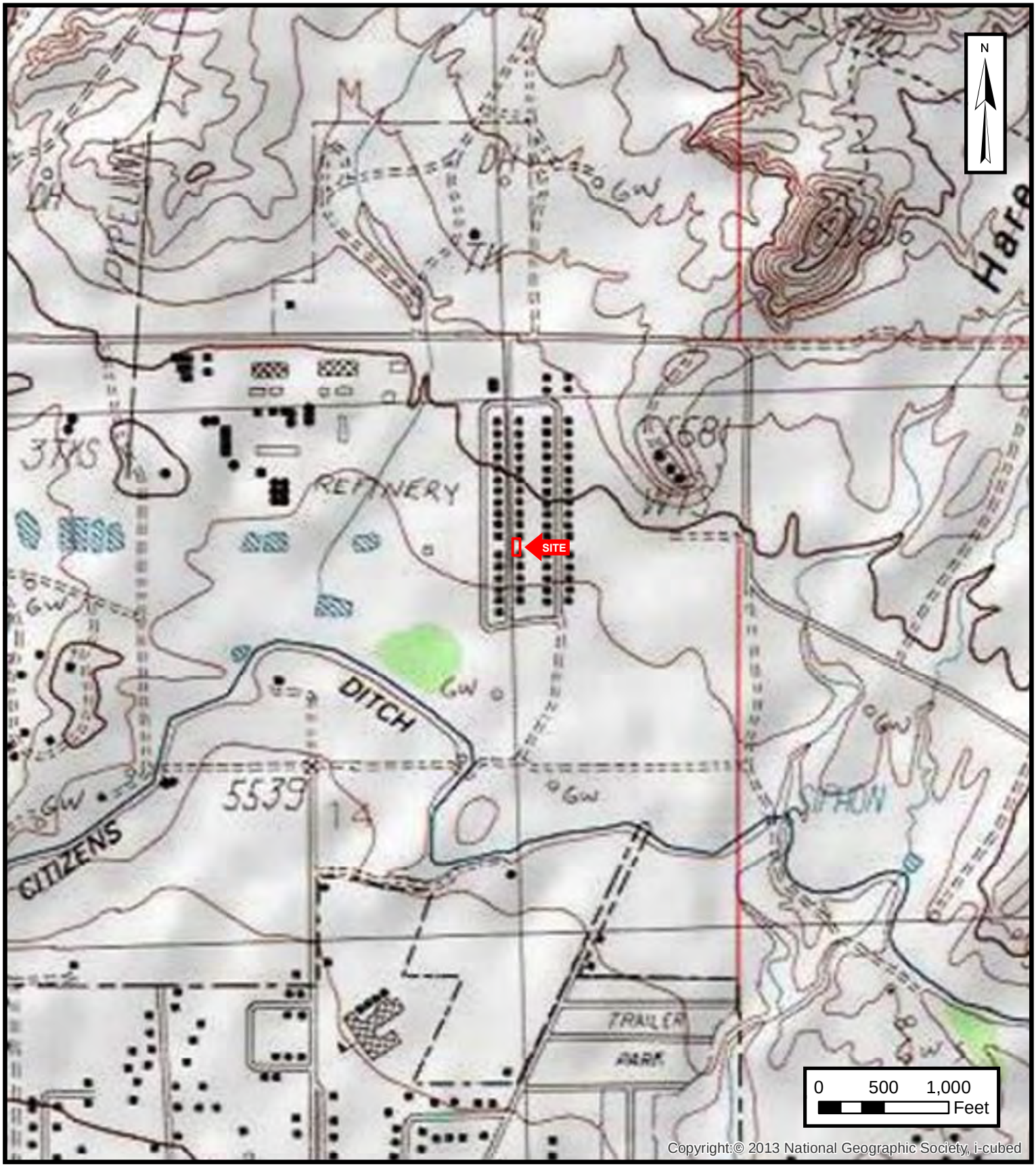
10.3 Reliance

This report has been prepared for the exclusive use of Enterprise, 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 of Enterprise 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 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
VAL VERDE PLANT TRAIN 7 AMINE RELEASE
NE ¼, S14 T29N R11W, San Juan County, New Mexico
36.729371° N, 107.956689° W

PROJECT NUMBER: 05A1226081

FIGURE
1

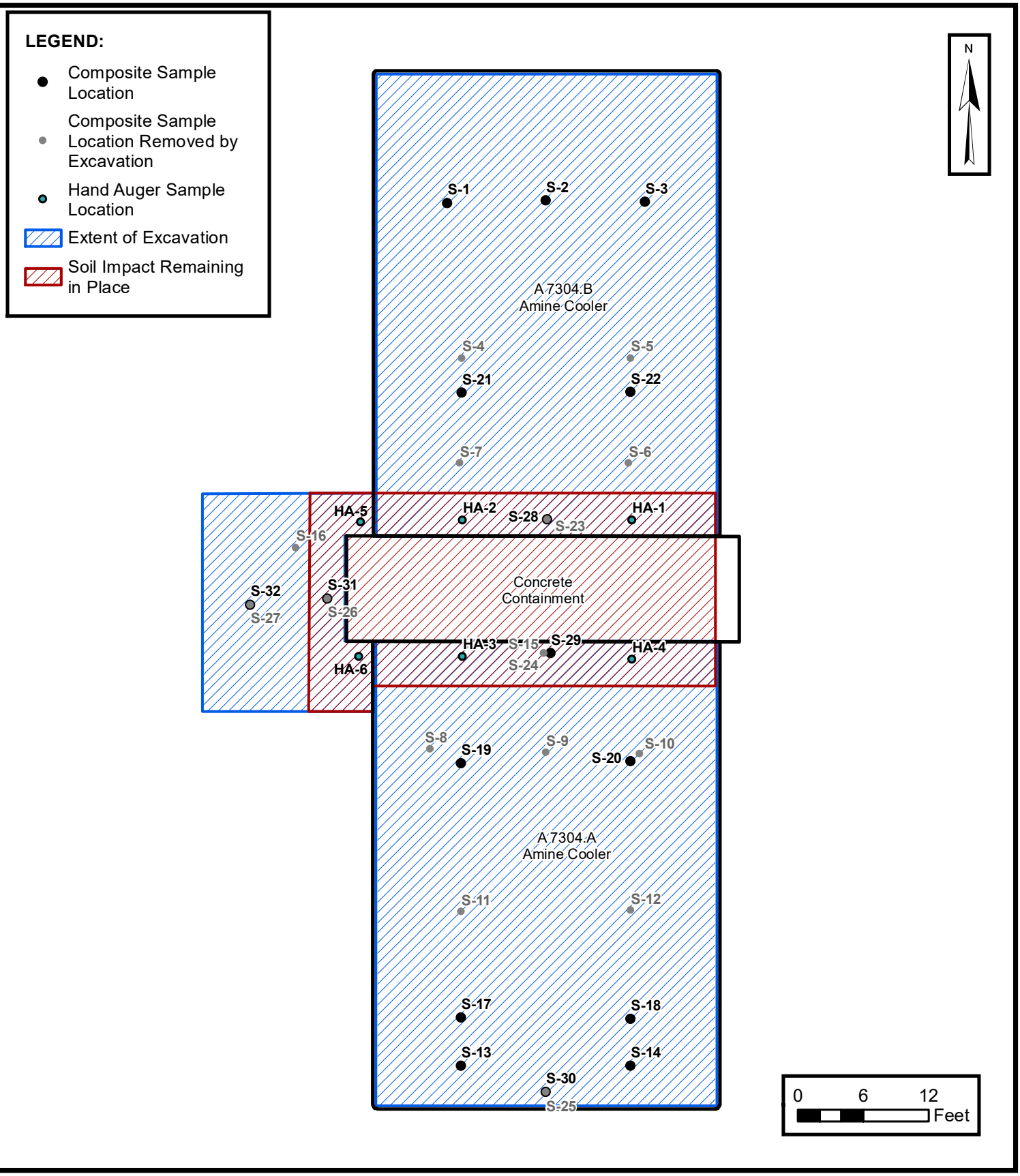
ENSOLUM
Environmental & Hydrogeologic Consultants

SITE VICINITY MAP

ENTERPRISE FIELD SERVICES, LLC
VAL VERDE PLANT TRAIN 7 AMINE RELEASE
NE ¼, S14 T29N R11W, San Juan County, New Mexico
36.729371° N, 107.956689° W

PROJECT NUMBER: 05A1226081

FIGURE
2



ENSOLUM
Environmental & Hydrogeologic Consultants

SITE MAP

ENTERPRISE FIELD SERVICES, LLC
VAL VERDE PLANT TRAIN 7 AMINE RELEASE
NE ¼, S14 T29N R11W, San Juan County, New Mexico
36.729371° N, 107.956689° W

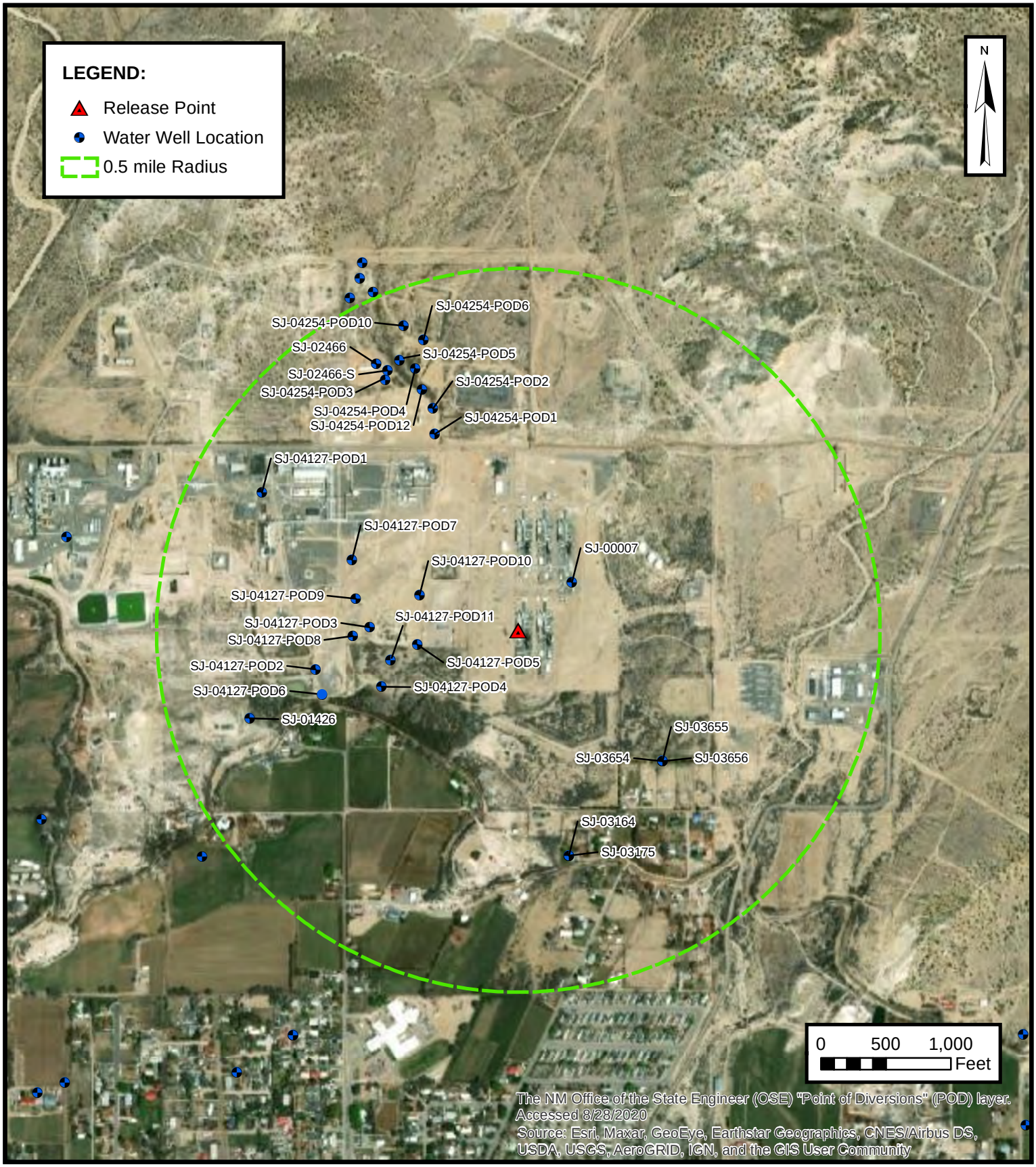
PROJECT NUMBER: 05A1226081

FIGURE
3

ENSOLUM

APPENDIX B

Siting Figures and Documentation



ENSOLUM
Environmental & Hydrogeologic Consultants

HALF MILE RADIUS WATER WELL MAP

ENTERPRISE FIELD SERVICES, LLC
VAL VERDE PLANT TRAIN 7 AMINE RELEASE
NE ¼, S14 T29N R11W, San Juan County, New Mexico
36.729371° N, 107.956689° W

PROJECT NUMBER: 05A1226081

FIGURE

A

ENSOLUM
Environmental & Hydrogeologic Consultants

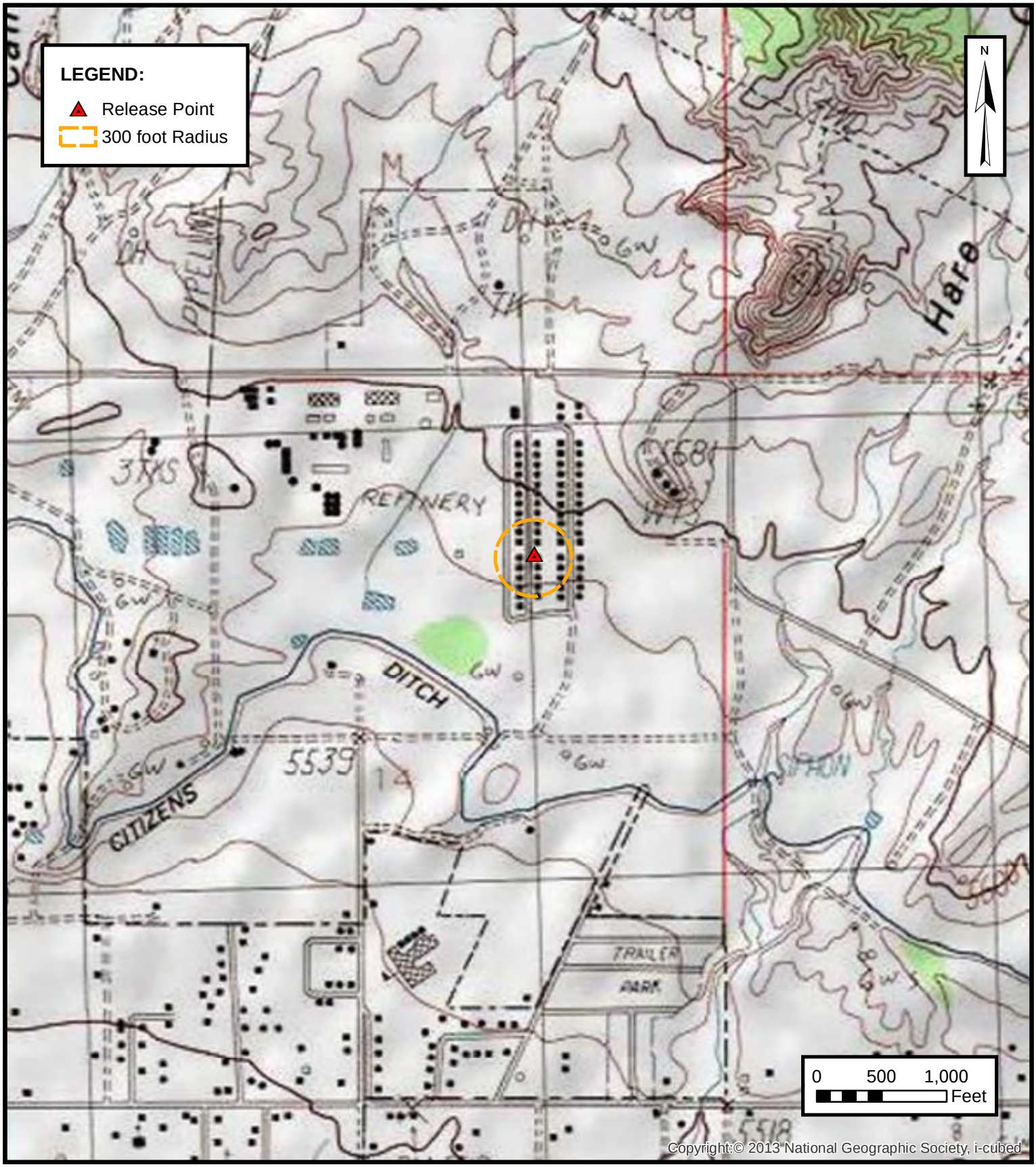
CATHODIC PROTECTION WELL RECORDED DEPTH TO WATER

ENTERPRISE FIELD SERVICES, LLC
VAL VERDE PLANT TRAIN 7 AMINE RELEASE
NE ¼, S14 T29N R11W, San Juan County, New Mexico
36.729371° N, 107.956689° W

PROJECT NUMBER: 05A1226081

FIGURE

B



ENSOLUM
Environmental & Hydrogeologic Consultants

300-FOOT RADIUS
WATERCOURSE AND DRAINAGE IDENTIFICATION
ENTERPRISE FIELD SERVICES, LLC
VAL VERDE PLANT TRAIN 7 AMINE RELEASE
NE ¼, S14 T29N R11W, San Juan County, New Mexico
36.729371° N, 107.956689° W

PROJECT NUMBER: 05A1226081

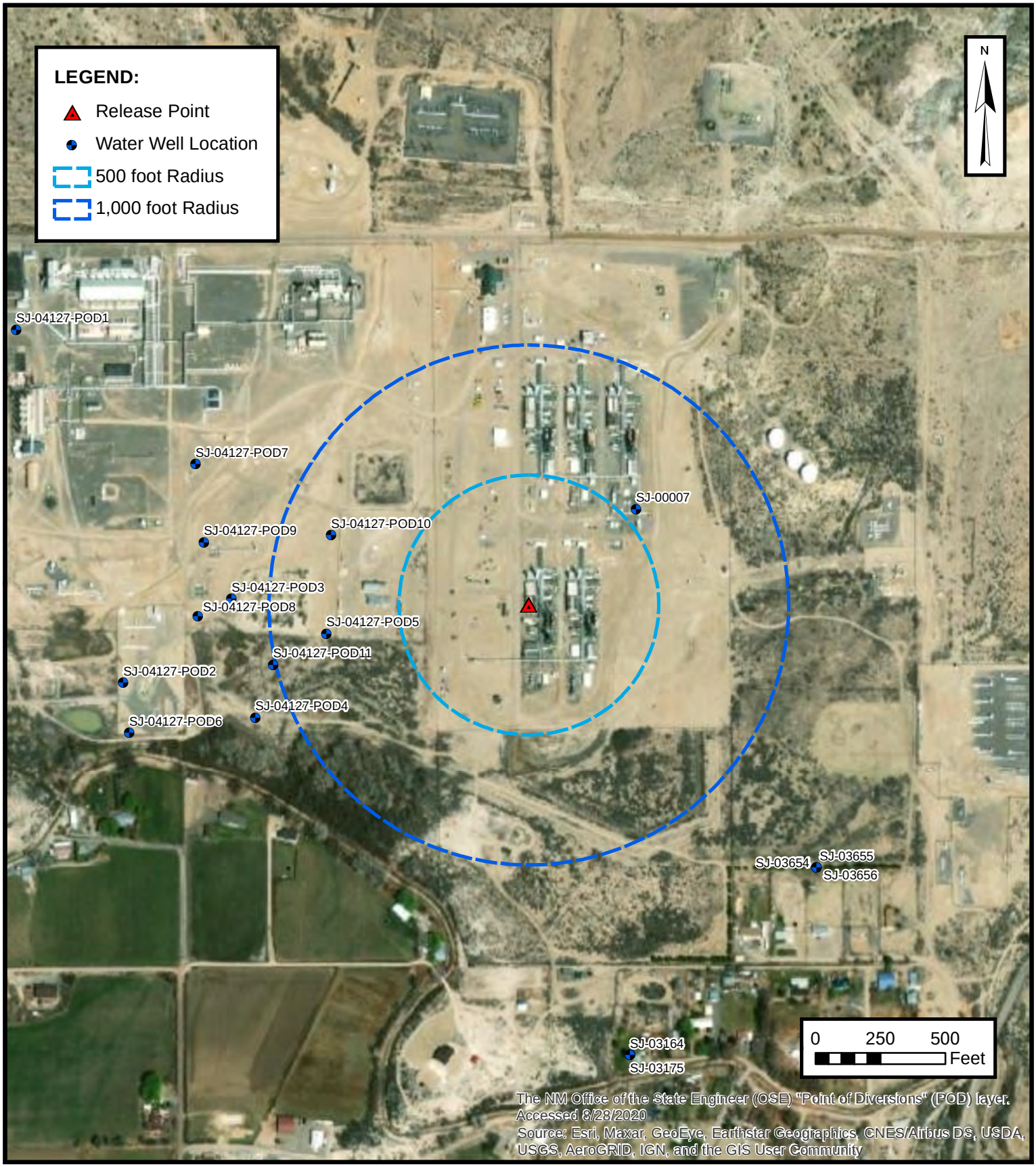
FIGURE
C

ENSOLUM
Environmental & Hydrogeologic Consultants

300-FOOT RADIUS
OCCUPIED STRUCTURE IDENTIFICATION
ENTERPRISE FIELD SERVICES, LLC
VAL VERDE PLANT TRAIN 7 AMINE RELEASE
NE ¼, S14 T29N R11W, San Juan County, New Mexico
36.729371° N, 107.956689° W

PROJECT NUMBER: 05A1226081

FIGURE
D



ENSOLUM
Environmental & Hydrogeologic Consultants

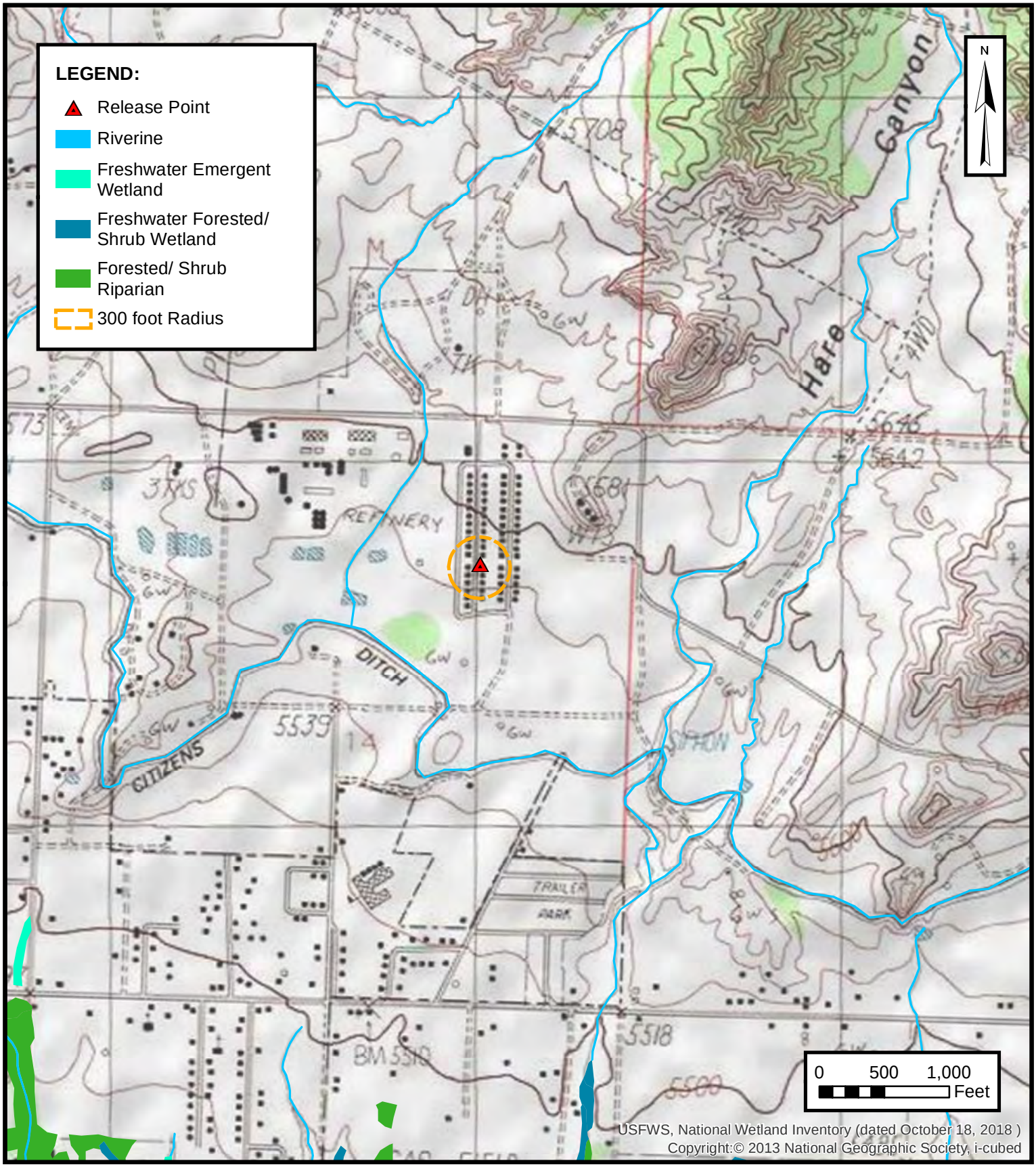
WATER WELL AND NATURAL SPRING LOCATION

ENTERPRISE FIELD SERVICES, LLC
VAL VERDE PLANT TRAIN 7 AMINE RELEASE
NE ¼, S14 T29N R11W, San Juan County, New Mexico
36.729371° N, 107.956689° W

PROJECT NUMBER: 05A1226081

FIGURE

E



ENSOLUM
Environmental & Hydrogeologic Consultants

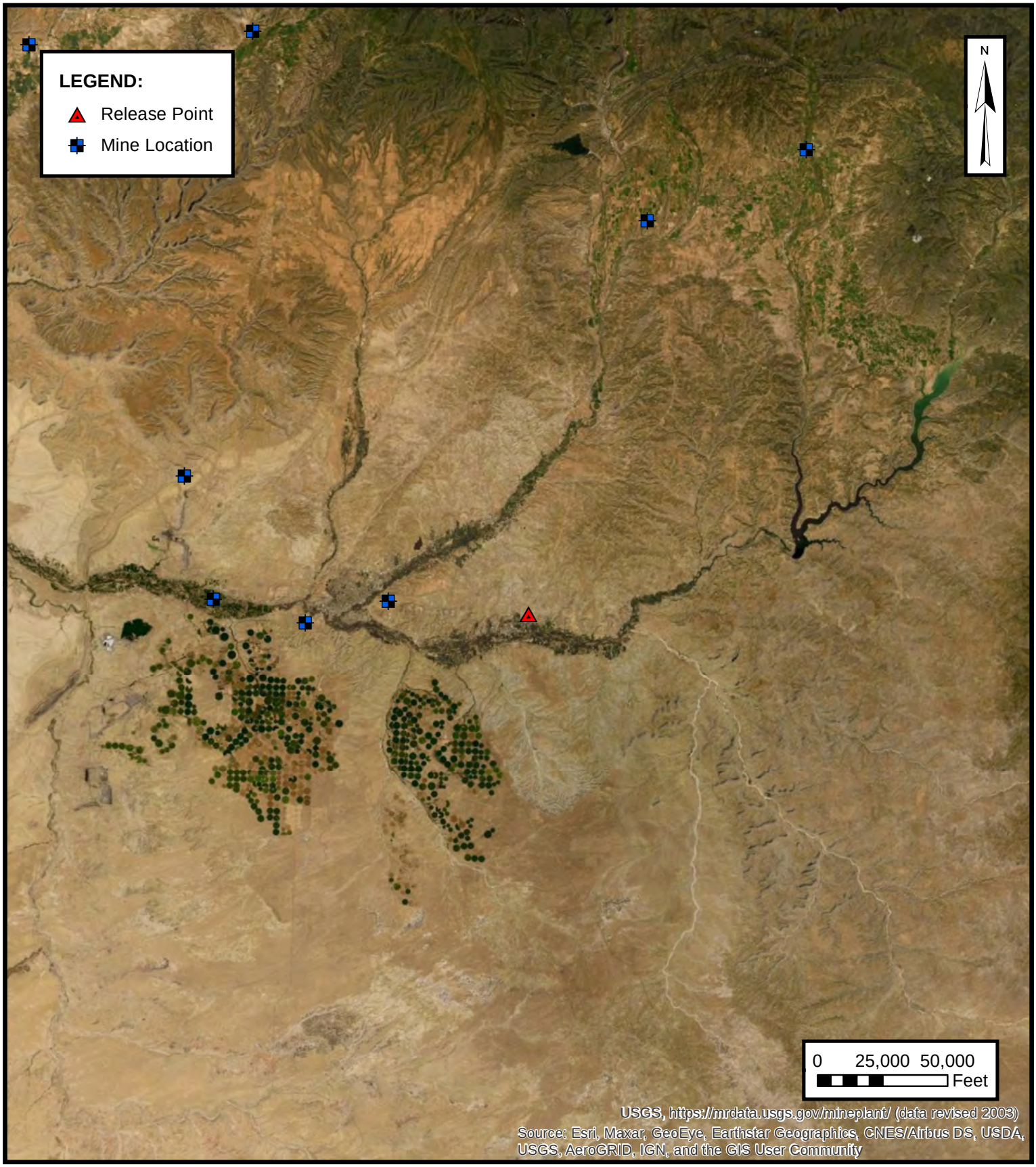
WETLANDS

ENTERPRISE FIELD SERVICES, LLC
VAL VERDE PLANT TRAIN 7 AMINE RELEASE
NE ¼, S14 T29N R11W, San Juan County, New Mexico
36.729371° N, 107.956689° W

PROJECT NUMBER: 05A1226081

FIGURE

F



ENSOLUM
Environmental & Hydrogeologic Consultants

MINES, MILLS AND QUARRIES

ENTERPRISE FIELD SERVICES, LLC
VAL VERDE PLANT TRAIN 7 AMINE RELEASE
NE ¼, S14 T29N R11W, San Juan County, New Mexico
36.729371° N, 107.956689° W

PROJECT NUMBER: 05A1226081

FIGURE

G

ENSOLUM
Environmental & Hydrogeologic Consultants

100-YEAR FLOOD PLAIN MAP

ENTERPRISE FIELD SERVICES, LLC
VAL VERDE PLANT TRAIN 7 AMINE RELEASE
NE ¼, S14 T29N R11W, San Juan County, New Mexico
36.729371° N, 107.956689° W

PROJECT NUMBER: 05A1226081

FIGURE

H

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 00007	SJM2	SJ	3	2	2	14	29N	11W	236085	4069024*	752		
SJ 00151	SJM2	SJ	4	3	1	22	29N	11W	233396	4067109*	45	18	27
SJ 00320	SJM2	SJ	1	3	1	22	29N	11W	233196	4067309*	38	10	28
SJ 00484	SJM2	SJ	1	3	1	22	29N	11W	233196	4067309*	37	10	27
SJ 00696	SJM2	SJ		3	4	22	29N	11W	234085	4066368*	34	12	22
SJ 00704	SJM2	SJ		2	1	22	29N	11W	233714	4067596*	55	20	35
SJ 00796	SJM2	SJ		2	1	22	29N	11W	233714	4067596*	50	8	42
SJ 00812	SJM2	SJ		4	1	23	29N	11W	235313	4067146*	44		
SJ 00987	SJM2	SJ			4	13	29N	11W	237549	4068086*	415	300	115
SJ 01214	SJM2	SJ		3	1	22	29N	11W	233297	4067210*	49	12	37
SJ 01426	SJM2	SJ		4	1	14	29N	11W	235366	4068747*	155	10	145
SJ 01557	SJM2	SJ		2	1	22	29N	11W	233714	4067596*	70	11	59
SJ 01573	SJM2	SJ		3	2	23	29N	11W	235717	4067135*	41	21	20
SJ 01610	SJM2	SJ		2	2	23	29N	11W	236133	4067524*	52	25	27
SJ 01703	SJM2	SJ		2	1	22	29N	11W	233714	4067596*	68	3	65
SJ 01774	SJM2	SJ	2	4	3	14	29N	11W	235440	4068045*	82	6	76
SJ 01851	SJM2	SJ		4	4	10	29N	11W	234586	4069572*	125	48	77
SJ 01870	SJM2	SJ			2	23	29N	11W	235918	4067336*	58	30	28
SJ 01962	SJM2	SJ	2	2	1	24	29N	11W	237033	4067599*	45	12	33
SJ 01974	SJM2	SJ	3	3	4	22	29N	11W	233984	4066267*	47	11	36
SJ 02020	SJM2	SJ		3	3	22	29N	11W	233273	4066412*	27	6	21
SJ 02138	SJM2	SJ		2	4	22	29N	11W	234497	4066770*	40	7	33
SJ 02200	SJM2	SJ				22	29N	11W	233876	4067015*	60	22	38
SJ 02378	SJM2	SJ	2	3	4	15	29N	11W	234229	4068080*	75	12	63
SJ 02466	SJM2	SJ	3	3	4	11	29N	11W	235669	4069518	66		
SJ 02466 S	SJM2	SJ	3	3	4	11	29N	11W	235693	4069503	65		

***UTM location was derived from PLSS - see Help**

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 02529	SJM2	SJ	3	2	4	22	29N	11W	234396	4066669*	30	9	21
SJ 02578	SJM2	SJ	3	3	2	22	29N	11W	234007	4067082*	58	24	34
SJ 02721	SJM2	SJ		4	1	22	29N	11W	233702	4067197*		59	
SJ 02799	SJM2	SJ	1	1	4	23	29N	11W	235602	4066839*	56	15	41
SJ 02813	SJM2	SJ	3	2	1	22	29N	11W	233613	4067495*	59	16	43
SJ 02991	SJM2	SJ	2	4	3	13	29N	11W	237048	4067998*	60		
SJ 03049	SJM2	SJ	4	2	4	22	29N	11W	234596	4066669*	33	10	23
SJ 03073	SJM2	SJ	1	3	2	23	29N	11W	235616	4067234*	30		
SJ 03093	SJM2	SJ	4	3	2	22	29N	11W	234207	4067082*	42	22	20
SJ 03130	SJM2	SJ	3	1	2	23	29N	11W	235631	4067434*	50	30	20
SJ 03136	SJM2	SJ	4	4	3	13	29N	11W	237048	4067798*	20		
SJ 03164	SJM2	SJ	1	2	4	14	29N	11W	236060	4068423*	75	56	19
SJ 03175	SJM2	SJ	1	2	4	14	29N	11W	236060	4068423*	60	24	36
SJ 03188	SJM2	SJ	2	2	3	22	29N	11W	233790	4066892*	45	11	34
SJ 03189	SJM2	SJ	1	2	3	22	29N	11W	233590	4066892*	45	20	25
SJ 03201	SJM2	SJ	3	1	2	23	29N	11W	235631	4067434*	60	30	30
SJ 03286	SJM2	SJ	1	3	3	23	29N	11W	234784	4066470*	38	28	10
SJ 03343	SJM2	SJ	1	4	1	24	29N	11W	236818	4067200*	35	18	17
SJ 03353	SJM2	SJ	3	1	2	23	29N	11W	235631	4067434*	45	25	20
SJ 03360	SJM2	SJ	2	4	3	14	29N	11W	235440	4068045*	40		
SJ 03479	SJM2	SJ	3	2	4	22	29N	11W	234396	4066669*	43	4	39
SJ 03503	SJM2	SJ	3	3	2	22	29N	11W	234007	4067082*	72	18	54
SJ 03532	SJM2	SJ	3	3	1	22	29N	11W	233196	4067109*	49	14	35
SJ 03546	SJM2	SJ	2	4	1	23	29N	11W	235412	4067245*	50	15	35
SJ 03548	SJM2	SJ	1	1	4	23	29N	11W	235602	4066839*	50	15	35
SJ 03550	SJM2	SJ	1	2	3	14	29N	11W	235252	4068445*	10		
SJ 03557	SJM2	SJ	1	3	1	23	29N	11W	234808	4067256*	50	15	35
SJ 03558	SJM2	SJ	1	3	1	23	29N	11W	234808	4067256*	50	15	35
SJ 03559	SJM2	SJ	4	3	1	23	29N	11W	235008	4067056*	45	15	30

***UTM location was derived from PLSS - see Help**

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 03567	SJM2	SJ	3	2	1	23	29N	11W	235226	4067445*	50	22	28
SJ 03579	SJM2	SJ	1	4	4	15	29N	11W	234431	4068068*	83	30	53
SJ 03591	SJM2	SJ	4	4	1	23	29N	11W	235412	4067045*	55	20	35
SJ 03733 POD1	SJM2	SJ	1	2	4	15	29N	11W	234444	4068469*	64	20	44
SJ 03747 POD1	SJM2	SJ	3	2	1	22	29N	11W	233613	4067495*	47	27	20
SJ 03847 POD1	SJM2	SJ	3	3	3	14	29N	11W	234873	4067937	74	27	47
SJ 03934 POD1	SJM2	SJ	4	2	4	22	29N	11W	234658	4066717	30	8	22
SJ 03935 POD1	SJM2	SJ	4	2	4	22	29N	11W	234693	4066639	30	10	20
SJ 03980 POD1	SJM2	SJ	4	4	3	14	29N	11W	236351	4067548	70	60	10
SJ 03982 POD1	SJM2	SJ	3	1	1	22	29N	11W	233220	4067494	54	9	45
SJ 04015 POD1	SJM2	SJ	1	4	4	22	29N	11W	234392	4066411	50	14	36
SJ 04016 POD1	SJM2	SJ	2	4	4	22	29N	11W	234636	4066431	50	10	40
SJ 04137 POD1	SJM2	SJ	4	3	2	23	29N	11W	235865	4067052	44	36	8
SJ 04234 POD1	SJ	SJ				23	29N	11W	236117	4066717	11	6	5
SJ 04234 POD2	SJ	SJ				23	29N	11W	235948	4066623	10		
SJ 04254 POD1	SJ	SJ		3	4	11	29N	11W	235793	4069359	100	63	37
SJ 04254 POD2	SJ	SJ		3	4	11	29N	11W	235791	4069416	102	60	42
SJ 04254 POD3	SJ	SJ		3	4	11	29N	11W	235688	4069482	85	46	39
SJ 04254 POD4	SJ	SJ		3	4	11	29N	11W	235754	4069504	100	41	59
SJ 04254 POD5	SJ	SJ		3	4	11	29N	11W	235721	4069524	100	63	37
SJ 04254 POD6	SJ	SJ		3	4	11	29N	11W	235774	4069567	100	64	36
SJ 04254 POD7	SJ	SJ		3	4	11	29N	11W	235615	4069664	85	35	50
SJ 04254 POD8	SJ	SJ		3	4	11	29N	11W	235667	4069675	88	39	49
SJ 04254 POD9	SJ	SJ		3	4	11	29N	11W	235645	4069741	79	23	56
SJ 04273 POD1	SJM2	SJ	1	1	3	14	29N	11W	234900	4068537	50		
SJ 04291 POD1	SJM2	SJ	1	4	3	14	29N	11W	235314	4067967	55		
SJ 04349 POD1	SJM2	SJ	3	3	1	22	29N	11W	233159	4067219	56	56	0

***UTM location was derived from PLSS - see Help**

Average Depth to Water: **27 feet**

Minimum Depth: **3 feet**

Maximum Depth: **300 feet**

Record Count: 82

PLSS Search:

Section(s): 14, 10, 11, 12, 13, 15, 22, 23, 24 **Township:** 29N **Range:** 11W

ENSOLUM

APPENDIX C

Executed C-138 Solid Waste Acceptance Forms

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 97057-1053
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:
Val Verde Plant

3. Location of Material (Street Address, City, State or ULSTR):
Unit B Sec 14 T 29N R 11W; 36.73073, -107.955920 Nov. 2019

4. Source and Description of Waste:
Source: Amine Spill Cleanup activities.
Description: Hydrocarbon/Amine impacted soil associated with an amine leak.
Estimated Volume 50 yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) 120 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 11-19-19, representative for Enterprise Products Operating authorize Envirotech, Inc. 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: West States Energy Contractors Doug Foutz

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: 11/24/19

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

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
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

97057-1082

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

AFE: N:421490
PayKey: TC25719

2. Originating Site:
Val Verde Plant – Train 7 – Amine Spill

3. Location of Material (Street Address, City, State or ULSTR):
Unit B Sec 14 T 29N R 11W; 36.731125, -107.956736

JAN/FEB 2020

4. Source and Description of Waste:
Source: Amine Spill Cleanup activities.
Description: Hydrocarbon/Amine impacted soil associated with an amine leak.
Estimated Volume 50 yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) 296 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 1-30-2020, representative for Enterprise Products Operating authorize Envirotech, Inc. 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: West States Energy Contractors

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: 1/31/2020

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

ENSOLUM

APPENDIX D

Photographic Documentation

SITE PHOTOGRAPHS

Site Characterization Report and Remediation Plan
Enterprise Field Services, LLC
Val Verde Plant Train 7 Amine Release (Oct 2019)
Ensolum Project No. 05A1226081

ENSOLUM

Photograph 1 Photograph Description: View of the initial scraped/excavated area underneath A7304B Amine Cooler (first sampling event).	
Photograph 2 Photograph Description: View of the initial scraped/excavated area underneath 47304A Amine Cooler (first sampling event).	
Photograph 3 Photograph Description: View of the initial scraped/excavated area underneath 47304A Amine Cooler (first sampling event).	

SITE PHOTOGRAPHS

Site Characterization Report and Remediation Plan
Enterprise Field Services, LLC
Val Verde Plant Train 7 Amine Release (Oct 2019)
Ensolum Project No. 05A1226081

ENSOLUM

Photograph 4 Photograph Description: View of the initial release area outside of the Amine Coolers (first sampling event).	
Photograph 5 Photograph Description: View of the scraped/excavated area underneath A7304B Amine Cooler (second sampling event).	
Photograph 6 Photograph Description: View of the scraped/excavated area underneath A7304A Amine Cooler (second sampling event).	

SITE PHOTOGRAPHS

Site Characterization Report and Remediation Plan
Enterprise Field Services, LLC
Val Verde Plant Train 7 Amine Release (Oct 2019)
Ensolum Project No. 05A1226081

ENSOLUM

Photograph 7 Photograph Description: View of the scraped/excavated area underneath A7304A Amine Cooler (second sampling event).	
Photograph 8 Photograph Description: View of the scraped/excavated area outside of the Amine Coolers (second sampling event).	
Photograph 9 Photograph Description: View of the scraped/excavated area underneath A7304B Amine Cooler (third sampling event).	

SITE PHOTOGRAPHS

Site Characterization Report and Remediation Plan
Enterprise Field Services, LLC
Val Verde Plant Train 7 Amine Release (Oct 2019)
Ensolum Project No. 05A1226081

ENSOLUM

Photograph 10 Photograph Description: View of the scraped/excavated area outside of the Amine Coolers (third sampling event).	
Photograph 11 Photograph Description: View of the scraped/excavated area underneath A7304A Amine Cooler (third sampling event).	
Photograph 12 Photograph Description: View of the scraped/excavated area underneath A7304A Amine Cooler (third sampling event).	

SITE PHOTOGRAPHS

Site Characterization Report and Remediation Plan
Enterprise Field Services, LLC
Val Verde Plant Train 7 Amine Release (Oct 2019)
Ensolum Project No. 05A1226081

ENSOLUM

Photograph 13 Photograph Description: View of the scraped/excavated area underneath A7304B Amine Cooler (fourth sampling event).	
Photograph 14 Photograph Description: View of the scraped/excavated area underneath A7304A Amine Cooler (fourth sampling event).	
Photograph 15 Photograph Description: View of the scraped/excavated area underneath A7304A Amine Cooler (fourth sampling event).	

SITE PHOTOGRAPHS

Site Characterization Report and Remediation Plan
Enterprise Field Services, LLC
Val Verde Plant Train 7 Amine Release (Oct 2019)
Ensolum Project No. 05A1226081

ENSOLUM

Photograph 16 Photograph Description: View of the scraped/excavated area outside of the Amine Coolers (fourth sampling event).	
Photograph 17 Photograph Description: View of a soil boring location underneath A7304B Amine Cooler.	
Photograph 18 Photograph Description: View of a soil boring location underneath A7304A Amine Cooler.	

SITE PHOTOGRAPHS

Site Characterization Report and Remediation Plan
Enterprise Field Services, LLC
Val Verde Plant Train 7 Amine Release (Oct 2019)
Ensolum Project No. 05A1226081

ENSOLUM

Photograph 19 Photograph Description: View of a soil boring location outside of the Amine Coolers.	

ENSOLUM

APPENDIX E

Table 1 – Soil Analytical Summary

ENSOLUM

TABLE 1
Val Verde Plant Train 7 Amine Release (Oct 2019)
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
Soil Samples Removed by Excavation and Transported to the Landfarm for Disposal/Remediation													
S-4	12.04.19	C	0.083	<0.024	<0.048	<0.048	<0.095	ND	<4.8	150	<470	**150**	<60
S-5	12.04.19	C	0.083	<0.024	<0.047	<0.047	<0.094	ND	<4.7	2,300	<450	**2,300**	<60
S-6	12.04.19	C	0.083	<0.024	<0.049	<0.049	<0.098	ND	<4.9	2,400	<490	**2,400**	<60
S-7	12.04.19	C	0.083	<0.023	<0.047	<0.047	<0.094	ND	<4.7	110	<49	**110**	76
S-8	12.04.19	C	0.083	<0.023	<0.046	<0.046	<0.093	ND	<4.6	1,400	<480	**1,400**	<60
S-9	12.04.19	C	0.083	<0.023	<0.047	<0.047	<0.094	ND	<4.7	1,400	<490	**1,400**	<60
S-10	12.04.19	C	0.083	<0.024	<0.049	<0.049	<0.097	ND	<4.9	1,100	<460	**1,100**	<60
S-11	12.04.19	C	0.083	<0.024	<0.049	<0.049	<0.098	ND	<4.9	2,100	<480	**2,100**	<60
S-12	12.04.19	C	0.083	<0.023	<0.047	<0.047	<0.093	ND	<4.7	490	<480	**490**	<60
S-13	12.04.19	C	0.083	<0.023	<0.046	<0.046	<0.092	ND	<4.6	1,600	<370	**1,600**	<60
S-14	12.04.19	C	0.083	<0.023	<0.046	<0.046	<0.093	ND	<4.6	2,100	<450	**2,100**	67
S-15	12.04.19	C	0.083 to 3.5	<0.024	<0.048	<0.048	<0.095	ND	<4.8	7,100	<480	**7,100**	<60
S-16	12.04.19	C	0.083	<0.024	<0.048	<0.048	<0.096	ND	<4.8	4,400	<430	**4,400**	<60
S-23	01.16.20	C	2 to 2.5	<0.024	<0.047	<0.047	<0.095	ND	<4.7	360	<47	**360**	<60
S-24	01.16.20	C	3	<0.024	<0.048	<0.048	<0.096	ND	<4.8	2,800	<460	**2,800**	<60
S-25	01.16.20	C	3	<0.024	<0.047	<0.047	<0.095	ND	<4.7	1,400	<480	**1,400**	<60
S-26	01.16.20	C	0.083 to 0.5	<0.024	<0.048	<0.048	<0.095	ND	<4.8	5,200	<440	**5,200**	<60
S-27	01.16.20	C	0.083 to 0.5	<0.024	<0.047	<0.047	<0.094	ND	<4.7	180	<490	**180**	<60
Excavation Composite Soil Samples													
S-1	12.04.19	C	0.083	<0.024	<0.048	<0.048	<0.097	ND	<4.8	81	<48	81	<60
S-2	12.04.19	C	0.083	<0.024	<0.047	<0.047	<0.094	ND	<4.7	77	<47	77	<60
S-3	12.04.19	C	0.083	<0.024	<0.049	<0.049	<0.097	ND	<4.9	23	<47	23	<60
S-17	01.08.20	C	3	<0.023	<0.046	<0.046	<0.093	ND	<4.6	12	<46	12	<60
S-18	01.08.20	C	3	<0.024	<0.048	<0.048	<0.097	ND	<4.8	<9.8	<49	ND	<60
S-19	01.08.20	C	3	<0.024	<0.047	<0.047	<0.094	ND	<4.7	<9.8	<49	ND	<60
S-20	01.08.20	C	3	<0.025	<0.049	<0.049	<0.098	ND	<4.9	<9.7	<49	ND	<59
S-21	01.08.20	C	2	<0.025	<0.050	<0.050	<0.099	ND	<5.0	<9.9	<49	ND	<60
S-22	01.08.20	C	2	<0.025	<0.049	<0.049	<0.099	ND	<4.9	<9.9	<50	ND	<60
S-28	02.13.20	C	2.5 to 5	<0.12	<0.24	<0.24	<0.48	ND	<24	1,200	<460	**1,200**	<60
S-29	02.13.20	C	3 to 6	<0.12	<0.24	<0.24	<0.49	ND	<24	3,800	<490	**3,800**	<59
S-30	02.13.20	C	3 to 5	<0.025	<0.050	<0.050	<0.099	ND	<5.0	23	<47	23	<60
S-31	02.13.20	C	0.5 to 2	<0.12	<0.24	<0.24	<0.49	ND	<24	4,300	<460	**4,300**	<60
S-32	02.13.20	C	0.5 to 2	<0.024	<0.049	<0.049	<0.097	ND	<4.9	<9.9	<49	ND	<61

ENSOLUM

TABLE 1
Val Verde Plant Train 7 Amine Release (Oct 2019)
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
Delineation Hand Auger Soil Samples													
HA -1	03.10.20	G	10	<0.018	<0.035	<0.035	<0.070	ND	<3.5	<9.3	<46	ND	<60
	03.10.20	G	17.5	<0.018	<0.035	<0.035	<0.070	ND	<3.5	<9.4	<47	ND	<60
HA-2	03.10.20	G	9	<0.017	<0.033	<0.033	<0.066	ND	<3.3	11	<44	11	<60
	03.10.20	G	17	<0.019	<0.038	<0.038	<0.076	ND	<3.8	<9.6	<48	ND	<60
HA-3	03.10.20	G	10	<0.018	<0.035	<0.035	<0.071	ND	<3.5	<9.2	<46	ND	<60
	03.10.20	G	17.5	<0.017	<0.035	<0.035	<0.069	ND	<3.5	<9.6	<48	ND	<60
HA-4	03.10.20	G	10.5	<0.019	<0.037	<0.037	<0.075	ND	<3.7	<9.7	<48	ND	<60
	03.10.20	G	17.5	<0.019	<0.038	<0.038	<0.077	ND	<3.8	<9.6	<48	ND	<60
HA-6	06.22.20	G	12	<0.024	<0.048	<0.048	<0.096	ND	<4.8	<9.7	<49	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 Eestablished

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 F

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

December 11, 2019

Kyle Summers

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

RE: Val Verde Amine Release 2019 OrderNo.: 1912184

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 16 sample(s) on 12/5/2019 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1912184**
Date Reported: **12/11/2019**

CLIENT: ENSOLUM
Client Sample ID: S-1
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 10:00:00 AM
Lab ID: 1912184-001 **Matrix:** SOIL **Received Date:** 12/5/2019 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	12/6/2019 8:35:49 PM	49205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	81	9.5		mg/Kg	1	12/10/2019 8:55:19 AM	49225
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/10/2019 8:55:19 AM	49225
Surr: DNOP	96.1	70-130		%Rec	1	12/10/2019 8:55:19 AM	49225
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/6/2019 5:25:00 PM	49179
Surr: BFB	82.7	66.6-105		%Rec	1	12/6/2019 5:25:00 PM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/6/2019 5:25:00 PM	49179
Toluene	ND	0.048		mg/Kg	1	12/6/2019 5:25:00 PM	49179
Ethylbenzene	ND	0.048		mg/Kg	1	12/6/2019 5:25:00 PM	49179
Xylenes, Total	ND	0.097		mg/Kg	1	12/6/2019 5:25:00 PM	49179
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	12/6/2019 5:25:00 PM	49179

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 **1912184**
Date Reported: **12/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-2
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 10:05:00 AM
Lab ID: 1912184-002 **Matrix:** SOIL **Received Date:** 12/5/2019 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	12/6/2019 8:48:10 PM	49205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	77	9.3		mg/Kg	1	12/10/2019 9:04:31 AM	49225
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/10/2019 9:04:31 AM	49225
Surr: DNOP	99.3	70-130		%Rec	1	12/10/2019 9:04:31 AM	49225
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/6/2019 6:33:45 PM	49179
Surr: BFB	79.0	66.6-105		%Rec	1	12/6/2019 6:33:45 PM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/6/2019 6:33:45 PM	49179
Toluene	ND	0.047		mg/Kg	1	12/6/2019 6:33:45 PM	49179
Ethylbenzene	ND	0.047		mg/Kg	1	12/6/2019 6:33:45 PM	49179
Xylenes, Total	ND	0.094		mg/Kg	1	12/6/2019 6:33:45 PM	49179
Surr: 4-Bromofluorobenzene	96.5	80-120		%Rec	1	12/6/2019 6:33:45 PM	49179

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1912184**
Date Reported: **12/11/2019**

CLIENT: ENSOLUM
Client Sample ID: S-3
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 10:10:00 AM
Lab ID: 1912184-003 **Matrix:** SOIL **Received Date:** 12/5/2019 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	12/6/2019 9:25:13 PM	49205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	23	9.4		mg/Kg	1	12/10/2019 9:13:40 AM	49225
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/10/2019 9:13:40 AM	49225
Surr: DNOP	91.9	70-130		%Rec	1	12/10/2019 9:13:40 AM	49225
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/6/2019 6:56:42 PM	49179
Surr: BFB	81.8	66.6-105		%Rec	1	12/6/2019 6:56:42 PM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/6/2019 6:56:42 PM	49179
Toluene	ND	0.049		mg/Kg	1	12/6/2019 6:56:42 PM	49179
Ethylbenzene	ND	0.049		mg/Kg	1	12/6/2019 6:56:42 PM	49179
Xylenes, Total	ND	0.097		mg/Kg	1	12/6/2019 6:56:42 PM	49179
Surr: 4-Bromofluorobenzene	98.8	80-120		%Rec	1	12/6/2019 6:56:42 PM	49179

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1912184**
Date Reported: **12/11/2019**

CLIENT: ENSOLUM
Client Sample ID: S-4
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 10:15:00 AM
Lab ID: 1912184-004 **Matrix:** SOIL **Received Date:** 12/5/2019 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	12/6/2019 9:37:34 PM	49205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	150	95		mg/Kg	10	12/10/2019 9:22:48 AM	49225
Motor Oil Range Organics (MRO)	ND	470		mg/Kg	10	12/10/2019 9:22:48 AM	49225
Surr: DNOP	0	70-130	S	%Rec	10	12/10/2019 9:22:48 AM	49225
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/9/2019 9:12:21 AM	49179
Surr: BFB	76.8	66.6-105		%Rec	1	12/9/2019 9:12:21 AM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/9/2019 9:12:21 AM	49179
Toluene	ND	0.048		mg/Kg	1	12/9/2019 9:12:21 AM	49179
Ethylbenzene	ND	0.048		mg/Kg	1	12/9/2019 9:12:21 AM	49179
Xylenes, Total	ND	0.095		mg/Kg	1	12/9/2019 9:12:21 AM	49179
Surr: 4-Bromofluorobenzene	92.6	80-120		%Rec	1	12/9/2019 9:12:21 AM	49179

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 **1912184**
Date Reported: **12/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-5
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 10:20:00 AM
Lab ID: 1912184-005 **Matrix:** SOIL **Received Date:** 12/5/2019 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	12/6/2019 9:49:55 PM	49205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	2300	90		mg/Kg	10	12/10/2019 9:31:56 AM	49225
Motor Oil Range Organics (MRO)	ND	450		mg/Kg	10	12/10/2019 9:31:56 AM	49225
Surr: DNOP	0	70-130	S	%Rec	10	12/10/2019 9:31:56 AM	49225
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/9/2019 9:35:12 AM	49179
Surr: BFB	80.2	66.6-105		%Rec	1	12/9/2019 9:35:12 AM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/9/2019 9:35:12 AM	49179
Toluene	ND	0.047		mg/Kg	1	12/9/2019 9:35:12 AM	49179
Ethylbenzene	ND	0.047		mg/Kg	1	12/9/2019 9:35:12 AM	49179
Xylenes, Total	ND	0.094		mg/Kg	1	12/9/2019 9:35:12 AM	49179
Surr: 4-Bromofluorobenzene	95.2	80-120		%Rec	1	12/9/2019 9:35:12 AM	49179

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 **1912184**
Date Reported: **12/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-6
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 10:25:00 AM
Lab ID: 1912184-006 **Matrix:** SOIL **Received Date:** 12/5/2019 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	12/6/2019 10:02:16 PM	49205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	2400	98		mg/Kg	10	12/10/2019 9:41:05 AM	49225
Motor Oil Range Organics (MRO)	ND	490		mg/Kg	10	12/10/2019 9:41:05 AM	49225
Surr: DNOP	0	70-130	S	%Rec	10	12/10/2019 9:41:05 AM	49225
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2019 9:58:07 AM	49179
Surr: BFB	82.0	66.6-105		%Rec	1	12/9/2019 9:58:07 AM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/9/2019 9:58:07 AM	49179
Toluene	ND	0.049		mg/Kg	1	12/9/2019 9:58:07 AM	49179
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2019 9:58:07 AM	49179
Xylenes, Total	ND	0.098		mg/Kg	1	12/9/2019 9:58:07 AM	49179
Surr: 4-Bromofluorobenzene	96.0	80-120		%Rec	1	12/9/2019 9:58:07 AM	49179

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 **1912184**
Date Reported: **12/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-7
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 10:30:00 AM
Lab ID: 1912184-007 **Matrix:** SOIL **Received Date:** 12/5/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	76	59		mg/Kg	20	12/9/2019 2:44:02 PM	49220
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	110	9.8		mg/Kg	1	12/10/2019 9:50:15 AM	49225
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/10/2019 9:50:15 AM	49225
Surr: DNOP	70.7	70-130		%Rec	1	12/10/2019 9:50:15 AM	49225
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/9/2019 10:21:06 AM	49179
Surr: BFB	82.2	66.6-105		%Rec	1	12/9/2019 10:21:06 AM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	12/9/2019 10:21:06 AM	49179
Toluene	ND	0.047		mg/Kg	1	12/9/2019 10:21:06 AM	49179
Ethylbenzene	ND	0.047		mg/Kg	1	12/9/2019 10:21:06 AM	49179
Xylenes, Total	ND	0.094		mg/Kg	1	12/9/2019 10:21:06 AM	49179
Surr: 4-Bromofluorobenzene	96.4	80-120		%Rec	1	12/9/2019 10:21:06 AM	49179

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 **1912184**
Date Reported: **12/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-8
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 10:35:00 AM
Lab ID: 1912184-008 **Matrix:** SOIL **Received Date:** 12/5/2019 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	12/9/2019 3:21:04 PM	49220
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	1400	96		mg/Kg	10	12/10/2019 9:59:19 AM	49225
Motor Oil Range Organics (MRO)	ND	480		mg/Kg	10	12/10/2019 9:59:19 AM	49225
Surr: DNOP	0	70-130	S	%Rec	10	12/10/2019 9:59:19 AM	49225
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/9/2019 10:44:04 AM	49179
Surr: BFB	77.6	66.6-105		%Rec	1	12/9/2019 10:44:04 AM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	12/9/2019 10:44:04 AM	49179
Toluene	ND	0.046		mg/Kg	1	12/9/2019 10:44:04 AM	49179
Ethylbenzene	ND	0.046		mg/Kg	1	12/9/2019 10:44:04 AM	49179
Xylenes, Total	ND	0.093		mg/Kg	1	12/9/2019 10:44:04 AM	49179
Surr: 4-Bromofluorobenzene	90.8	80-120		%Rec	1	12/9/2019 10:44:04 AM	49179

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1912184**
Date Reported: **12/11/2019**

CLIENT: ENSOLUM
Client Sample ID: S-9
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 10:40:00 AM
Lab ID: 1912184-009 **Matrix:** SOIL **Received Date:** 12/5/2019 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	12/9/2019 4:22:48 PM	49220
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	1400	98		mg/Kg	10	12/10/2019 10:08:28 AM	49225
Motor Oil Range Organics (MRO)	ND	490		mg/Kg	10	12/10/2019 10:08:28 AM	49225
Surr: DNOP	0	70-130	S	%Rec	10	12/10/2019 10:08:28 AM	49225
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/9/2019 11:07:05 AM	49179
Surr: BFB	81.6	66.6-105		%Rec	1	12/9/2019 11:07:05 AM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	12/9/2019 11:07:05 AM	49179
Toluene	ND	0.047		mg/Kg	1	12/9/2019 11:07:05 AM	49179
Ethylbenzene	ND	0.047		mg/Kg	1	12/9/2019 11:07:05 AM	49179
Xylenes, Total	ND	0.094		mg/Kg	1	12/9/2019 11:07:05 AM	49179
Surr: 4-Bromofluorobenzene	95.4	80-120		%Rec	1	12/9/2019 11:07:05 AM	49179

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 **1912184**
Date Reported: **12/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-10
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 10:45:00 AM
Lab ID: 1912184-010 **Matrix:** SOIL **Received Date:** 12/5/2019 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	12/9/2019 4:35:08 PM	49220
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	1100	93		mg/Kg	10	12/10/2019 10:17:36 AM	49225
Motor Oil Range Organics (MRO)	ND	460		mg/Kg	10	12/10/2019 10:17:36 AM	49225
Surr: DNOP	0	70-130	S	%Rec	10	12/10/2019 10:17:36 AM	49225
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2019 11:30:03 AM	49179
Surr: BFB	80.3	66.6-105		%Rec	1	12/9/2019 11:30:03 AM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/9/2019 11:30:03 AM	49179
Toluene	ND	0.049		mg/Kg	1	12/9/2019 11:30:03 AM	49179
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2019 11:30:03 AM	49179
Xylenes, Total	ND	0.097		mg/Kg	1	12/9/2019 11:30:03 AM	49179
Surr: 4-Bromofluorobenzene	93.4	80-120		%Rec	1	12/9/2019 11:30:03 AM	49179

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 **1912184**
Date Reported: **12/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-11
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 10:50:00 AM
Lab ID: 1912184-011 **Matrix:** SOIL **Received Date:** 12/5/2019 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	12/9/2019 4:47:29 PM	49220
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	2100	96		mg/Kg	10	12/10/2019 10:26:49 AM	49225
Motor Oil Range Organics (MRO)	ND	480		mg/Kg	10	12/10/2019 10:26:49 AM	49225
Surr: DNOP	0	70-130	S	%Rec	10	12/10/2019 10:26:49 AM	49225
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/9/2019 11:53:03 AM	49179
Surr: BFB	79.9	66.6-105		%Rec	1	12/9/2019 11:53:03 AM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/9/2019 11:53:03 AM	49179
Toluene	ND	0.049		mg/Kg	1	12/9/2019 11:53:03 AM	49179
Ethylbenzene	ND	0.049		mg/Kg	1	12/9/2019 11:53:03 AM	49179
Xylenes, Total	ND	0.098		mg/Kg	1	12/9/2019 11:53:03 AM	49179
Surr: 4-Bromofluorobenzene	92.3	80-120		%Rec	1	12/9/2019 11:53:03 AM	49179

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 **1912184**
Date Reported: **12/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-12
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 10:55:00 AM
Lab ID: 1912184-012 **Matrix:** SOIL **Received Date:** 12/5/2019 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	12/9/2019 4:59:50 PM	49220
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	490	95		mg/Kg	10	12/10/2019 10:54:03 AM	49225
Motor Oil Range Organics (MRO)	ND	480		mg/Kg	10	12/10/2019 10:54:03 AM	49225
Surr: DNOP	0	70-130	S	%Rec	10	12/10/2019 10:54:03 AM	49225
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/9/2019 12:15:57 PM	49179
Surr: BFB	80.1	66.6-105		%Rec	1	12/9/2019 12:15:57 PM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	12/9/2019 12:15:57 PM	49179
Toluene	ND	0.047		mg/Kg	1	12/9/2019 12:15:57 PM	49179
Ethylbenzene	ND	0.047		mg/Kg	1	12/9/2019 12:15:57 PM	49179
Xylenes, Total	ND	0.093		mg/Kg	1	12/9/2019 12:15:57 PM	49179
Surr: 4-Bromofluorobenzene	93.1	80-120		%Rec	1	12/9/2019 12:15:57 PM	49179

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 **1912184**
Date Reported: **12/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-13
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 11:00:00 AM
Lab ID: 1912184-013 **Matrix:** SOIL **Received Date:** 12/5/2019 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	12/9/2019 5:12:11 PM	49220
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	1600	73		mg/Kg	10	12/9/2019 1:51:53 PM	49194
Motor Oil Range Organics (MRO)	ND	370	D	mg/Kg	10	12/9/2019 1:51:53 PM	49194
Surr: DNOP	0	70-130	S	%Rec	10	12/9/2019 1:51:53 PM	49194
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/9/2019 10:48:59 AM	49179
Surr: BFB	80.5	66.6-105		%Rec	1	12/9/2019 10:48:59 AM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	12/9/2019 10:48:59 AM	49179
Toluene	ND	0.046		mg/Kg	1	12/9/2019 10:48:59 AM	49179
Ethylbenzene	ND	0.046		mg/Kg	1	12/9/2019 10:48:59 AM	49179
Xylenes, Total	ND	0.092		mg/Kg	1	12/9/2019 10:48:59 AM	49179
Surr: 4-Bromofluorobenzene	92.2	80-120		%Rec	1	12/9/2019 10:48:59 AM	49179

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 **1912184**
Date Reported: **12/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-14
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 11:05:00 AM
Lab ID: 1912184-014 **Matrix:** SOIL **Received Date:** 12/5/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	67	60		mg/Kg	20	12/9/2019 5:24:32 PM	49220
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	2100	90		mg/Kg	10	12/9/2019 2:01:11 PM	49194
Motor Oil Range Organics (MRO)	ND	450	D	mg/Kg	10	12/9/2019 2:01:11 PM	49194
Surr: DNOP	0	70-130	S	%Rec	10	12/9/2019 2:01:11 PM	49194
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/9/2019 11:12:20 AM	49179
Surr: BFB	80.4	66.6-105		%Rec	1	12/9/2019 11:12:20 AM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	12/9/2019 11:12:20 AM	49179
Toluene	ND	0.046		mg/Kg	1	12/9/2019 11:12:20 AM	49179
Ethylbenzene	ND	0.046		mg/Kg	1	12/9/2019 11:12:20 AM	49179
Xylenes, Total	ND	0.093		mg/Kg	1	12/9/2019 11:12:20 AM	49179
Surr: 4-Bromofluorobenzene	93.4	80-120		%Rec	1	12/9/2019 11:12:20 AM	49179

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 **1912184**
Date Reported: **12/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-15
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 11:10:00 AM
Lab ID: 1912184-015 **Matrix:** SOIL **Received Date:** 12/5/2019 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	12/9/2019 5:36:53 PM	49220
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	7100	96		mg/Kg	10	12/9/2019 2:10:30 PM	49194
Motor Oil Range Organics (MRO)	ND	480	D	mg/Kg	10	12/9/2019 2:10:30 PM	49194
Surr: DNOP	0	70-130	S	%Rec	10	12/9/2019 2:10:30 PM	49194
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/9/2019 11:35:53 AM	49179
Surr: BFB	84.7	66.6-105		%Rec	1	12/9/2019 11:35:53 AM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/9/2019 11:35:53 AM	49179
Toluene	ND	0.048		mg/Kg	1	12/9/2019 11:35:53 AM	49179
Ethylbenzene	ND	0.048		mg/Kg	1	12/9/2019 11:35:53 AM	49179
Xylenes, Total	ND	0.095		mg/Kg	1	12/9/2019 11:35:53 AM	49179
Surr: 4-Bromofluorobenzene	97.1	80-120		%Rec	1	12/9/2019 11:35:53 AM	49179

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 **1912184**
Date Reported: **12/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-16
Project: Val Verde Amine Release 2019
Collection Date: 12/4/2019 11:15:00 AM
Lab ID: 1912184-016 **Matrix:** SOIL **Received Date:** 12/5/2019 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	12/9/2019 5:49:14 PM	49220
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	4400	86		mg/Kg	10	12/9/2019 2:19:51 PM	49194
Motor Oil Range Organics (MRO)	ND	430	D	mg/Kg	10	12/9/2019 2:19:51 PM	49194
Surr: DNOP	0	70-130	S	%Rec	10	12/9/2019 2:19:51 PM	49194
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/9/2019 11:59:32 AM	49179
Surr: BFB	83.9	66.6-105		%Rec	1	12/9/2019 11:59:32 AM	49179
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/9/2019 11:59:32 AM	49179
Toluene	ND	0.048		mg/Kg	1	12/9/2019 11:59:32 AM	49179
Ethylbenzene	ND	0.048		mg/Kg	1	12/9/2019 11:59:32 AM	49179
Xylenes, Total	ND	0.096		mg/Kg	1	12/9/2019 11:59:32 AM	49179
Surr: 4-Bromofluorobenzene	97.0	80-120		%Rec	1	12/9/2019 11:59:32 AM	49179

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#: **1912184**
11-Dec-19

Client: ENSOLUM
Project: Val Verde Amine Release 2019

Sample ID: **MB-49205** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **49205** RunNo: **65000**
Prep Date: **12/6/2019** Analysis Date: **12/6/2019** SeqNo: **2230295** Units: **mg/Kg**

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

Sample ID: **LCS-49205** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **49205** RunNo: **65000**
Prep Date: **12/6/2019** Analysis Date: **12/6/2019** SeqNo: **2230296** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	90	110			

Sample ID: **MB-49220** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **49220** RunNo: **65035**
Prep Date: **12/9/2019** Analysis Date: **12/9/2019** SeqNo: **2231723** Units: **mg/Kg**

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

Sample ID: **LCS-49220** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **49220** RunNo: **65035**
Prep Date: **12/9/2019** Analysis Date: **12/9/2019** SeqNo: **2231724** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.8	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#: **1912184**
11-Dec-19

Client: ENSOLUM
Project: Val Verde Amine Release 2019

Sample ID: **LCS-49194** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **49194** RunNo: **64995**
Prep Date: **12/6/2019** Analysis Date: **12/6/2019** SeqNo: **2229278** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.4	63.9	124			
Surr: DNOP	3.8		5.000		75.2	70	130			

Sample ID: **MB-49194** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **49194** RunNo: **64995**
Prep Date: **12/6/2019** Analysis Date: **12/6/2019** SeqNo: **2229279** 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	12		10.00		122	70	130			

Sample ID: **LCS-49177** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **49177** RunNo: **64995**
Prep Date: **12/5/2019** Analysis Date: **12/6/2019** SeqNo: **2229750** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.8		5.000		115	70	130			

Sample ID: **MB-49177** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **49177** RunNo: **64995**
Prep Date: **12/5/2019** Analysis Date: **12/6/2019** SeqNo: **2229751** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.7		10.00		96.7	70	130			

Sample ID: **MB-49170** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **49170** RunNo: **65021**
Prep Date: **12/5/2019** Analysis Date: **12/9/2019** SeqNo: **2230412** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		108	70	130			

Sample ID: **LCS-49170** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **49170** RunNo: **65021**
Prep Date: **12/5/2019** Analysis Date: **12/9/2019** SeqNo: **2230418** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		85.9	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#: **1912184**

11-Dec-19

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **MB-49178**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **49178**	RunNo: **65021**							
Prep Date: **12/5/2019**	Analysis Date: **12/9/2019**	SeqNo: **2230420**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	14		10.00		136	70	130			S

Sample ID: **LCS-49178**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **49178**	RunNo: **65021**							
Prep Date: **12/5/2019**	Analysis Date: **12/9/2019**	SeqNo: **2230877**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.9		5.000		118	70	130			

Sample ID: **LCS-49225**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **49225**	RunNo: **65055**							
Prep Date: **12/9/2019**	Analysis Date: **12/10/2019**	SeqNo: **2232020**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	63.9	124			
Surr: DNOP	4.3		5.000		86.4	70	130			

Sample ID: **MB-49225**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **49225**	RunNo: **65055**							
Prep Date: **12/9/2019**	Analysis Date: **12/10/2019**	SeqNo: **2232021**	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	9.0		10.00		89.7	70	130			

Sample ID: **1912184-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **S-1**	Batch ID: **49225**	RunNo: **65055**							
Prep Date: **12/9/2019**	Analysis Date: **12/10/2019**	SeqNo: **2232399**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	130	9.7	48.59	80.60	102	57	142			
Surr: DNOP	5.1		4.859		104	70	130			

Sample ID: **1912184-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **S-1**	Batch ID: **49225**	RunNo: **65055**							
Prep Date: **12/9/2019**	Analysis Date: **12/10/2019**	SeqNo: **2232400**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	110	9.4	47.08	80.60	57.8	57	142	18.9	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#: **1912184**
11-Dec-19

Client: ENSOLUM
Project: Val Verde Amine Release 2019

Sample ID: **1912184-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **S-1** Batch ID: **49225** RunNo: **65055**
Prep Date: **12/9/2019** Analysis Date: **12/10/2019** SeqNo: **2232400** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.8		4.708		102	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#: **1912184**

11-Dec-19

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **mb-49179**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **49179**	RunNo: **64998**
Prep Date: **12/5/2019**	Analysis Date: **12/6/2019**	SeqNo: **2229658** 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	800		1000		79.6	66.6	105			

Sample ID: **lcs-49179**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **49179**	RunNo: **64998**
Prep Date: **12/5/2019**	Analysis Date: **12/6/2019**	SeqNo: **2229659** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.4	80	120			
Surr: BFB	920		1000		92.4	66.6	105			

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#: **1912184**
11-Dec-19

Client: ENSOLUM
Project: Val Verde Amine Release 2019

Sample ID: **mb-49179** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **49179** RunNo: **64998**
Prep Date: **12/5/2019** Analysis Date: **12/6/2019** SeqNo: **2229708** 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		96.9	80	120			

Sample ID: **LCS-49179** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **49179** RunNo: **64998**
Prep Date: **12/5/2019** Analysis Date: **12/6/2019** SeqNo: **2229709** 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	93.3	80	120			
Toluene	0.93	0.050	1.000	0	93.2	80	120			
Ethylbenzene	0.95	0.050	1.000	0	94.5	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.3	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID: **1912184-001ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-1** Batch ID: **49179** RunNo: **64998**
Prep Date: **12/5/2019** Analysis Date: **12/6/2019** SeqNo: **2229726** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.024	0.9643	0	101	76	123			
Toluene	0.99	0.048	0.9643	0.006973	102	80.3	127			
Ethylbenzene	1.0	0.048	0.9643	0.008317	105	80.2	131			
Xylenes, Total	3.1	0.096	2.893	0	107	78	133			
Surr: 4-Bromofluorobenzene	0.98		0.9643		102	80	120			

Sample ID: **1912184-001amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **S-1** Batch ID: **49179** RunNo: **64998**
Prep Date: **12/5/2019** Analysis Date: **12/6/2019** SeqNo: **2229727** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.024	0.9634	0	95.8	76	123	5.64	20	
Toluene	0.94	0.048	0.9634	0.006973	96.8	80.3	127	5.66	20	
Ethylbenzene	0.96	0.048	0.9634	0.008317	98.9	80.2	131	6.29	20	
Xylenes, Total	2.9	0.096	2.890	0	100	78	133	6.95	20	
Surr: 4-Bromofluorobenzene	0.96		0.9634		99.4	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: 1912184 RcptNo: 1

Received By: Erin Melendrez 12/5/2019 8:05:00 AM

Completed By: Desiree Dominguez 12/5/2019 8:40:43 AM

Reviewed By: LB 12/5/19

Chain of Custody

1. Is Chain of Custody sufficiently 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. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
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 12/5/19

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	5.0	Good	Not Present			

Chain-of-Custody Record

Client: Ensolum, LLC

Mailing Address: 6006 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: 3-DAY

☐ Standard ☒ Rush

Project Name: Val Verde Amine Release 2019

Project #: see notes

Project Manager: KSummers

Sampler: RDeechilly

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 5.4-0.4(CF)=5.0°C

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. 1912184	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
12/4/19	1000	S	S-1	1x4oz Jar	cool	-001	X	X									X
12/4/19	1005	S	S-2	1x4oz Jar	cool	-002	X	X									X
12/4/19	1010	S	S-3	1x4oz Jar	cool	-003	X	X									X
12/4/19	1015	S	S-4	1x4oz Jar	cool	-004	X	X									X
12/4/19	1020	S	S-5	1x4oz Jar	cool	-005	X	X									X
12/4/19	1025	S	S-6	1x4oz Jar	cool	-006	X	X									X
12/4/19	1030	S	S-7	1x4oz Jar	cool	-007	X	X									X
12/4/19	1035	S	S-8	1x4oz Jar	cool	-008	X	X									X
12/4/19	1040	S	S-9	1x4oz Jar	cool	-009	X	X									X
12/4/19	1045	S	S-10	1x4oz Jar	cool	-010	X	X									X
12/4/19	1050	S	S-11	1x4oz Jar	cool	-011	X	X									X
12/4/19	1055	S	S-12	1x4oz Jar	cool	-012	X	X									X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/4/19	1522				12/4/19	1522
12/4/19	1814			Courier	12/5/19	0805

Remarks: 3 DAY

PM - Tom Long (EPROD)

Pay Key - TC25719

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: 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: 3-DAY
☐ Standard ☒ Rush

Project Name: Val Verde Amine Release 2019

Project #: see notes

Project Manager: Ksummers

Sampler: PDeechilly

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF): 5.4+0.4(CF)=5.8°C

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. 1912184	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
12/4/19	1100	S	S-13	1x4oz Jar	cool	-013	X	X									X
12/4/19	1105	S	S-14	1x4oz Jar	cool	-014	X	X									X
12/4/19	1110	S	S-15	1x4oz Jar	cool	-015	X	X									X
12/4/19	1115	S	S-16	1x4oz Jar	cool	-016	X	X									X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/4/19	1522				12/4/19	1522
12/4/19	1819			Courier	12/5/19	0805

Remarks: 3 DAY
PM - Tom Long (EPROD)
Pay Key - TC 25719

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

January 14, 2020

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

RE: Val Verde Amine Release 2019 OrderNo.: 2001311

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 6 sample(s) on 1/9/2020 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 **2001311**
Date Reported: **1/14/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-17
Project: Val Verde Amine Release 2019 **Collection Date:** 1/8/2020 1:45:00 PM
Lab ID: 2001311-001 **Matrix:** SOIL **Received Date:** 1/9/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	1/13/2020 2:28:17 PM	49773
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	12	9.2		mg/Kg	1	1/13/2020 12:18:28 PM	49747
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/13/2020 12:18:28 PM	49747
Surr: DNOP	109	55.1-146		%Rec	1	1/13/2020 12:18:28 PM	49747
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/10/2020 1:40:48 PM	49727
Surr: BFB	81.5	66.6-105		%Rec	1	1/10/2020 1:40:48 PM	49727
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	1/10/2020 1:40:48 PM	49727
Toluene	ND	0.046		mg/Kg	1	1/10/2020 1:40:48 PM	49727
Ethylbenzene	ND	0.046		mg/Kg	1	1/10/2020 1:40:48 PM	49727
Xylenes, Total	ND	0.093		mg/Kg	1	1/10/2020 1:40:48 PM	49727
Surr: 4-Bromofluorobenzene	92.1	80-120		%Rec	1	1/10/2020 1:40:48 PM	49727

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 **2001311**
Date Reported: **1/14/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-18
Project: Val Verde Amine Release 2019 **Collection Date:** 1/8/2020 1:50:00 PM
Lab ID: 2001311-002 **Matrix:** SOIL **Received Date:** 1/9/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	1/13/2020 2:40:39 PM	49773
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/13/2020 12:40:27 PM	49747
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/13/2020 12:40:27 PM	49747
Surr: DNOP	102	55.1-146		%Rec	1	1/13/2020 12:40:27 PM	49747
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/10/2020 5:19:53 PM	49727
Surr: BFB	85.6	66.6-105		%Rec	1	1/10/2020 5:19:53 PM	49727
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/10/2020 5:19:53 PM	49727
Toluene	ND	0.048		mg/Kg	1	1/10/2020 5:19:53 PM	49727
Ethylbenzene	ND	0.048		mg/Kg	1	1/10/2020 5:19:53 PM	49727
Xylenes, Total	ND	0.097		mg/Kg	1	1/10/2020 5:19:53 PM	49727
Surr: 4-Bromofluorobenzene	89.0	80-120		%Rec	1	1/10/2020 5:19:53 PM	49727

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 **2001311**
Date Reported: **1/14/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-19
Project: Val Verde Amine Release 2019 **Collection Date:** 1/8/2020 1:55:00 PM
Lab ID: 2001311-003 **Matrix:** SOIL **Received Date:** 1/9/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	1/13/2020 2:52:59 PM	49773
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/13/2020 1:02:34 PM	49747
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/13/2020 1:02:34 PM	49747
Surr: DNOP	106	55.1-146		%Rec	1	1/13/2020 1:02:34 PM	49747
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/10/2020 5:42:46 PM	49727
Surr: BFB	86.4	66.6-105		%Rec	1	1/10/2020 5:42:46 PM	49727
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/10/2020 5:42:46 PM	49727
Toluene	ND	0.047		mg/Kg	1	1/10/2020 5:42:46 PM	49727
Ethylbenzene	ND	0.047		mg/Kg	1	1/10/2020 5:42:46 PM	49727
Xylenes, Total	ND	0.094		mg/Kg	1	1/10/2020 5:42:46 PM	49727
Surr: 4-Bromofluorobenzene	88.6	80-120		%Rec	1	1/10/2020 5:42:46 PM	49727

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 **2001311**
Date Reported: **1/14/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-20
Project: Val Verde Amine Release 2019 **Collection Date:** 1/8/2020 2:00:00 PM
Lab ID: 2001311-004 **Matrix:** SOIL **Received Date:** 1/9/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	59		mg/Kg	20	1/13/2020 3:05:20 PM	49773
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/13/2020 1:24:32 PM	49747
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/13/2020 1:24:32 PM	49747
Surr: DNOP	115	55.1-146		%Rec	1	1/13/2020 1:24:32 PM	49747
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/10/2020 6:05:37 PM	49727
Surr: BFB	88.1	66.6-105		%Rec	1	1/10/2020 6:05:37 PM	49727
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	1/10/2020 6:05:37 PM	49727
Toluene	ND	0.049		mg/Kg	1	1/10/2020 6:05:37 PM	49727
Ethylbenzene	ND	0.049		mg/Kg	1	1/10/2020 6:05:37 PM	49727
Xylenes, Total	ND	0.098		mg/Kg	1	1/10/2020 6:05:37 PM	49727
Surr: 4-Bromofluorobenzene	91.7	80-120		%Rec	1	1/10/2020 6:05:37 PM	49727

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 **2001311**
Date Reported: **1/14/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-21
Project: Val Verde Amine Release 2019 **Collection Date:** 1/8/2020 2:05:00 PM
Lab ID: 2001311-005 **Matrix:** SOIL **Received Date:** 1/9/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	1/13/2020 3:42:24 PM	49773
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/13/2020 10:23:06 AM	49747
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/13/2020 10:23:06 AM	49747
Surr: DNOP	103	55.1-146		%Rec	1	1/13/2020 10:23:06 AM	49747
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/10/2020 6:28:29 PM	49727
Surr: BFB	89.6	66.6-105		%Rec	1	1/10/2020 6:28:29 PM	49727
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	1/10/2020 6:28:29 PM	49727
Toluene	ND	0.050		mg/Kg	1	1/10/2020 6:28:29 PM	49727
Ethylbenzene	ND	0.050		mg/Kg	1	1/10/2020 6:28:29 PM	49727
Xylenes, Total	ND	0.099		mg/Kg	1	1/10/2020 6:28:29 PM	49727
Surr: 4-Bromofluorobenzene	92.2	80-120		%Rec	1	1/10/2020 6:28:29 PM	49727

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 **2001311**
Date Reported: **1/14/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-22
Project: Val Verde Amine Release 2019 **Collection Date:** 1/8/2020 2:10:00 PM
Lab ID: 2001311-006 **Matrix:** SOIL **Received Date:** 1/9/2020 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	1/13/2020 3:54:45 PM	49773
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/13/2020 10:47:33 AM	49747
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/13/2020 10:47:33 AM	49747
Surr: DNOP	108	55.1-146		%Rec	1	1/13/2020 10:47:33 AM	49747
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/10/2020 6:51:21 PM	49727
Surr: BFB	86.1	66.6-105		%Rec	1	1/10/2020 6:51:21 PM	49727
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	1/10/2020 6:51:21 PM	49727
Toluene	ND	0.049		mg/Kg	1	1/10/2020 6:51:21 PM	49727
Ethylbenzene	ND	0.049		mg/Kg	1	1/10/2020 6:51:21 PM	49727
Xylenes, Total	ND	0.099		mg/Kg	1	1/10/2020 6:51:21 PM	49727
Surr: 4-Bromofluorobenzene	88.5	80-120		%Rec	1	1/10/2020 6:51:21 PM	49727

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#: **2001311**

14-Jan-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **MB-49773**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **49773**	RunNo: **65754**							
Prep Date: **1/13/2020**	Analysis Date: **1/13/2020**	SeqNo: **2258477**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-49773**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **49773**	RunNo: **65754**							
Prep Date: **1/13/2020**	Analysis Date: **1/13/2020**	SeqNo: **2258478**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.2	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#: **2001311**

14-Jan-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **LCS-49747** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **49747** RunNo: **65722**

Prep Date: **1/10/2020** Analysis Date: **1/13/2020** SeqNo: **2257471** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	56	10	50.00	0	111	63.9	124			
Surr: DNOP	4.7		5.000		93.4	55.1	146			

Sample ID: **MB-49747** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **49747** RunNo: **65722**

Prep Date: **1/10/2020** Analysis Date: **1/13/2020** SeqNo: **2257472** 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	10		10.00		99.8	55.1	146			

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#: **2001311**

14-Jan-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **mb-49727**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **49727**	RunNo: **65694**
Prep Date: **1/9/2020**	Analysis Date: **1/10/2020**	SeqNo: **2257202** 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	910		1000		91.0	66.6	105			

Sample ID: **lcs-49727**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **49727**	RunNo: **65694**
Prep Date: **1/9/2020**	Analysis Date: **1/10/2020**	SeqNo: **2257203** 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	96.5	80	120			
Surr: BFB	990		1000		98.9	66.6	105			

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#: **2001311**
14-Jan-20

Client: ENSOLUM
Project: Val Verde Amine Release 2019

Sample ID: **mb-49727** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **49727** RunNo: **65694**
Prep Date: **1/9/2020** Analysis Date: **1/10/2020** SeqNo: **2257214** 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		95.1	80	120			

Sample ID: **LCS-49727** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **49727** RunNo: **65694**
Prep Date: **1/9/2020** Analysis Date: **1/10/2020** SeqNo: **2257215** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.8	80	120			
Toluene	0.92	0.050	1.000	0	92.4	80	120			
Ethylbenzene	0.92	0.050	1.000	0	92.0	80	120			
Xylenes, Total	2.8	0.10	3.000	0	91.8	80	120			
Surr: 4-Bromofluorobenzene	0.98		1.000		98.0	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: 2001311 RcptNo: 1

Received By: **Daniel Marquez** 1/9/2020 8:15:00 AM

Completed By: **Daniel Marquez** 1/9/2020 11:53:07 AM

Reviewed By: 1/9/20

Chain of Custody

1. Is Chain of Custody sufficiently 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. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
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 1/9/20

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	3.9	Good				

Chain-of-Custody Record

Client: Ensolum, LLC

Mailing Address: 1006 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: 3-DAY
☐ Standard ☒ Rush

Project Name: Val Verde Amine Release 2019

Project #: See notes

Project Manager: KSummers

Sampler: RDeechilly
On Ice: ☑ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 3.9+0=3.9°C

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. 2001311	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
1/8/20	1345	S	S-17	1x4oz Jar	Cool	001	X	X									X
1/8/20	1350	S	S-18	1x4oz Jar	Cool	002	X	X									X
1/8/20	1355	S	S-19	1x4oz Jar	Cool	003	X	X									X
1/8/20	1400	S	S-20	1x4oz Jar	Cool	004	X	X									X
1/8/20	1405	S	S-21	1x4oz Jar	Cool	005	X	X									X
1/8/20	1410	S	S-22	1x4oz Jar	Cool	006	X	X									X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
1/8/20	1520	RDeechilly	Chris Walls		1/8/20	1520
1/8/20	1810	Chris Walls		Courier	1/9/20	8115

Remarks: 3 DAY Turnaround
PM - Tom Long (EPROD)
Pay Key - TC 25719

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

January 23, 2020

Kyle Summers

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

RE: Val Verde Amine Release 2019 OrderNo.: 2001679

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 5 sample(s) on 1/17/2020 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 **2001679**
Date Reported: **1/23/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-23
Project: Val Verde Amine Release 2019 **Collection Date:** 1/16/2020 11:40:00 AM
Lab ID: 2001679-001 **Matrix:** SOIL **Received Date:** 1/17/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	ND	60		mg/Kg	20	1/21/2020 5:40:12 PM	49955
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	360	9.4		mg/Kg	1	1/21/2020 3:13:15 PM	49915
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/21/2020 3:13:15 PM	49915
Surr: DNOP	88.2	55.1-146		%Rec	1	1/21/2020 3:13:15 PM	49915
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/21/2020 3:45:38 PM	49896
Surr: BFB	84.6	66.6-105		%Rec	1	1/21/2020 3:45:38 PM	49896
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	1/21/2020 3:45:38 PM	49896
Toluene	ND	0.047		mg/Kg	1	1/21/2020 3:45:38 PM	49896
Ethylbenzene	ND	0.047		mg/Kg	1	1/21/2020 3:45:38 PM	49896
Xylenes, Total	ND	0.095		mg/Kg	1	1/21/2020 3:45:38 PM	49896
Surr: 4-Bromofluorobenzene	96.9	80-120		%Rec	1	1/21/2020 3:45:38 PM	49896

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 **2001679**
Date Reported: **1/23/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-24
Project: Val Verde Amine Release 2019
Collection Date: 1/16/2020 11:45:00 AM
Lab ID: 2001679-002 **Matrix:** SOIL **Received Date:** 1/17/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	ND	60		mg/Kg	20	1/21/2020 5:52:33 PM	49955
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	2800	91		mg/Kg	10	1/21/2020 10:44:31 AM	49915
Motor Oil Range Organics (MRO)	ND	460		mg/Kg	10	1/21/2020 10:44:31 AM	49915
Surr: DNOP	0	55.1-146	S	%Rec	10	1/21/2020 10:44:31 AM	49915
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/21/2020 4:09:02 PM	49896
Surr: BFB	80.1	66.6-105		%Rec	1	1/21/2020 4:09:02 PM	49896
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	1/21/2020 4:09:02 PM	49896
Toluene	ND	0.048		mg/Kg	1	1/21/2020 4:09:02 PM	49896
Ethylbenzene	ND	0.048		mg/Kg	1	1/21/2020 4:09:02 PM	49896
Xylenes, Total	ND	0.096		mg/Kg	1	1/21/2020 4:09:02 PM	49896
Surr: 4-Bromofluorobenzene	90.9	80-120		%Rec	1	1/21/2020 4:09:02 PM	49896

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 **2001679**
Date Reported: **1/23/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-25
Project: Val Verde Amine Release 2019
Collection Date: 1/16/2020 11:50:00 AM
Lab ID: 2001679-003 **Matrix:** SOIL **Received Date:** 1/17/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	1/21/2020 6:29:34 PM	49955
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	1400	96		mg/Kg	10	1/21/2020 10:53:29 AM	49915
Motor Oil Range Organics (MRO)	ND	480		mg/Kg	10	1/21/2020 10:53:29 AM	49915
Surr: DNOP	0	55.1-146	S	%Rec	10	1/21/2020 10:53:29 AM	49915
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/21/2020 4:32:29 PM	49896
Surr: BFB	79.9	66.6-105		%Rec	1	1/21/2020 4:32:29 PM	49896
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/21/2020 4:32:29 PM	49896
Toluene	ND	0.047		mg/Kg	1	1/21/2020 4:32:29 PM	49896
Ethylbenzene	ND	0.047		mg/Kg	1	1/21/2020 4:32:29 PM	49896
Xylenes, Total	ND	0.095		mg/Kg	1	1/21/2020 4:32:29 PM	49896
Surr: 4-Bromofluorobenzene	90.6	80-120		%Rec	1	1/21/2020 4:32:29 PM	49896

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 **2001679**
Date Reported: **1/23/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-26
Project: Val Verde Amine Release 2019
Collection Date: 1/16/2020 11:55:00 AM
Lab ID: 2001679-004 **Matrix:** SOIL **Received Date:** 1/17/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	1/21/2020 7:06:38 PM	49955
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	5200	88		mg/Kg	10	1/21/2020 11:02:37 AM	49915
Motor Oil Range Organics (MRO)	ND	440		mg/Kg	10	1/21/2020 11:02:37 AM	49915
Surr: DNOP	0	55.1-146	S	%Rec	10	1/21/2020 11:02:37 AM	49915
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/21/2020 4:55:56 PM	49896
Surr: BFB	82.2	66.6-105		%Rec	1	1/21/2020 4:55:56 PM	49896
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/21/2020 4:55:56 PM	49896
Toluene	ND	0.048		mg/Kg	1	1/21/2020 4:55:56 PM	49896
Ethylbenzene	ND	0.048		mg/Kg	1	1/21/2020 4:55:56 PM	49896
Xylenes, Total	ND	0.095		mg/Kg	1	1/21/2020 4:55:56 PM	49896
Surr: 4-Bromofluorobenzene	95.0	80-120		%Rec	1	1/21/2020 4:55:56 PM	49896

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 **2001679**
Date Reported: **1/23/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-27
Project: Val Verde Amine Release 2019
Collection Date: 1/16/2020 12:00:00 PM
Lab ID: 2001679-005 **Matrix:** SOIL **Received Date:** 1/17/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	1/21/2020 7:18:58 PM	49955
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	180	98		mg/Kg	10	1/21/2020 11:16:08 AM	49915
Motor Oil Range Organics (MRO)	ND	490		mg/Kg	10	1/21/2020 11:16:08 AM	49915
Surr: DNOP	0	55.1-146	S	%Rec	10	1/21/2020 11:16:08 AM	49915
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/21/2020 5:19:26 PM	49896
Surr: BFB	82.9	66.6-105		%Rec	1	1/21/2020 5:19:26 PM	49896
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/21/2020 5:19:26 PM	49896
Toluene	ND	0.047		mg/Kg	1	1/21/2020 5:19:26 PM	49896
Ethylbenzene	ND	0.047		mg/Kg	1	1/21/2020 5:19:26 PM	49896
Xylenes, Total	ND	0.094		mg/Kg	1	1/21/2020 5:19:26 PM	49896
Surr: 4-Bromofluorobenzene	94.7	80-120		%Rec	1	1/21/2020 5:19:26 PM	49896

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#: **2001679**
23-Jan-20

Client: ENSOLUM
Project: Val Verde Amine Release 2019

Sample ID: **MB-49955**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **49955**	RunNo: **65961**							
Prep Date: **1/21/2020**	Analysis Date: **1/21/2020**	SeqNo: **2265356**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-49955**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **49955**	RunNo: **65961**							
Prep Date: **1/21/2020**	Analysis Date: **1/21/2020**	SeqNo: **2265357**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	99.0	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#: **2001679**

23-Jan-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **LCS-49915**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **49915**	RunNo: **65943**
Prep Date: **1/20/2020**	Analysis Date: **1/21/2020**	SeqNo: **2264722** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	107	63.9	124			
Surr: DNOP	4.8		5.000		96.0	55.1	146			

Sample ID: **MB-49915**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **49915**	RunNo: **65943**
Prep Date: **1/20/2020**	Analysis Date: **1/21/2020**	SeqNo: **2264724** 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	13		10.00		129	55.1	146			

Sample ID: **LCS-49910**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **49910**	RunNo: **65943**
Prep Date: **1/20/2020**	Analysis Date: **1/21/2020**	SeqNo: **2266018** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.5		5.000		109	55.1	146			

Sample ID: **MB-49910**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **49910**	RunNo: **65943**
Prep Date: **1/20/2020**	Analysis Date: **1/21/2020**	SeqNo: **2266020** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.2		10.00		91.8	55.1	146			

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#: **2001679**

23-Jan-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **mb-49896** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **49896** RunNo: **65910**

Prep Date: **1/17/2020** Analysis Date: **1/20/2020** SeqNo: **2263634** 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	820		1000		82.0	66.6	105			

Sample ID: **lcs-49896** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **49896** RunNo: **65910**

Prep Date: **1/17/2020** Analysis Date: **1/20/2020** SeqNo: **2263635** 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	90.7	80	120			
Surr: BFB	880		1000		87.9	66.6	105			

Sample ID: **mb-49912** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **49912** RunNo: **65947**

Prep Date: **1/20/2020** Analysis Date: **1/22/2020** SeqNo: **2265011** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	830		1000		83.1	66.6	105			

Sample ID: **lcs-49912** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **49912** RunNo: **65947**

Prep Date: **1/20/2020** Analysis Date: **1/22/2020** SeqNo: **2265012** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	910		1000		90.9	66.6	105			

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#: **2001679**

23-Jan-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **mb-49896** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **49896** RunNo: **65910**

Prep Date: **1/17/2020** Analysis Date: **1/20/2020** SeqNo: **2263654** 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		94.7	80	120			

Sample ID: **LCS-49896** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **49896** RunNo: **65910**

Prep Date: **1/17/2020** Analysis Date: **1/20/2020** SeqNo: **2263655** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.2	80	120			
Toluene	0.92	0.050	1.000	0	91.8	80	120			
Ethylbenzene	0.91	0.050	1.000	0	91.5	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.6	80	120			
Surr: 4-Bromofluorobenzene	0.92		1.000		92.1	80	120			

Sample ID: **mb-49912** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **49912** RunNo: **65947**

Prep Date: **1/20/2020** Analysis Date: **1/22/2020** SeqNo: **2265042** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		95.2	80	120			

Sample ID: **LCS-49912** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **49912** RunNo: **65947**

Prep Date: **1/20/2020** Analysis Date: **1/22/2020** SeqNo: **2265043** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.94		1.000		94.3	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: **2001679** RcptNo: 1

Received By: **Desiree Dominguez** **1/17/2020 9:30:00 AM** DD

Completed By: **Isaiah Ortiz** **1/17/2020 10:12:49 AM** I-Ox

Reviewed By: DAD 1/17/20

Chain of Custody

1. Is Chain of Custody sufficiently 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. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
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 1/17/20

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	3.0	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: 3-DAY
☐ Standard ☒ Rush

Project Name: Val Verde Amine Release 2019

Project #: See notes

Project Manager: KSummers

Sampler: RDeechilly
On Ice: ☒ Yes ☐ No
# of Coolers: 1
Cooler Temp (including CF): 3.1-0.1 = 3.0°C

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. 2001679	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
1/16/20	1140	S	S-23	1x4oz Jar	cool	-001	X	X									X
1/16/20	1145	S	S-24	1x4oz Jar	cool	-002	X	X									X
1/16/20	1150	S	S-25	1x4oz Jar	cool	-003	X	X									X
1/16/20	1155	S	S-26	1x4oz Jar	cool	-004	X	X									X
1/16/20	1200	S	S-27	1x4oz Jar	cool	-005	X	X									X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
1/16/20	1501		Christine Walker		1/16/20	1501
1/16/20	1821	Christine Walker		courier	1/17/20	9:30

Remarks:
3-DAY Turnaround
PM - Tom Long (EPROD)
Pay Key - TC25719

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

February 20, 2020

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

RE: Val Verde Amine Release 2019 OrderNo.: 2002569

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 5 sample(s) on 2/14/2020 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 **2002569**
Date Reported: **2/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-28
Project: Val Verde Amine Release 2019 **Collection Date:** 2/13/2020 10:10:00 AM
Lab ID: 2002569-001 **Matrix:** SOIL **Received Date:** 2/14/2020 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	2/17/2020 7:53:13 PM	50487
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	1200	91		mg/Kg	10	2/19/2020 9:57:31 AM	50473
Motor Oil Range Organics (MRO)	ND	460	D	mg/Kg	10	2/19/2020 9:57:31 AM	50473
Surr: DNOP	0	55.1-146	S	%Rec	10	2/19/2020 9:57:31 AM	50473
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	2/18/2020 9:20:25 AM	50461
Surr: BFB	82.1	66.6-105		%Rec	5	2/18/2020 9:20:25 AM	50461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12		mg/Kg	5	2/18/2020 9:20:25 AM	50461
Toluene	ND	0.24		mg/Kg	5	2/18/2020 9:20:25 AM	50461
Ethylbenzene	ND	0.24		mg/Kg	5	2/18/2020 9:20:25 AM	50461
Xylenes, Total	ND	0.48		mg/Kg	5	2/18/2020 9:20:25 AM	50461
Surr: 4-Bromofluorobenzene	90.8	80-120		%Rec	5	2/18/2020 9:20:25 AM	50461

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 **2002569**
Date Reported: **2/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-29
Project: Val Verde Amine Release 2019 **Collection Date:** 2/13/2020 10:15:00 AM
Lab ID: 2002569-002 **Matrix:** SOIL **Received Date:** 2/14/2020 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	59		mg/Kg	20	2/17/2020 8:54:56 PM	50487
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	3800	98		mg/Kg	10	2/18/2020 3:49:13 PM	50473
Motor Oil Range Organics (MRO)	ND	490		mg/Kg	10	2/18/2020 3:49:13 PM	50473
Surr: DNOP	0	55.1-146	S	%Rec	10	2/18/2020 3:49:13 PM	50473
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	2/18/2020 9:43:51 AM	50461
Surr: BFB	81.6	66.6-105		%Rec	5	2/18/2020 9:43:51 AM	50461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12		mg/Kg	5	2/18/2020 9:43:51 AM	50461
Toluene	ND	0.24		mg/Kg	5	2/18/2020 9:43:51 AM	50461
Ethylbenzene	ND	0.24		mg/Kg	5	2/18/2020 9:43:51 AM	50461
Xylenes, Total	ND	0.49		mg/Kg	5	2/18/2020 9:43:51 AM	50461
Surr: 4-Bromofluorobenzene	89.8	80-120		%Rec	5	2/18/2020 9:43:51 AM	50461

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 **2002569**
Date Reported: **2/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-30
Project: Val Verde Amine Release 2019 **Collection Date:** 2/13/2020 10:20:00 AM
Lab ID: 2002569-003 **Matrix:** SOIL **Received Date:** 2/14/2020 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	2/17/2020 9:07:18 PM	50487
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	23	9.5		mg/Kg	1	2/18/2020 3:58:38 PM	50473
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/18/2020 3:58:38 PM	50473
Surr: DNOP	112	55.1-146		%Rec	1	2/18/2020 3:58:38 PM	50473
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/18/2020 10:07:25 AM	50461
Surr: BFB	82.1	66.6-105		%Rec	1	2/18/2020 10:07:25 AM	50461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	2/18/2020 10:07:25 AM	50461
Toluene	ND	0.050		mg/Kg	1	2/18/2020 10:07:25 AM	50461
Ethylbenzene	ND	0.050		mg/Kg	1	2/18/2020 10:07:25 AM	50461
Xylenes, Total	ND	0.099		mg/Kg	1	2/18/2020 10:07:25 AM	50461
Surr: 4-Bromofluorobenzene	90.7	80-120		%Rec	1	2/18/2020 10:07:25 AM	50461

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 **2002569**
Date Reported: **2/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: S-31
Project: Val Verde Amine Release 2019
Collection Date: 2/13/2020 10:25:00 AM
Lab ID: 2002569-004 **Matrix:** SOIL **Received Date:** 2/14/2020 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	2/17/2020 9:19:40 PM	50487
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	4300	91		mg/Kg	10	2/18/2020 4:08:04 PM	50473
Motor Oil Range Organics (MRO)	ND	460		mg/Kg	10	2/18/2020 4:08:04 PM	50473
Surr: DNOP	0	55.1-146	S	%Rec	10	2/18/2020 4:08:04 PM	50473
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	2/18/2020 10:30:54 AM	50461
Surr: BFB	82.4	66.6-105		%Rec	5	2/18/2020 10:30:54 AM	50461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12		mg/Kg	5	2/18/2020 10:30:54 AM	50461
Toluene	ND	0.24		mg/Kg	5	2/18/2020 10:30:54 AM	50461
Ethylbenzene	ND	0.24		mg/Kg	5	2/18/2020 10:30:54 AM	50461
Xylenes, Total	ND	0.49		mg/Kg	5	2/18/2020 10:30:54 AM	50461
Surr: 4-Bromofluorobenzene	90.4	80-120		%Rec	5	2/18/2020 10:30:54 AM	50461

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 **2002569**
Date Reported: **2/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** S-32
Project: Val Verde Amine Release 2019 **Collection Date:** 2/13/2020 10:30:00 AM
Lab ID: 2002569-005 **Matrix:** SOIL **Received Date:** 2/14/2020 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	61		mg/Kg	20	2/17/2020 9:32:01 PM	50487
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/19/2020 10:21:31 AM	50473
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/19/2020 10:21:31 AM	50473
Surr: DNOP	110	55.1-146		%Rec	1	2/19/2020 10:21:31 AM	50473
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/18/2020 10:54:14 AM	50461
Surr: BFB	90.4	66.6-105		%Rec	1	2/18/2020 10:54:14 AM	50461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	2/18/2020 10:54:14 AM	50461
Toluene	ND	0.049		mg/Kg	1	2/18/2020 10:54:14 AM	50461
Ethylbenzene	ND	0.049		mg/Kg	1	2/18/2020 10:54:14 AM	50461
Xylenes, Total	ND	0.097		mg/Kg	1	2/18/2020 10:54:14 AM	50461
Surr: 4-Bromofluorobenzene	99.8	80-120		%Rec	1	2/18/2020 10:54:14 AM	50461

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#: **2002569**

20-Feb-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **MB-50487**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **50487**	RunNo: **66591**							
Prep Date: **2/17/2020**	Analysis Date: **2/17/2020**	SeqNo: **2288952**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-50487**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **50487**	RunNo: **66591**							
Prep Date: **2/17/2020**	Analysis Date: **2/17/2020**	SeqNo: **2288953**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.2	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#: **2002569**
20-Feb-20

Client: ENSOLUM
Project: Val Verde Amine Release 2019

Sample ID: **MB-50473** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **50473** RunNo: **66605**
Prep Date: **2/17/2020** Analysis Date: **2/18/2020** SeqNo: **2288974** 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	11		10.00		107	55.1	146			

Sample ID: **LCS-50473** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **50473** RunNo: **66605**
Prep Date: **2/17/2020** Analysis Date: **2/18/2020** SeqNo: **2288987** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	10	50.00	0	120	70	130			
Surr: DNOP	5.3		5.000		107	55.1	146			

Sample ID: **MB-50496** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **50496** RunNo: **66605**
Prep Date: **2/18/2020** Analysis Date: **2/18/2020** SeqNo: **2289090** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.9		10.00		88.8	55.1	146			

Sample ID: **LCS-50496** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **50496** RunNo: **66605**
Prep Date: **2/18/2020** Analysis Date: **2/18/2020** SeqNo: **2289092** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		5.000		84.7	55.1	146			

Sample ID: **MB-50486** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **50486** RunNo: **66605**
Prep Date: **2/17/2020** Analysis Date: **2/18/2020** SeqNo: **2289790** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		111	55.1	146			

Sample ID: **LCS-50486** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **50486** RunNo: **66605**
Prep Date: **2/17/2020** Analysis Date: **2/18/2020** SeqNo: **2289791** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.1		5.000		102	55.1	146			

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#: **2002569**

20-Feb-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **mb-50461** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **50461** RunNo: **66590**

Prep Date: **2/14/2020** Analysis Date: **2/18/2020** SeqNo: **2288648** 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	820		1000		82.0	66.6	105			

Sample ID: **lcs-50461** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **50461** RunNo: **66590**

Prep Date: **2/14/2020** Analysis Date: **2/18/2020** SeqNo: **2288649** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	83.4	80	120			
Surr: BFB	910		1000		91.0	66.6	105			

Sample ID: **mb-50481** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **50481** RunNo: **66629**

Prep Date: **2/17/2020** Analysis Date: **2/18/2020** SeqNo: **2289517** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	810		1000		80.7	66.6	105			

Sample ID: **lcs-50481** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **50481** RunNo: **66629**

Prep Date: **2/17/2020** Analysis Date: **2/18/2020** SeqNo: **2289518** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	920		1000		92.0	66.6	105			

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#: **2002569**

20-Feb-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **mb-50435**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **50435**	RunNo: **66590**							
Prep Date: **2/13/2020**	Analysis Date: **2/17/2020**	SeqNo: **2288662**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.94		1.000		93.8	80	120			

Sample ID: **lcs-50435**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **LCSS**	Batch ID: **50435**	RunNo: **66590**							
Prep Date: **2/13/2020**	Analysis Date: **2/17/2020**	SeqNo: **2288663**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.90		1.000		89.9	80	120			

Sample ID: **mb-50461**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **50461**	RunNo: **66590**							
Prep Date: **2/14/2020**	Analysis Date: **2/18/2020**	SeqNo: **2288684**	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	0.90		1.000		89.8	80	120			

Sample ID: **LCS-50461**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **LCSS**	Batch ID: **50461**	RunNo: **66590**							
Prep Date: **2/14/2020**	Analysis Date: **2/18/2020**	SeqNo: **2288685**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	86.6	80	120			
Toluene	0.89	0.050	1.000	0	88.8	80	120			
Ethylbenzene	0.90	0.050	1.000	0	90.5	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.2	80	120			
Surr: 4-Bromofluorobenzene	0.95		1.000		94.8	80	120			

Sample ID: **mb-50481**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **50481**	RunNo: **66629**							
Prep Date: **2/17/2020**	Analysis Date: **2/18/2020**	SeqNo: **2289564**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.89		1.000		89.3	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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2002569**
20-Feb-20

Client: ENSOLUM
Project: Val Verde Amine Release 2019

Sample ID: **LCS-50481** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **50481** RunNo: **66629**
Prep Date: **2/17/2020** Analysis Date: **2/18/2020** SeqNo: **2289565** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.94		1.000		93.9	80	120			

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		

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: **2002569** RcptNo: **1**

Received By: Juan Rojas **2/14/2020 7:50:00 AM**

Completed By: **Isaiah Ortiz** **2/14/2020 8:42:02 AM** I-Ox

Reviewed By: YG 2/14/20

Chain of Custody

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

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. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
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: JR 2/14/20

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	3.2	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

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 3-DAY

Project Name: Val Verde Amine Release 2019

Project #: see notes

Project Manager: KSummers

Sampler: RDeechilly

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.1+0.1=3.2(°C)

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2002569	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
2/13/20	1010	S	S-28	1x4oz Jar	cool	-001	X	X									X
2/13/20	1015	S	S-29	1x4oz Jar	cool	-002	X	X									X
2/13/20	1020	S	S-30	1x4oz Jar	cool	-003	X	X									X
2/13/20	1025	S	S-31	1x4oz Jar	cool	-004	X	X									X
2/13/20	1030	S	S-32	1x4oz Jar	cool	-005	X	X									X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
2/13/20	1417				2/13/20	1417
2/13/20	1814			courier	2/14/20	7:50

Remarks: 3-DAY

PM - Tom Long (EPROD)
Pay Key - TC25719

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

March 13, 2020

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

RE: Val Verde Amine Release 2019 OrderNo.: 2003447

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 8 sample(s) on 3/11/2020 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 **2003447**
Date Reported: **3/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: HA-1@10'
Project: Val Verde Amine Release 2019
Collection Date: 3/10/2020 1:00:00 PM
Lab ID: 2003447-001 **Matrix:** SOIL **Received Date:** 3/11/2020 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/11/2020 11:48:14 AM	51019
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/11/2020 10:33:52 AM	51016
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/11/2020 10:33:52 AM	51016
Surr: DNOP	102	55.1-146		%Rec	1	3/11/2020 10:33:52 AM	51016
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	3/11/2020 11:07:59 AM	G67183
Surr: BFB	80.7	66.6-105		%Rec	1	3/11/2020 11:07:59 AM	G67183
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.018		mg/Kg	1	3/11/2020 11:07:59 AM	B67183
Toluene	ND	0.035		mg/Kg	1	3/11/2020 11:07:59 AM	B67183
Ethylbenzene	ND	0.035		mg/Kg	1	3/11/2020 11:07:59 AM	B67183
Xylenes, Total	ND	0.070		mg/Kg	1	3/11/2020 11:07:59 AM	B67183
Surr: 4-Bromofluorobenzene	88.9	80-120		%Rec	1	3/11/2020 11:07:59 AM	B67183

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 **2003447**
Date Reported: **3/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: HA-1@17.5'
Project: Val Verde Amine Release 2019
Collection Date: 3/10/2020 1:15:00 PM
Lab ID: 2003447-002 **Matrix:** SOIL
Received Date: 3/11/2020 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/11/2020 12:00:35 PM	51019
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/11/2020 10:43:04 AM	51016
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/11/2020 10:43:04 AM	51016
Surr: DNOP	98.5	55.1-146		%Rec	1	3/11/2020 10:43:04 AM	51016
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	3/11/2020 11:31:37 AM	G67183
Surr: BFB	81.1	66.6-105		%Rec	1	3/11/2020 11:31:37 AM	G67183
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.018		mg/Kg	1	3/11/2020 11:31:37 AM	B67183
Toluene	ND	0.035		mg/Kg	1	3/11/2020 11:31:37 AM	B67183
Ethylbenzene	ND	0.035		mg/Kg	1	3/11/2020 11:31:37 AM	B67183
Xylenes, Total	ND	0.070		mg/Kg	1	3/11/2020 11:31:37 AM	B67183
Surr: 4-Bromofluorobenzene	87.2	80-120		%Rec	1	3/11/2020 11:31:37 AM	B67183

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 **2003447**
Date Reported: **3/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: HA-2@9'
Project: Val Verde Amine Release 2019
Collection Date: 3/10/2020 1:30:00 PM
Lab ID: 2003447-003 **Matrix:** SOIL **Received Date:** 3/11/2020 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/11/2020 12:12:57 PM	51019
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	11	8.8		mg/Kg	1	3/11/2020 10:52:15 AM	51016
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	3/11/2020 10:52:15 AM	51016
Surr: DNOP	104	55.1-146		%Rec	1	3/11/2020 10:52:15 AM	51016
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	3/11/2020 11:55:14 AM	G67183
Surr: BFB	79.7	66.6-105		%Rec	1	3/11/2020 11:55:14 AM	G67183
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.017		mg/Kg	1	3/11/2020 11:55:14 AM	B67183
Toluene	ND	0.033		mg/Kg	1	3/11/2020 11:55:14 AM	B67183
Ethylbenzene	ND	0.033		mg/Kg	1	3/11/2020 11:55:14 AM	B67183
Xylenes, Total	ND	0.066		mg/Kg	1	3/11/2020 11:55:14 AM	B67183
Surr: 4-Bromofluorobenzene	85.8	80-120		%Rec	1	3/11/2020 11:55:14 AM	B67183

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 **2003447**
Date Reported: **3/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: HA-2@17'
Project: Val Verde Amine Release 2019
Collection Date: 3/10/2020 1:45:00 PM
Lab ID: 2003447-004 **Matrix:** SOIL **Received Date:** 3/11/2020 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/11/2020 12:25:17 PM	51019
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/11/2020 11:15:11 AM	51016
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/11/2020 11:15:11 AM	51016
Surr: DNOP	102	55.1-146		%Rec	1	3/11/2020 11:15:11 AM	51016
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	3/11/2020 12:18:42 PM	G67183
Surr: BFB	80.4	66.6-105		%Rec	1	3/11/2020 12:18:42 PM	G67183
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.019		mg/Kg	1	3/11/2020 12:18:42 PM	B67183
Toluene	ND	0.038		mg/Kg	1	3/11/2020 12:18:42 PM	B67183
Ethylbenzene	ND	0.038		mg/Kg	1	3/11/2020 12:18:42 PM	B67183
Xylenes, Total	ND	0.076		mg/Kg	1	3/11/2020 12:18:42 PM	B67183
Surr: 4-Bromofluorobenzene	87.7	80-120		%Rec	1	3/11/2020 12:18:42 PM	B67183

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 **2003447**
Date Reported: **3/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: HA-3@10'
Project: Val Verde Amine Release 2019
Collection Date: 3/10/2020 2:15:00 PM
Lab ID: 2003447-005 **Matrix:** SOIL **Received Date:** 3/11/2020 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/11/2020 12:37:38 PM	51019
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/11/2020 11:24:20 AM	51016
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/11/2020 11:24:20 AM	51016
Surr: DNOP	101	55.1-146		%Rec	1	3/11/2020 11:24:20 AM	51016
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	3/11/2020 12:42:01 PM	G67183
Surr: BFB	81.8	66.6-105		%Rec	1	3/11/2020 12:42:01 PM	G67183
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.018		mg/Kg	1	3/11/2020 12:42:01 PM	B67183
Toluene	ND	0.035		mg/Kg	1	3/11/2020 12:42:01 PM	B67183
Ethylbenzene	ND	0.035		mg/Kg	1	3/11/2020 12:42:01 PM	B67183
Xylenes, Total	ND	0.071		mg/Kg	1	3/11/2020 12:42:01 PM	B67183
Surr: 4-Bromofluorobenzene	89.4	80-120		%Rec	1	3/11/2020 12:42:01 PM	B67183

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 **2003447**
Date Reported: **3/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: HA-3@17.5'
Project: Val Verde Amine Release 2019
Collection Date: 3/10/2020 2:30:00 PM
Lab ID: 2003447-006 **Matrix:** SOIL **Received Date:** 3/11/2020 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/11/2020 12:49:58 PM	51019
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/11/2020 11:33:30 AM	51016
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/11/2020 11:33:30 AM	51016
Surr: DNOP	99.5	55.1-146		%Rec	1	3/11/2020 11:33:30 AM	51016
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	3/11/2020 1:05:17 PM	G67183
Surr: BFB	84.2	66.6-105		%Rec	1	3/11/2020 1:05:17 PM	G67183
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.017		mg/Kg	1	3/11/2020 1:05:17 PM	B67183
Toluene	ND	0.035		mg/Kg	1	3/11/2020 1:05:17 PM	B67183
Ethylbenzene	ND	0.035		mg/Kg	1	3/11/2020 1:05:17 PM	B67183
Xylenes, Total	ND	0.069		mg/Kg	1	3/11/2020 1:05:17 PM	B67183
Surr: 4-Bromofluorobenzene	90.3	80-120		%Rec	1	3/11/2020 1:05:17 PM	B67183

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 **2003447**
Date Reported: **3/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: HA-4@10.5'
Project: Val Verde Amine Release 2019
Collection Date: 3/10/2020 2:45:00 PM
Lab ID: 2003447-007 **Matrix:** SOIL **Received Date:** 3/11/2020 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/11/2020 1:27:00 PM	51019
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/11/2020 11:42:42 AM	51016
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/11/2020 11:42:42 AM	51016
Surr: DNOP	100	55.1-146		%Rec	1	3/11/2020 11:42:42 AM	51016
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	3/11/2020 1:28:35 PM	G67183
Surr: BFB	81.5	66.6-105		%Rec	1	3/11/2020 1:28:35 PM	G67183
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.019		mg/Kg	1	3/11/2020 1:28:35 PM	B67183
Toluene	ND	0.037		mg/Kg	1	3/11/2020 1:28:35 PM	B67183
Ethylbenzene	ND	0.037		mg/Kg	1	3/11/2020 1:28:35 PM	B67183
Xylenes, Total	ND	0.075		mg/Kg	1	3/11/2020 1:28:35 PM	B67183
Surr: 4-Bromofluorobenzene	89.5	80-120		%Rec	1	3/11/2020 1:28:35 PM	B67183

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 **2003447**
Date Reported: **3/13/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: HA-4@17.5'
Project: Val Verde Amine Release 2019
Collection Date: 3/10/2020 3:00:00 PM
Lab ID: 2003447-008 **Matrix:** SOIL
Received Date: 3/11/2020 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	3/11/2020 1:39:20 PM	51019
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/11/2020 11:51:53 AM	51016
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/11/2020 11:51:53 AM	51016
Surr: DNOP	99.3	55.1-146		%Rec	1	3/11/2020 11:51:53 AM	51016
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	3/11/2020 1:51:56 PM	G67183
Surr: BFB	88.2	66.6-105		%Rec	1	3/11/2020 1:51:56 PM	G67183
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.019		mg/Kg	1	3/11/2020 1:51:56 PM	B67183
Toluene	ND	0.038		mg/Kg	1	3/11/2020 1:51:56 PM	B67183
Ethylbenzene	ND	0.038		mg/Kg	1	3/11/2020 1:51:56 PM	B67183
Xylenes, Total	ND	0.077		mg/Kg	1	3/11/2020 1:51:56 PM	B67183
Surr: 4-Bromofluorobenzene	95.4	80-120		%Rec	1	3/11/2020 1:51:56 PM	B67183

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#: **2003447**

13-Mar-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **MB-51019** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **51019** RunNo: **67189**

Prep Date: **3/11/2020** Analysis Date: **3/11/2020** SeqNo: **2316257** Units: **mg/Kg**

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

Sample ID: **LCS-51019** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **51019** RunNo: **67189**

Prep Date: **3/11/2020** Analysis Date: **3/11/2020** SeqNo: **2316258** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.3	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#: **2003447**

13-Mar-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **LCS-51016** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **51016** RunNo: **67179**

Prep Date: **3/11/2020** Analysis Date: **3/11/2020** SeqNo: **2314621** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	70	130			
Surr: DNOP	4.5		5.000		90.8	55.1	146			

Sample ID: **MB-51016** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **51016** RunNo: **67179**

Prep Date: **3/11/2020** Analysis Date: **3/11/2020** SeqNo: **2314623** 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	10		10.00		104	55.1	146			

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#: **2003447**

13-Mar-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G67183**	RunNo: **67183**
Prep Date:	Analysis Date: **3/11/2020**	SeqNo: **2314718** 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	96.6	80	120			
Surr: BFB	930		1000		93.2	66.6	105			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G67183**	RunNo: **67183**
Prep Date:	Analysis Date: **3/11/2020**	SeqNo: **2314721** 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	900		1000		89.6	66.6	105			

Sample ID: **mb-51002**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **51002**	RunNo: **67183**
Prep Date: **3/10/2020**	Analysis Date: **3/11/2020**	SeqNo: **2315344** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	880		1000		87.8	66.6	105			

Sample ID: **lcs-51002**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51002**	RunNo: **67183**
Prep Date: **3/10/2020**	Analysis Date: **3/11/2020**	SeqNo: **2315345** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	930		1000		93.5	66.6	105			

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#: **2003447**

13-Mar-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B67183**	RunNo: **67183**
Prep Date:	Analysis Date: **3/11/2020**	SeqNo: **2314724** 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	90.7	80	120			
Toluene	0.93	0.050	1.000	0	93.3	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.6	80	120			
Surr: 4-Bromofluorobenzene	0.92		1.000		92.2	80	120			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B67183**	RunNo: **67183**
Prep Date:	Analysis Date: **3/11/2020**	SeqNo: **2314727** 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	0.98		1.000		97.9	80	120			

Sample ID: **2003447-001a ms**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **HA-1@10'**	Batch ID: **B67183**	RunNo: **67183**
Prep Date:	Analysis Date: **3/11/2020**	SeqNo: **2315329** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.64	0.018	0.7032	0	91.5	78.5	119			
Toluene	0.67	0.035	0.7032	0	95.5	75.7	123			
Ethylbenzene	0.69	0.035	0.7032	0	97.7	74.3	126			
Xylenes, Total	2.1	0.070	2.110	0	98.8	72.9	130			
Surr: 4-Bromofluorobenzene	0.67		0.7032		95.1	80	120			

Sample ID: **2003447-001a msd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **HA-1@10'**	Batch ID: **B67183**	RunNo: **67183**
Prep Date:	Analysis Date: **3/11/2020**	SeqNo: **2315330** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.64	0.018	0.7032	0	91.3	78.5	119	0.219	20	
Toluene	0.66	0.035	0.7032	0	93.9	75.7	123	1.74	20	
Ethylbenzene	0.67	0.035	0.7032	0	95.9	74.3	126	1.90	20	
Xylenes, Total	2.1	0.070	2.110	0	97.6	72.9	130	1.21	20	
Surr: 4-Bromofluorobenzene	0.67		0.7032		95.7	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#: **2003447**

13-Mar-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **mb-51002**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **51002**	RunNo: **67183**
Prep Date: **3/10/2020**	Analysis Date: **3/11/2020**	SeqNo: **2315396** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.96		1.000		96.0	80	120			

Sample ID: **LCS-51002**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **51002**	RunNo: **67183**
Prep Date: **3/10/2020**	Analysis Date: **3/11/2020**	SeqNo: **2315397** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		100	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: **2003447** RcptNo: **1**

Received By: **Erin Melendrez** **3/11/2020 8:05:00 AM**

Completed By: **Leah Baca** **3/11/2020 8:21:57 AM**

Reviewed By: DAD 3/11/20

Chain of Custody

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

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. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
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: Y6 3/11/20

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	3.7	Good	Yes			
2	1.9	Good	Yes			

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: SAME DAY
☐ Standard ☒ Rush 100%

Project Name: Val Verde Amine Release 2019

Project #: See notes

Project Manager: KSummers

Sampler: R. Deechilly / L. Daniell
On Ice: ☒ Yes ☐ No
# of Coolers: 2
Cooler Temp (including CF): 3.7-0(CF)=3.7 (°C)
1.9-0(CF)=1.9

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 7003447	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
3/10/20	1300	S	HA-1 @ 10'	1x4oz Jar	cool	-001	X	X									X
3/10/20	1315	S	HA-1 @ 17.5'	1x4oz Jar	cool	-002	X	X									X
3/10/20	1330	S	HA-2 @ 9'	1x4oz Jar	cool	-003	X	X									X
3/10/20	1345	S	HA-2 @ 17'	1x4oz Jar	cool	-004	X	X									X
3/10/20	1415	S	HA-3 @ 10'	1x4oz Jar	cool	-005	X	X									X
3/10/20	1430	S	HA-3 @ 17.5'	1x4oz Jar	cool	-006	X	X									X
3/10/20	1445	S	HA-4 @ 10.5'	1x4oz Jar	cool	-007	X	X									X
3/10/20	1500	S	HA-4 @ 17.5'	1x4oz Jar	cool	-008	X	X									X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
3/10/20	1700				3/10/20	1700
3/10/20	1810			Courier	3/11/20	0805

Remarks: SAME DAY
PM - Tom Long (EPROD)
Pay Key - TC 25719

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.

ENH 3/11/20

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

June 30, 2020

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

RE: Val Verde Amine Release 2019 OrderNo.: 2006B28

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/23/2020 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2006B28**
Date Reported: **6/30/2020**

CLIENT: ENSOLUM
Project: Val Verde Amine Release 2019
Lab ID: 2006B28-001 **Matrix:** SOIL

Client Sample ID: HA-6 @ 12'
Collection Date: 6/22/2020 9:45:00 AM
Received Date: 6/23/2020 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	6/26/2020 8:25:41 PM	53340
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/24/2020 11:29:31 AM	53252
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/24/2020 11:29:31 AM	53252
Surr: DNOP	108	55.1-146		%Rec	1	6/24/2020 11:29:31 AM	53252
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/24/2020 3:37:21 PM	53249
Surr: BFB	101	66.6-105		%Rec	1	6/24/2020 3:37:21 PM	53249
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	6/24/2020 3:37:21 PM	53249
Toluene	ND	0.048		mg/Kg	1	6/24/2020 3:37:21 PM	53249
Ethylbenzene	ND	0.048		mg/Kg	1	6/24/2020 3:37:21 PM	53249
Xylenes, Total	ND	0.096		mg/Kg	1	6/24/2020 3:37:21 PM	53249
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	6/24/2020 3:37:21 PM	53249

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

Qualifiers:

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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#: **2006B28**

30-Jun-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **MB-53340**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **53340**	RunNo: **69932**							
Prep Date: **6/26/2020**	Analysis Date: **6/26/2020**	SeqNo: **2429403**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-53340**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **53340**	RunNo: **69932**							
Prep Date: **6/26/2020**	Analysis Date: **6/26/2020**	SeqNo: **2429404**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.9	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#: **2006B28**

30-Jun-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **MB-53252**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **53252**	RunNo: **69847**
Prep Date: **6/23/2020**	Analysis Date: **6/24/2020**	SeqNo: **2425698** 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	13		10.00		126	55.1	146			

Sample ID: **LCS-53252**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **53252**	RunNo: **69847**
Prep Date: **6/23/2020**	Analysis Date: **6/24/2020**	SeqNo: **2425699** 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	96.5	70	130			
Surr: DNOP	5.3		5.000		105	55.1	146			

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#: **2006B28**
30-Jun-20

Client: ENSOLUM
Project: Val Verde Amine Release 2019

Sample ID: **mb-53249** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **53249** RunNo: **69855**
Prep Date: **6/23/2020** Analysis Date: **6/24/2020** SeqNo: **2426470** 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		102	66.6	105			

Sample ID: **lcs-53249** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **53249** RunNo: **69855**
Prep Date: **6/23/2020** Analysis Date: **6/24/2020** SeqNo: **2426471** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.3	80	120			
Surr: BFB	1100		1000		112	66.6	105			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#: **2006B28**

30-Jun-20

Client: ENSOLUM

Project: Val Verde Amine Release 2019

Sample ID: **mb-53249**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **53249**	RunNo: **69855**
Prep Date: **6/23/2020**	Analysis Date: **6/24/2020**	SeqNo: **2426506** 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	1.0		1.000		102	80	120			

Sample ID: **LCS-53249**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **53249**	RunNo: **69855**
Prep Date: **6/23/2020**	Analysis Date: **6/24/2020**	SeqNo: **2426507** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.6	80	120			
Toluene	0.95	0.050	1.000	0	95.4	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.1	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.2	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** Work Order Number: **2006B28** RcptNo: 1

Received By: **Emily Mocho** **6/23/2020 8:05:00 AM**

Completed By: **Emily Mocho** **6/23/2020 8:39:30 AM**

Reviewed By: DAD 6/23/20

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. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
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: SPA 6-23-20

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	3.0	Good	Not Present			

Chain-of-Custody Record

Client: Ensolum, LLC

Mailing Address: 6006 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_____

Project Name: Val Verde Amine Release 2019

Project #: See notes

Project Manager: KSummers

Sampler: RDeechilly

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.0±0=3.0 (°C)

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. 2006B 28	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
6/22/20	945	S	HA-6@12'	1x4oz Jar	cool	-001	X	X									X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6/22/20	1445		Christa Waeles		6/22/2020	1445
6/22/2020	1753	Christa Waeles	EKM	courier	6/23/20	805

Remarks: PM - Tom Long (EPROD)
Pay key - TC 25719

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.

ENSOLUM

APPENDIX G

Regulatory Correspondence

From: Long, Thomas
To: "Smith, Cory, EMNRD (Cory.Smith@state.nm.us)"
Cc: Stone, Brian
Subject: FW: Val Verde Amine Release - UL A Section 14 T29N R11;36.731125, -107.956736
Date: Wednesday, February 12, 2020 7:31:00 AM

Cory,

This email is to notify you that Enterprise will be collecting soil samples for laboratory analysis at the Val Verde Train 7 excavations on Thursday, February 13, 2020 at 10:00 a.m. We did not get to sample it from the other day. If you have any questions, please all or email.

Thomas J. Long
Senior Environmental Scientist
Enterprise Products Company
614 Reilly Ave.
Farmington, New Mexico 87401
505-599-2286 (office)
505-215-4727 (Cell)
tjlong@eprod.com

Enterprise Products

From: Long, Thomas
Sent: Friday, January 10, 2020 8:45 AM
To: 'Smith, Cory, EMNRD' <Cory.Smith@state.nm.us>
Cc: Stone, Brian <bmstone@eprod.com>
Subject: RE: Val Verde Amine Release - UL A Section 14 T29N R11;36.731125, -107.956736

Cory,

This email is to notify you that Enterprise will be collecting soil samples for laboratory analysis at the Val Verde Train 7 excavations on Tuesday, January 14, 2020 at 11:00 a.m. If you have any questions, please all or email.

Thomas J. Long
Senior Environmental Scientist
Enterprise Products Company
614 Reilly Ave.
Farmington, New Mexico 87401
505-599-2286 (office)
505-215-4727 (Cell)
tjlong@eprod.com

Enterprise Products

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Wednesday, January 8, 2020 3:19 PM
To: Long, Thomas <tjlong@eprod.com>
Cc: Stone, Brian <bmstone@eprod.com>
Subject: RE: Val Verde Amine Release - UL A Section 14 T29N R11;36.731125, -107.956736

Tom,

OCD approves Enterprises Alternative sampling plan below. Please include this approval in your Final C-141.

Thank you,

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Long, Thomas <tjlong@eprod.com>
Sent: Wednesday, January 8, 2020 3:18 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Stone, Brian <bmstone@eprod.com>
Subject: [EXT] FW: Val Verde Amine Release - UL A Section 14 T29N R11;36.731125, -107.956736

Cory,

This email is a follow up to our conversation earlier today at Val Verde Plant. Enterprise requests a variance from the 200 square foot sampling interval at the Val Verde Plant Train 7 Amine Release. Enterprise requests a 400 square foot sampling interval. In addition, Enterprise will excavate more soil where stains were observed and sample utilizing the requested 400 foot sampling interval. Please acknowledge acceptance of this request. If you have any questions, please call or email.

Thomas J. Long
Senior Environmental Scientist
Enterprise Products Company
614 Reilly Ave.
Farmington, New Mexico 87401
505-599-2286 (office)
505-215-4727 (Cell)
tjlong@eprod.com

From: Long, Thomas
Sent: Tuesday, January 7, 2020 9:31 AM
To: 'Smith, Cory, EMNRD (Cory.Smith@state.nm.us)' <Cory.Smith@state.nm.us>
Cc: Stone, Brian <bmstone@eprod.com>
Subject: FW: Val Verde Amine Release - UL A Section 14 T29N R11;36.731125, -107.956736

Cory,

This email is a notification that Enterprise will collecting soil samples for laboratory analysis at the Val Verde Plant Train 7 release tomorrow, January 8, 2020 at 1:00 p.m. If you have any questions, please call or email.

Thomas J. Long
Senior Environmental Scientist
Enterprise Products Company
614 Reilly Ave.
Farmington, New Mexico 87401
505-599-2286 (office)
505-215-4727 (Cell)
tjlong@eprod.com

From: Long, Thomas
Sent: Thursday, October 10, 2019 7:49 AM
To: 'Smith, Cory, EMNRD (Cory.Smith@state.nm.us)' <Cory.Smith@state.nm.us>
Cc: Stone, Brian <bmstone@eprod.com>
Subject: Val Verde Amine Release - UL A Section 14 T29N R11;36.731125, -107.956736

Cory,

This email is to notify you that Enterprise had a release or Amine (50% Water/50% Amine) at Val Verde Plant yesterday. The release was a result for a valve failing. An estimated volume between 5-10 barrels was released. Most of the release was inside a concrete containment under the cooling tower, however the containment has an earthen bottom. The release is located at UL A Section 14 T29N R11;36.731125, -107.956736. We are removing the standing liquids as much as practicable. I will keep you informed as to the remediation efforts. The release is located at UL A Section 14 T29N R11;36.731125, -107.956736. If you have any questions, please call or email.

Sincerely,

Thomas J. Long
Senior Environmental Scientist
Enterprise Products Company
614 Reilly Ave.
Farmington, New Mexico 87401
505-599-2286 (office)
505-215-4727 (Cell)
tjlong@eprod.com

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

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

CONDITIONS

Action 11088

CONDITIONS

Operator: Enterprise Field Services, LLC PO Box 4324 Houston, TX 77210	OGRID: 241602
	Action Number: 11088
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Deferral approved. Required to remediate & reclaim after decommissioning per 19.15.29.12C (2) & 19.15.29.13D (1).	5/16/2022